Quality Improvement Lead (QIL) Program 2022-2023

PROJECT SUMMARIES

5th Edition

ACHS IMPROVEMENT ACADEMY

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Inspiring Excellence in Healthcare

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Contents

Acknowledgement

The Improvement Academy would like to acknowledge the contribution of the following Faculty members who contributed to the success of these programs and the resulting projects contained in this booklet:

Australian Expert Faculty

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Associate Professor Peter Hibbert – Program Manager, Australian Institute of Health Innovation, Faculty of Medicine Macquarie University, NSW

Ms Lucy Lehane – Clinical Educator, ACHS Improvement Academy, NSW

Dr Cathy Balding – Managing Director, Qualityworks PL, VIC

Ms Helen Ganley – Principal, Data Sanity, NSW

Mr Anothony Lock, DSM - Executive Director, Clinical Performance & Systems – St John (Ambulance) WA

Ms Shelley Thomson - Director, Experience 360, ACT

Associate Professor Grant Phelps - Graduation Keynote Speaker and graduation panel member

Ms Katie Robinson - ACHS Faculty and graduation panel member

Ms Tammy Doyle - ACHS Faculty and graduation panel member

Ms Kera Fulurija - Past QIL participant and graduation panel member

> " ACHS Quality Improvement lead training is an excellent program, and extremely relevant to medical staff. Having direct practical experience of utilising QI methodology and tools is invaluable, and the project coaching by the faculty helped with learning how to navigate a range of challenges in practice-based problem solving. "
>
> **A/Prof Kerryn Ireland-Jenkin, Medical Director/Deputy Chief Medical Officer, Austin Health**
> **QIL Program Participant**
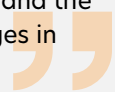
Foreword

I am delighted to introduce the fifth edition of the ACHS Quality Improvement Lead (QIL) training program Project Summaries publication. This collection showcases a variety of projects undertaken by QIL participants during 2022 and 2023. These summaries highlight the commitment and enthusiasm of healthcare organisations in enhancing services for clients and patients throughout Australia and globally.

The QIL program is a hallmark of the achievements of our community, and their commitment to growth and success. This booklet serves as a valuable resource, giving insights into the improvement efforts undertaken by your peers across the sector.

It is an honour to share these healthcare initiatives and to support our QIL participants on their journey of quality improvement.

We extend our gratitude to all QIL participants who contributed to this publication and to the ACHS Improvement Academy team and faculty for their dedication to this course and their support of ACHS Members.

We trust that you will enjoy reading these Project Summaries and find them insightful for ongoing quality improvement.

Dr Karen Luxford
ACHS Chief Executive Officer

Introduction: Quality Improvement Lead (QIL) Training Program

The ACHS Improvement Academy (IA) was established nine years ago providing patient safety, quality improvement, leadership and accreditation capability building for front line clinical teams. Our training programs are relevant to all sectors of health care, including but not limited to, acute services, aged care, mental health, community and home care services.

The ACHS team firmly believes that process management and the science of quality improvement are essential for reducing harm, reducing cost and increasing patient satisfaction. Our aim in delivering the flagship Quality Improvement Lead (QIL) Training Program is to equip the healthcare workforce with the tools and knowledge to meet the demands of an increasingly complex and cost constrained health system.

The QIL Program, is an intermediate to advanced course, designed for those staff leading clinical improvement. This comprehensive nine-month program offers an in-depth exploration of improvement science, measurement for improvement, consumer co-design, reliability science, transformative leadership, and clinical governance. Guided by our expert Faculty, the QIL Program equips participants with the confidence to navigate the ever-evolving healthcare landscape. In order to graduate from the QIL program participants undertake a QI project using the key knowledge acquired during the program. A selection of these projects is published in an annual Project Summaries Booklet.

This current Project Summaries Booklet highlights some outstanding projects undertaken as part of the QIL Program throughout 2022 to 2023. It contains a diverse range of healthcare services and represents a variety of disciplines, for example, a cohort from the Office of the Chief Nurse and Midwifery Officer in Tasmania and an International participant from Bahrain.

Congratulations to all who participated and successfully completed the QIL program, we acknowledge your achievements. The selected Project Summaries provide further evidence of the level of achievement by participants. We thank your managers who provided support and sponsorship to join the program. Further, we are very proud to announce that all QIL Program graduates are eligible for post-nominals – 'ACHSQIL', upon successful completion of the program. The post-nominals serve as a visible acknowledgement of the achievement and demonstrate the participant has met all the requirements of the program. We also thank our Faculty, whose expertise and knowledge in quality improvement have greatly enhanced the depth of our program. We strongly encourage all readers to share learnings from the projects with your colleagues.

If you would like more information about any of the Improvement Academy's programs and events, please visit our website: www.achs.org.au/improvement-academy/

Associate Professor Bernie Harrison

Director, ACHS Improvement Academy

Graduation Ceremony Photos

Virtual QIL Ceremony December 2022
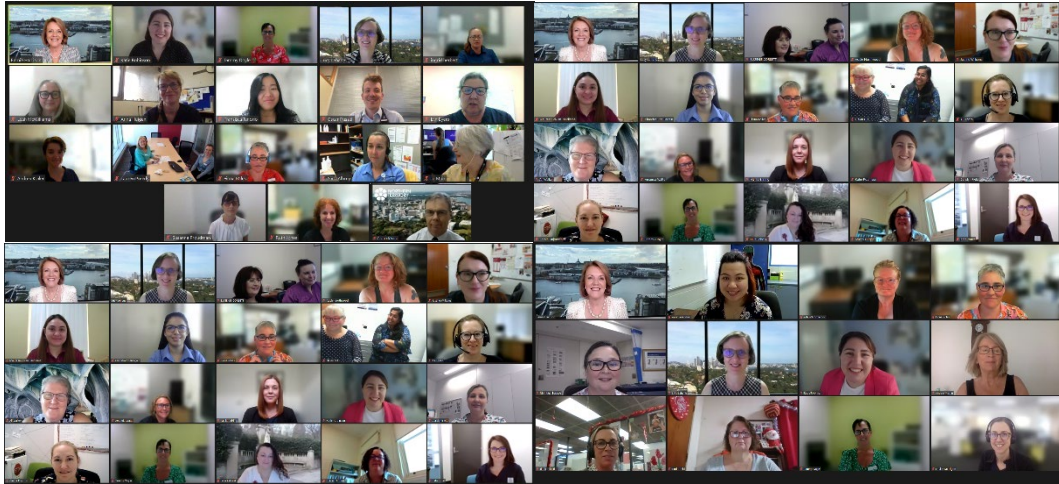
Virtual QIL Ceremony June 2023

Virtual QIL Ceremony November 2023
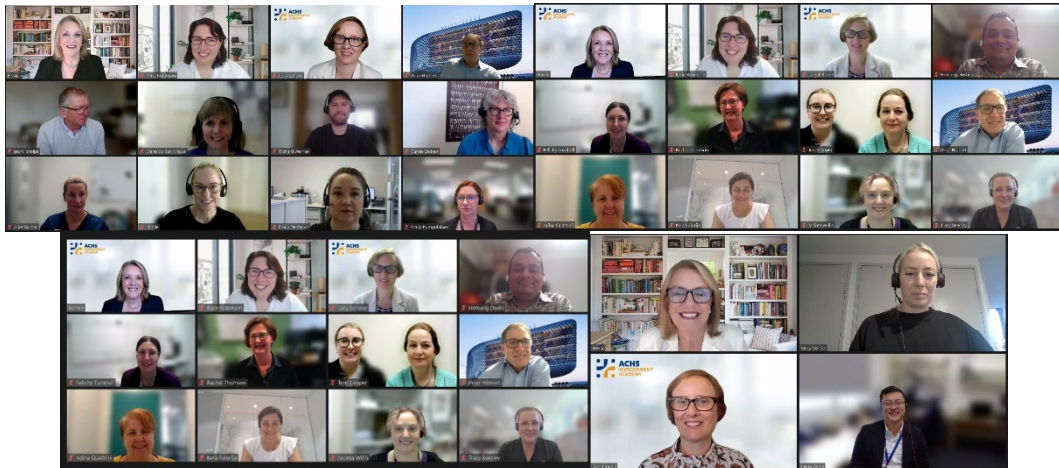
Adult Resuscitation Trolley Standardisation at Katherine Hospital

Ms Chandra Chaulagain

Ms Chandra Chaulagain
Safety and Quality Manager
Katherine Hospital, Northern Territory

Problem/Aims

Katherine Hospital has had four incidents of expired medication found on resuscitation trolleys in emergencies. Staff expressed dissatisfaction with the current processes for managing resuscitation trolleys. In addition, there was an observed low level of compliance (77%) with trolley checks during audits in 2022.

This quality improvement project aims to standardise adult resuscitation trolleys with basic life support equipment and checklists across Katherine Hospital to ensure appropriate stock and consistency to enable optimal outcomes in the event of patient deterioration by December 2022.

Background

Katherine Hospital is located in the NT and is 317 km south of Darwin. It has seven departments, all of which have varying resuscitation trolley guidelines, trolley configurations, stock, labels and checklists.

Measurement

Figure 1. Diagnostics, cause-and-effect diagram
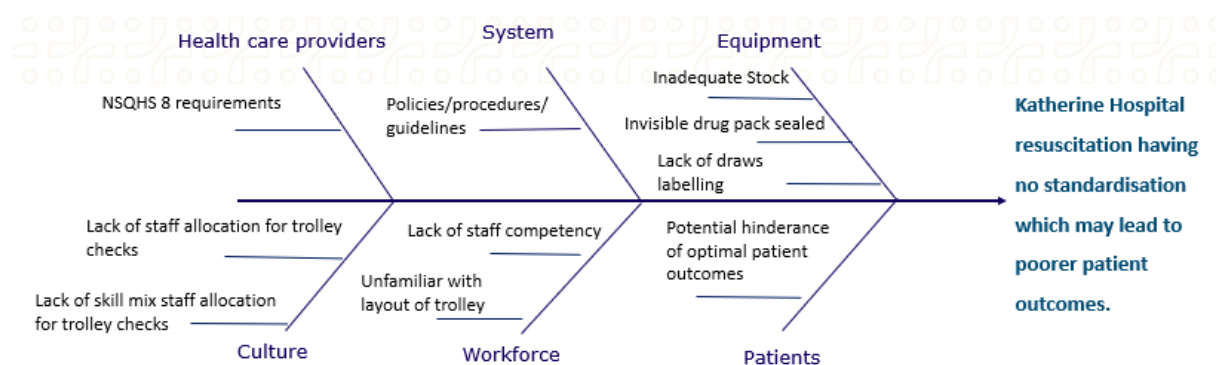
Design

The project lead established a working group to standardise adult resuscitation trolleys. The group reviewed the cause and effect of the current process, as well as the impact of the incidents and the potential consequences of low compliance with required trolley checks. The group identified the main cause of the current process, including configuration and checklist variation between units because of a lack of resuscitation trolley guidelines. The group analysed the resuscitation trolley guidelines of other NT hospitals, Qld rural and remote emergency services and journal articles by the Australian College of Critical Care. Items were shortlisted for Katherine Hospital, and the guideline was drafted and submitted for publication in October 2022.

Strategy

This project applied Plan, Do, Study, Act (PDSA) cycles to the planning stages of the project. Katherine Hospital endured COVID-19 pandemic and information technology system implementation challenges in 2022. The project lead revisited the PDSA cycles multiple times because of group workload and time constraints for this project.

Figure 2. Intervention, driver diagram with change ideas
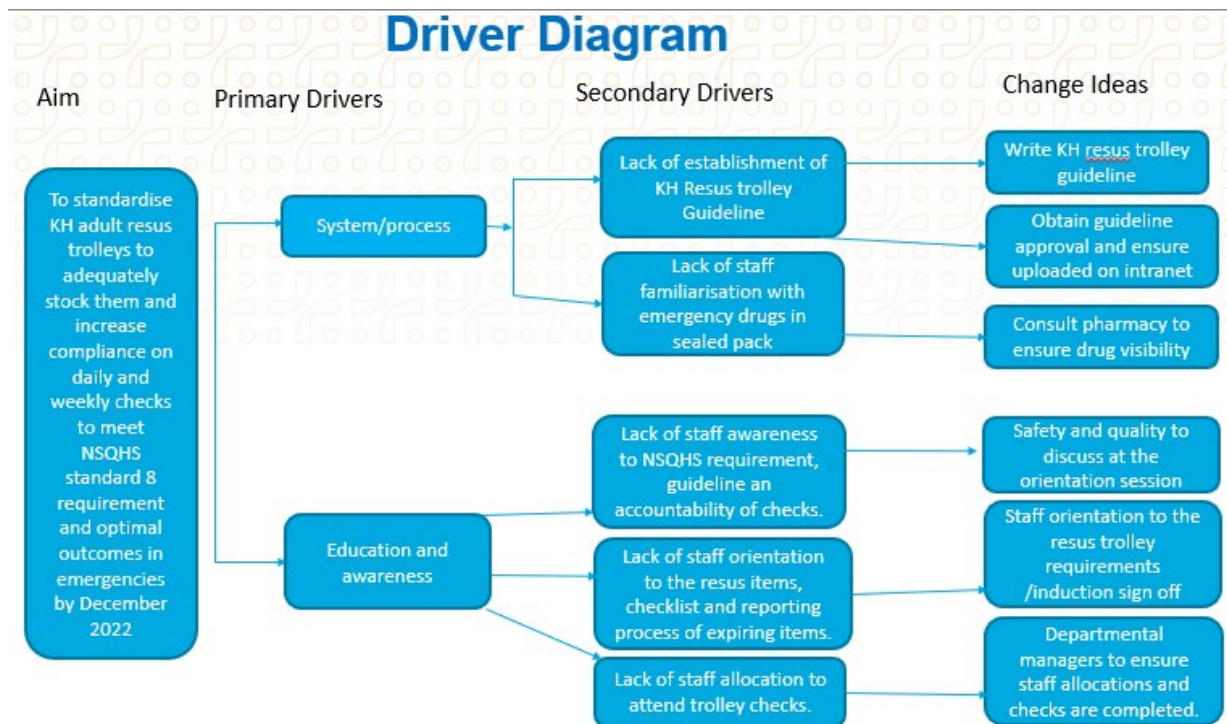
Results

After the establishment of the guideline and adult trolleys and checklists standardisation at Katherine Hospital, it is expected that Katherine Hospital will increase compliance with National Safety and Quality Health Service Standard 8, receive positive feedback from staff about trolley configuration, increase staff satisfaction with the process, improve trolley check compliance and experience nil or a reduced number of incidents related to resuscitation trolleys. The success of this project will be measured as per Figure 3.

Figure 3. Impact, results and measures

Achievements	Indicators
• Resuscitation trolley guideline in place.	• Easy guideline access for staff.
• Standardise checklists & draws labelling.	• Easy visibility of checklists and • similar layout.
• Appropriate trolleys set up and process in place.	• Better compliance with NSQHS 8
• Positive staff feedback.	• Increase staff satisfaction.
• Increase trolley checks compliance	• Better audit results.
• Less resus trolley related incidents.	• Nil or reduced number of incidents.

Conclusion

Despite challenges, the group managed to draft the resuscitation guideline and submit it to the relevant body. The project lead is committed to ensuring the publication of resuscitation guidelines and the standardisation of trolleys across Katherine Hospital.

Next Steps

The guideline awaits inclusion into an overarching document of NT Health or, at a minimum, into a document for the Top End, Big Rivers and East Arnhem regions of NT Health. Trolleys and checklists across Katherine Hospital will be standardised after the guideline is published on the policy document centre on the intranet. This will ensure that the guideline is easily accessible and there is one document for Katherine Hospital resuscitation trolleys. The safety and quality lead plans to communicate established guidelines and new processes of trolley maintenance at various hospital meetings, ward huddles and staff inductions to ensure staff education and awareness. Additional opportunistic education and awareness to ward staff will be provided with the safety and quality walk-around.

Project Team

- Dylan Bradbery, ED Clinical Nurse Manager, KH
- Chandra Chaulagain, Safety and Quality Manager, KH
- Clinical nurse managers and educators, KH

Guidance Team

- Renae Daniel, GM/DoNM, KH
- Ali Walker, CNC Monitoring and Compliance, Top End, Big Rivers and East Arnhem regions
- Linda Reid, NMC Safety and Quality, Top End, Big Rivers and East Arnhem regions
- Fiona Miles, A/NMC Safety and Quality, Gove Hospital

Improving the Consumer Experience in a WA Emergency Department

Mrs Gillian Reid

Mrs Gillian Reid
Safety and Quality Lead
South Metropolitan Health Service

Problem/Aims

This improvement project aimed to increase the proportion of ED patients that felt informed about their treatment and care, and would promote the service to a loved one by 10% in 6 months.

Background

Health services regularly collect consumer feedback through surveys and from complaints to identify potential improvements. By analysing consumer feedback, a tertiary metropolitan ED identified that patients and their families wanted to be more informed about ED processes (triage, review and admission) and likely wait times.

Measurement

Evidence was collected and will continue to be measured using a range of our patient experience platforms, including Care Opinion, Datix Consumer Feedback Module, MySay Survey and separate audits conducted by a dedicated ED consumer volunteer group. Initial theming identified the following key themes and issues (see Figure 1).

Figure 1. Diagnostics, consumer feedback cause-and-effect themes

What are the barriers to communicating to patients in the ED?

Environment
- The ED is noisy, busy and unfamiliar
- May be other aggressive patients in the waiting room – reluctant to move from seat or walk around
- Only able to see information on the TVs from certain seats

Information
- Information on posters is difficult to keep regularly updated
- Posters are not always consumer friendly
- Posters come in limited number of languages
- Poster fatigue

Patient Expectations/Perspectives
- Patients don't know who to ask for information
- Staff look busy so patients don't want to interrupt them
- Patients too unwell to ask for info themselves – rely on family members
- Patients don't know what information to ask

Design

An environmental audit and consumer survey revealed that despite extensive information being displayed on numerous posters and television screens in the ED, patients and their families felt that this was not always accessible. This was partly due to the overwhelming amount of information available, a reluctance to move around the waiting room because there may be other volatile patients awaiting care and an unfamiliarity with the ED environment and processes. Consumers often say they are reluctant to approach ED staff because they feel as if they are a burden or bothering staff.

Strategy

A working group with consumer representation identified a mobile application as a potential solution to address these concerns because it would allow patients to access information wherever they were seated and in their preferred language. The application was designed in consultation with consumers to ensure that it provides the necessary information in an easily understandable way. The prototype is currently being tested.

Figure 2. Intervention, PDSA plan for application development

Figure 3. Example of consumer feedback dashboards
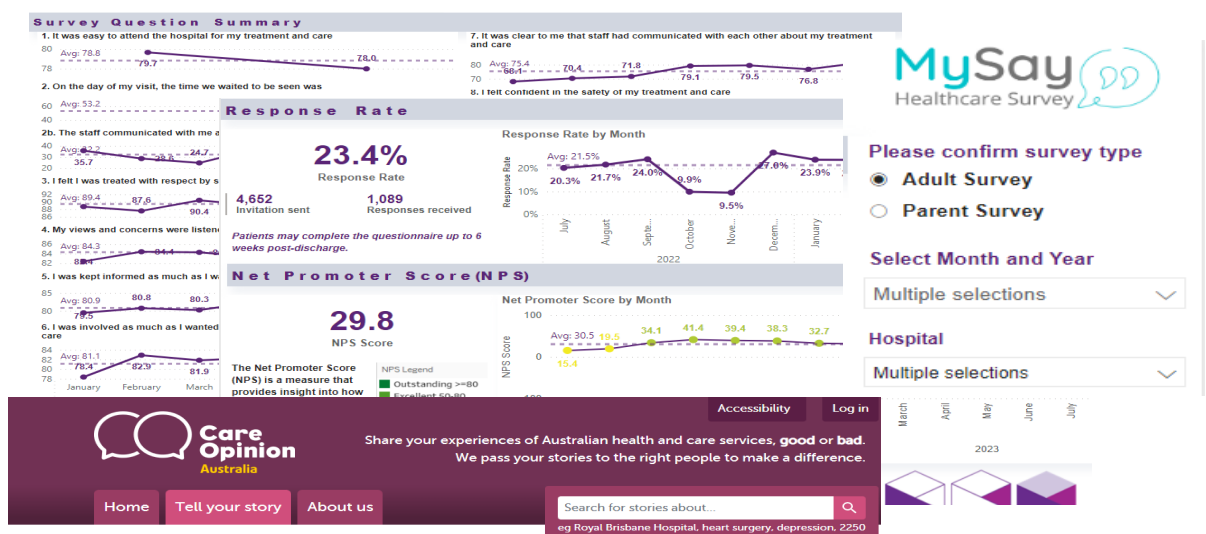
Results

It is anticipated that patients will report feeling more informed about their treatment and care, will have a more positive experience in the ED and therefore will be more likely to recommend the service to a family or loved one. We will continue to measure this through our feedback platforms.

Conclusion

Once the prototype has been tested, it will be further refined according to the feedback from consumers. Implementation of this solution demonstrates a proactive approach to engaging consumers in quality improvement and using consumer feedback as a means to drive positive change.

Next Steps

Some strategies for hardwiring include:

- continue to monitor and collect data (albeit less frequently)

- promote the use through communications and marketing strategies

- educate staff on using the app (and embed this into regular training so that new staff know how to use it)

- continue to work with executive sponsor and clinical lead for the improvement and maintenance of the new process

- oversee further changes to the application (by the review group).

Project Team

- SMSH Innovation Team

- Lichelle Hackett, ED NUM

- Jane Vickery, Nurse Educator ED

- Jane Pearce, Consumer Representative

- Vanessa Clayden, Head of ED

- Gillian Reid, Safety and Quality Lead

- Bianca Tapper, Audit Clerk, HIMS

- Steph Coates, Chair of the Disability Access and Inclusion Committee

Reducing Aggression Towards Staff in an Acute Trauma Ward

Ms Ruth Jones

Ms Ruth Jones
Clinical Nurse Manager
Orthopaedics, Neurosurgery, Plastics, and Reconstructive Surgery, Ward 3A
Royal Darwin Hospital, Top End Health Service
NT Health

Problem/Aims

The project aimed to review the current management on the ward for patients with behaviours of concern (BOC). Given improvements in the admission process, resource availability and policies, it was anticipated that there would be a reduction in aggressive incidents.

Background

Verbal and physical aggression towards staff is a major issue in the Australian healthcare system.

The project was conducted in a 32-bed acute trauma ward in northern Australia. The aim of this quality improvement project was to reduce the occurrence of verbal and physical aggression towards staff by patients to zero incidents. The source of data was incidents reported into the incident reporting system (RiskMan) before November 2022.

Measurement

Compliance with entering data on the RiskMan system was high, so this was considered a reliable quantitative source to measure and monitor the study. A baseline report obtained from the RiskMan database confirmed a consistently high incidence of aggression towards staff from patients with BOC. Staff feedback supported this.

Figure 1. Diagnostics, cause-and-effect diagram

Factors contributing to Aggression from Ward staff brainstorm
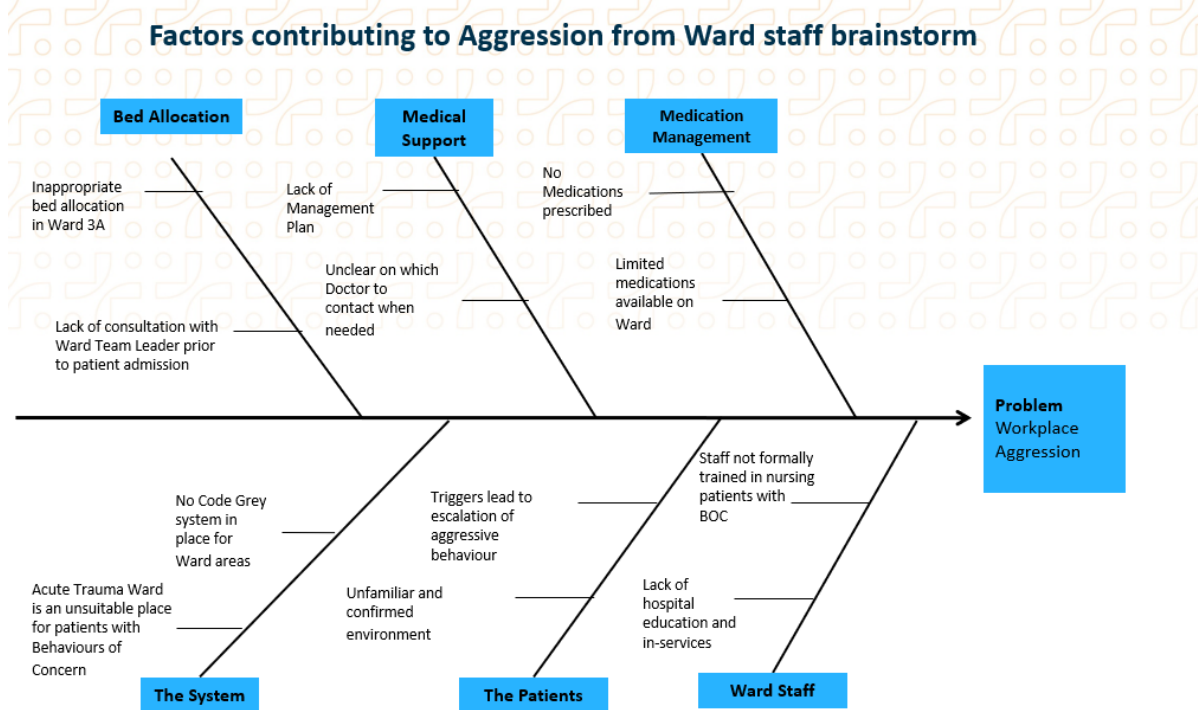
Figure 2. Detailed flow for managing aggressive behaviour
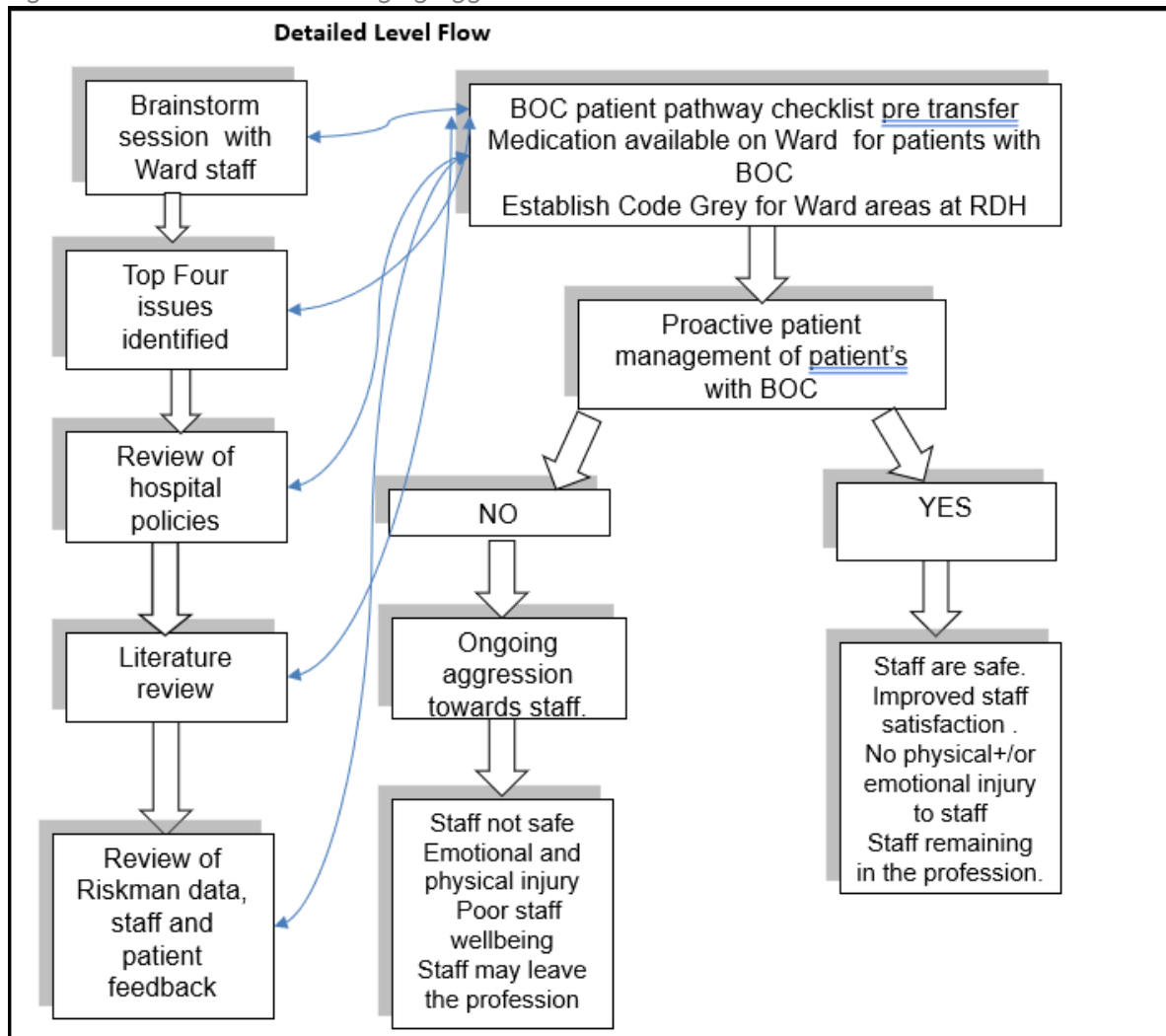
Design

A brainstorming session with ward staff confirmed that the current situation was chaotic. The following problems were identified: aggressive patients admitted to the ward rarely had a management plan, there was a lack of clarity about the treating doctor, and medications when prescribed were incomplete or unavailable. Team leaders felt pressured by hospital bed managers (patient flow) to admit aggressive patients to an available bed even if this potentially compromised the safety of other patients. Staff noted that they felt unsafe managing a highly aggressive patient and strongly advocated for a medical officer on the emergency response team. It was agreed that a proactive approach was required to manage patients with BOC.

Strategy

After the brainstorming session, a pathway checklist consisting of allocated tasks was created by the working group. The form was implemented for a three-month trial following discussion with the key stakeholders, including the head of psychiatry, emergency department manager and patient flow manager. RiskMan data on aggressive episodes were collected monthly during this trial.

The first attempt was unsuccessful, although it provided some learnings in change management processes, which assisted in the current attempt. These included an increased level of staff awareness with a particular focus on the team leaders, posters, discussion with staff and the development of admission packs. A tally sheet measured compliance with the form. RiskMan data continued to be monitored as a reliable source of qualitative data collection.

Results

Feedback indicated that staff are happy with the strategies implemented, seeing this as a positive outcome combined with a linear drop in physical aggression incidents. There is reluctance by the ED, however, as it sees delays in transfers with the implementation of the form.

Figure 3. Verbal and physical aggression incident run chart

Verbal and Physical Aggression Incidents
Nov 2021 - Oct 2022
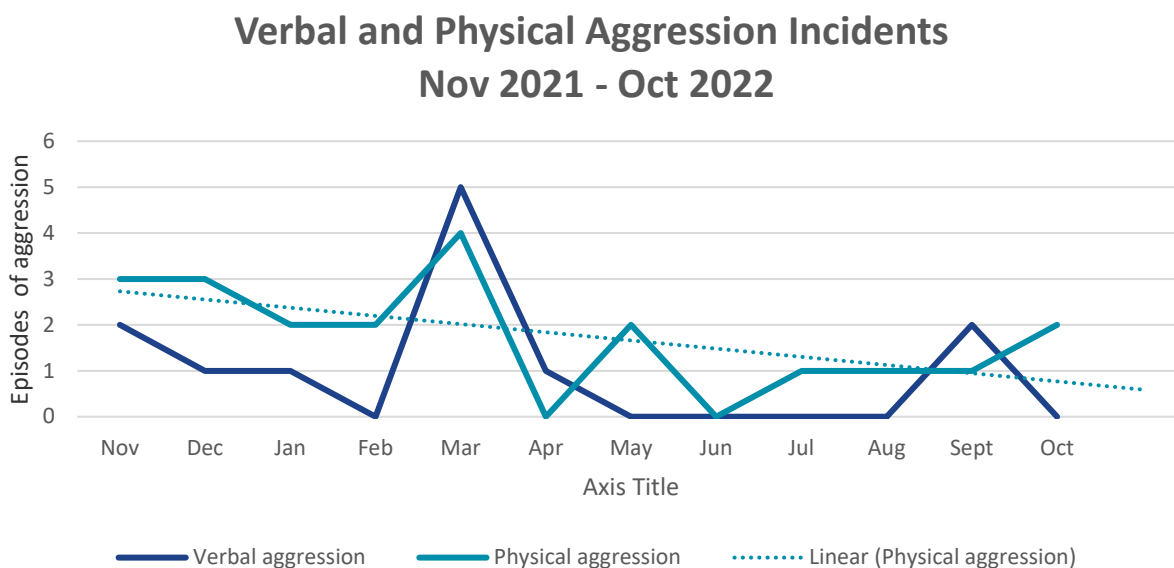
Conclusion

A limitation of the project was underestimating the change process for the ward staff. Assumptions were made that the staff would embrace strategies to improve the current management system for patients with BOC. This was not the case and the form was initially not being used. However, given a process of change management in the second implementation phase, this has now improved.

Next Steps

The project continues because the aim has not been achieved. However, RiskMan data show a reduction in aggressive incidents. The project has created a heightened awareness of the issue, and the ward has a more proactive approach to the management of patients with BOC.

Project Team

- Sarah Griffin, executive sponsor
- Georgia Cunningham, RN Ward 3A
- Jonathan Prince, CNS Ward 3A
- Michelle Wong, RN Ward 3A

Preventing Falls in the Emergency Medical Unit

Miss Courtney Jones, Miss Kylie Shelverton and Mr Iain Wilson

Miss Courtney Jones (right),
Clinical Nurse Consultant, Safety and Quality Critical Care Clinical Support and Investigations

Miss Kylie Shelverton (left),
Clinical Nurse Consultant, ED

Mr Iain Wilson (not pictured),
Clinical Nurse Consultant, Standards of Practice Office of Executive Director of Nursing and Midwifery

Royal Hobart Hospital

Problem/Aims

The emergency medical unit (EMU) is a dynamic environment that has a high turnover of patients and a broad mix of patients, including those at high risk of falls. This is further complicated by the significant increase in time patients spend within the EMU environment. Several falls resulting in severe injury and mortality have occurred within the EMU, and root cause analysis has found that system issues can contribute to the risk of falls within this environment.

The aim was to decrease the number of falls in the EMU that result in patients being injured or dying by February 2024.

Background

In both the ED and its adjacent 28-bed unit, patient safety incidents, particularly falls, have led to significant harm and mortality rates. Following root cause analyses of two high-priority safety events related to patient falls in the unit, recommendations were made to initiate a falls quality improvement project. This project aimed to thoroughly examine data, identify potential systemic enhancements and align practices with evidence-based standards, fostering safer environments for patients.

Measurement

Quantitative analysis using statistical process control charts revealed significant harm-causing falls in the EMU. Brainstorming categorised EMU fall issues into themes, yielding primary causes through cause-and-effect diagrams and a multivote process. A Pareto chart highlighted key themes: busy staff, equipment and environmental issues. These data drove ideas for actionable changes to consider in the initial PDSA cycle, illustrated in a driver diagram.

Consumer engagement emphasised environmental concerns and patient reluctance to seek staff assistance. These insights, along with quantitative data, informed the choice of implementing patient rounding to address the causes of EMU falls.

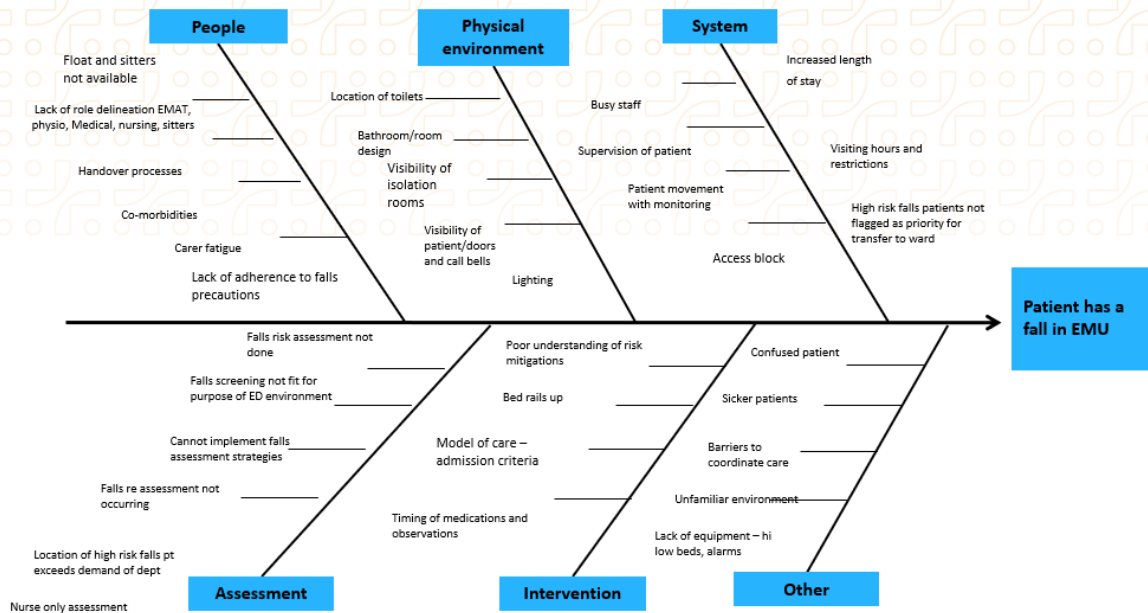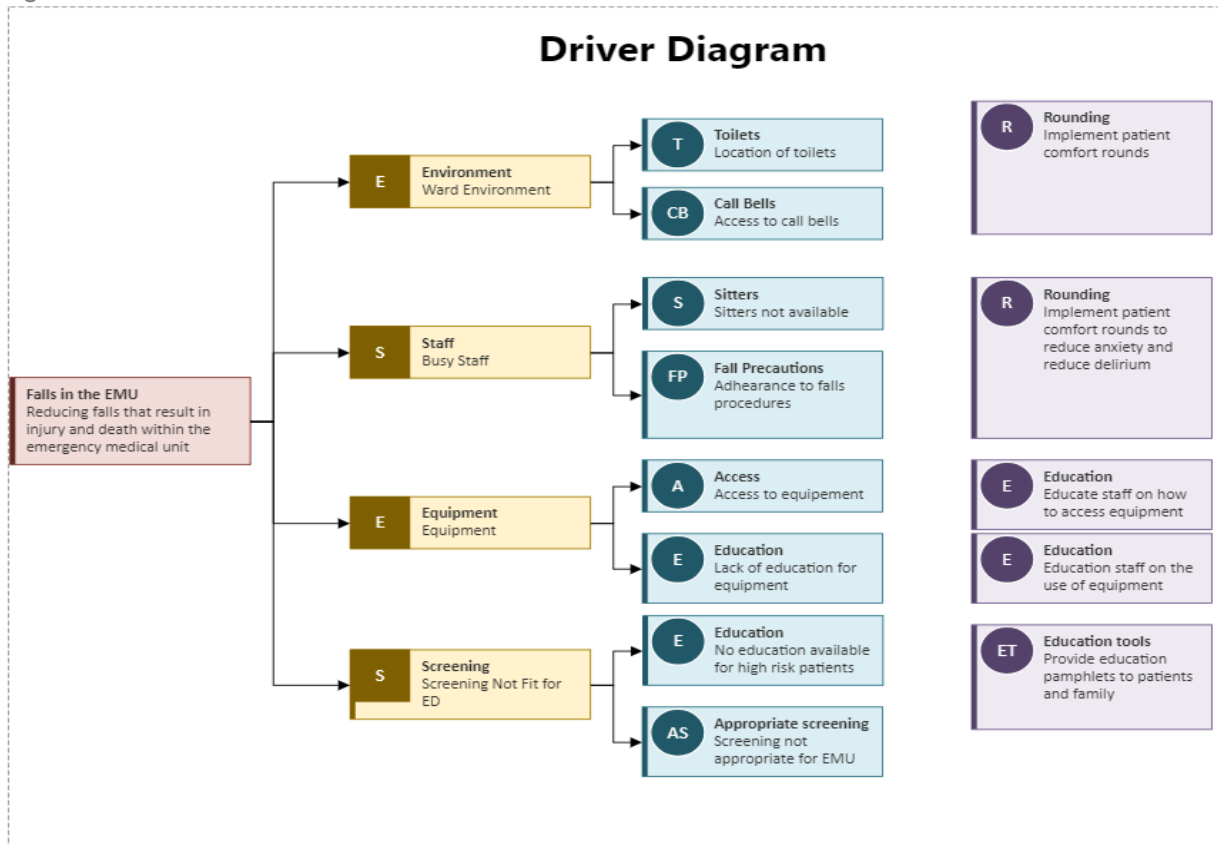Figure 1. Diagnostics, cause-and-effect diagram

Figure 2. Intervention

Design

The implementation of patient rounding in the EMU is a proactive measure to boost patient safety by actively monitoring patients' needs and mitigating fall risks. This comprehensive plan encompasses structured schedules for rounding, extensive training modules tailored for assistant in nursing staff and a focus on refining communication channels for seamless integration into daily operations.

Anticipating potential hurdles, such as staff resistance, time constraints, communication obstacles and patient acceptance, the project team devised strategic solutions. A pivotal strategy involved using a validated rounding form from other organisational sectors, offering a user-friendly structure to guide interventions. This tool aims to simplify the rounding process, providing clear guidance to staff while optimising their efforts.

Strategy

In the first PDSA cycle, a 'falls trolley' introduced in the EMU contained essential tools and information for falls, ensuring accessibility of rounding forms. Recent onboarding education for assistant in nursing staff outlined the patient rounding process, emphasising its role in fostering patient-centred care, building rapport and contributing to fall prevention.

Scheduled 1- and 3-month post-implementation reviews are vital checkpoints, gathering staff feedback and data for necessary adjustments. This iterative approach ensures ongoing enhancement and sustained optimisation of patient rounding practices within the EMU.

Results

This quality improvement coincided with the onboarding of assistant in nursing staff, and propelled the integration of a patient rounding model into their practice. Anticipated benefits of patient rounding included improved patient-staff engagement, early identification of fall risks, enhanced environmental assessments, proactive interventions and shared responsibility for falls prevention.

The approach in the first PDSA cycle sought to gauge the impact of patient rounding in the EMU, using a multifaceted assessment of safety event data, stakeholder feedback, cost implications and the proactive nature of rounding preceding fall incidents. The aim was for these measurements to inform ongoing improvements and sustained practice of patient safety strategies that can then be broadened into other areas of the organisation.

Next Steps

The falls quality improvement in EMU highlighted that falls are multifaceted, involving factors beyond the scope of quality improvement, such as patient complexity and access block issues. Monitoring intervention compliance will require fine-tuning during implementation to ensure success and the spread of improvements.

Project Team

Guidance team members

- Kylie Shelverton
- Iain Wilson
- Courtney Jones

Project team members with fundamental knowledge who worked on the project

- Amy Finedon, EMAT Nurse
- Shiye Baker, physiotherapy
- Danielle Garwood, ED Nurse

Identification of At-risk Newborns

Mrs Felicity Turnbull

Mrs Felicity Turnbull
Clinical Midwife Consultant
Royal Hobart Hospital

Problem/Aims

In early 2023 there was a sharp increase in the number of safety reports submitted regarding adverse outcomes for newborns: weight loss, hypoglycaemia, Special Care Nursery (SCN) / Neonatal Paediatric Intensive Care Unit (NPICU) admissions, increased Length of Stay (LOS) and readmissions.

The aim was to increase identification of at-risk babies within the maternity ward to 80% by December 2024.

Background

During the process of reviewing these safety events, it was noted that despite multiple risk factors during the pregnancy or birthing process, many at-risk babies were not being identified or screened, observed or treated appropriately for their risk profile.

We came together with our NPICU colleagues to identify key issues and make changes to reduce these adverse outcomes in the hopes of reducing workloads for maternity and SCN/NPICU.

Measurement

During the process of investigating the incidents reported through the Safety Reporting and Learning System (SRLS), I gathered small amounts of qualitative data from mothers through our open-disclosure framework. I identified the general confusion felt by women: they were unaware why their baby was at risk, they were unaware of what observations or interventions were required and they would prefer more open communication and obvious reminders to counteract their sleep deprivation and help them be proactive in their baby's care.

Quantitative data were reviewed by completing an audit of two months of births (113 babies). We reviewed the newborn pathways of each baby and determined whether their risk assessment was completed appropriately, whether appropriate observations were attended in accordance with the baby's individual risk profile and whether appropriate

interventions were implemented and completed in accordance with their individual risk profile (i.e. BSL monitoring or a feed plan). I identified very poor rates of completion of babies' risk assessments (41/113 incorrect or incomplete), babies who required ongoing observation (only 27/113 had all observation completed) and babies who required interventions (BSLs: 8/43 incorrect timing/process followed; feed plan: 17/62 incorrectly implemented/feeds missed).

Design

Multiple quality improvement possibilities were identified in accordance with the available data. A decision was made to concentrate on identifying risks and then move on to observation and treatment once appropriate identification methods were identified.

Figure 1. Diagnostics, cause-and-effect diagram
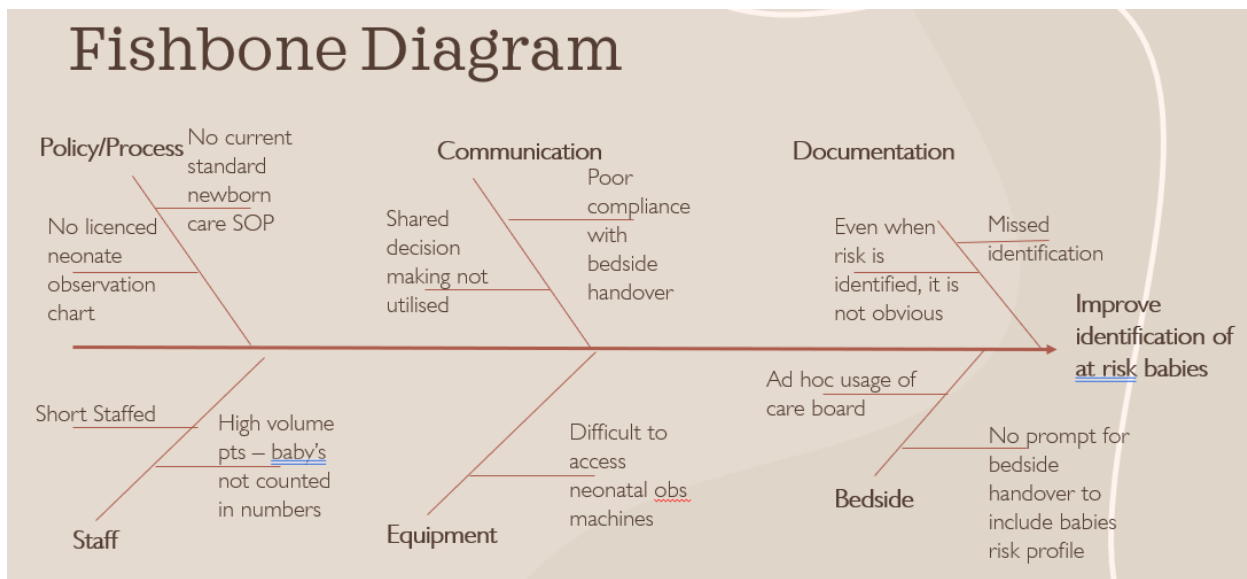
Figure 2. Implementation, driver diagram
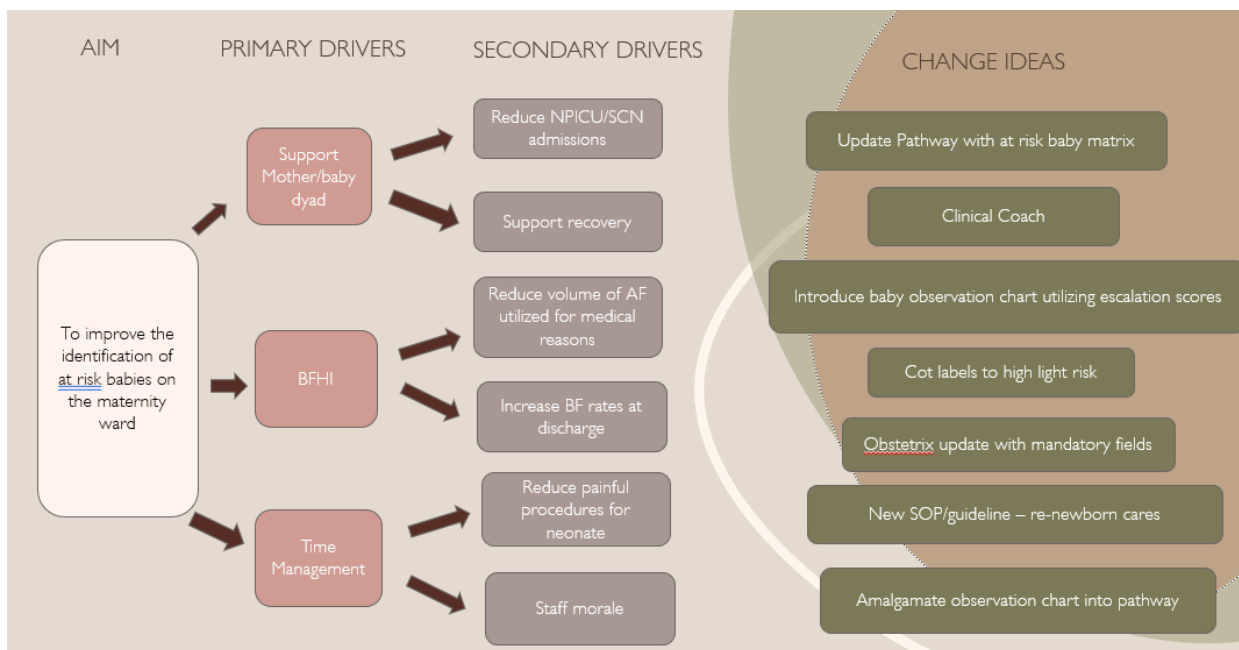
Strategy

We reviewed other healthcare services' neonatal pathways and neonatal observation charts, as well as how they record babies' risk profiles and make it obvious to staff. I reviewed each state's pathway and the NEWT, NEWS and Victor observation charts and collated them to create an easy-to-follow and succinct checklist.

Once the new identification of at-risk babies checklist is in the neonatal pathway, I will implement staff education and sharing at handover time and at the beginning of in-service.

Next steps

After six months of use, success will be measured through a repeat audit of two months of births and a staff feedback survey to identify any concerns about content or ease of use.

Project Team

Guidance team members

- Tony Depaoli, NPICU Staff Specialist
- Sanja Simic, NPICU Senior Registrar

Project team members

- Felicity Turnbull, CMC
- Di Wojcik, CMC
- Laurynda Jankowiak, G5 AMUM
- Michael Bourne, CNC

Figure 3. PDSA ramp/cycle
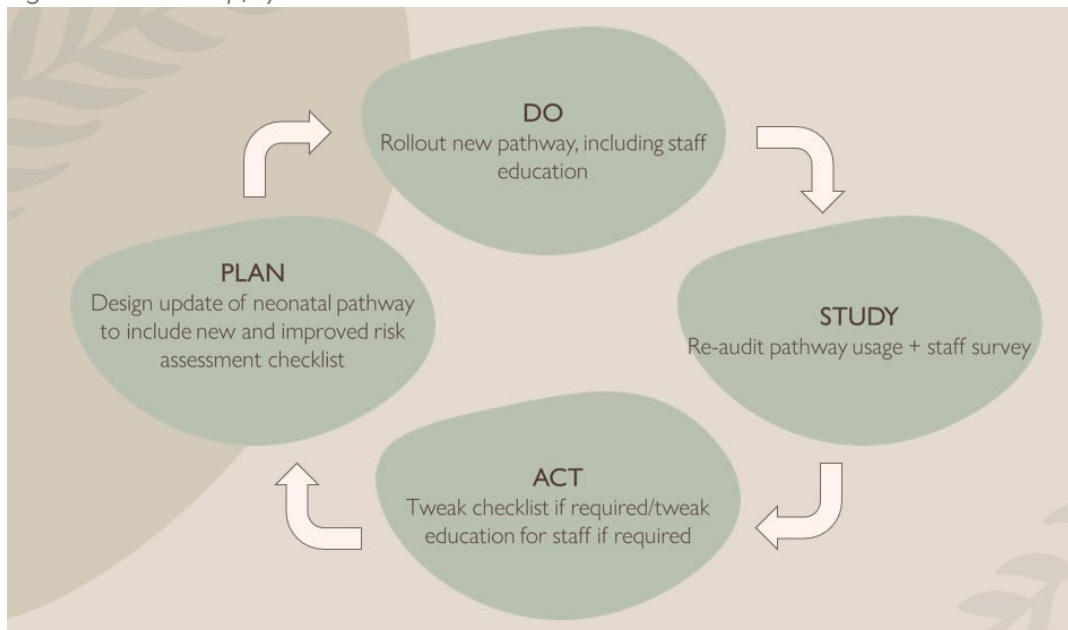
Improving Documentation of Child Health Service Items in Primary Care Information System

Jane Whitehead

Jane Whitehead
Continuous Quality Improvement Facilitator
NT Department of Health

Problem/Aims

The Gunbalanya Child Health Service wanted to improve documentation of child health service items in the Primary Care Information System (PCIS) to ensure accurate data uptake for reporting KPIs in the Child Health Traffic Light Report (CHTLR).

KPIs are considered core business in health centres, and traffic light reports monitor trends and evaluate the child health program. Correct service items are not being used consistently when entering data into the PCIS. The CHTLR pulls data from the service items, not from progress notes, thus it does not capture the work performed by staff.

Using the child health audit tool, staff will be trained in using the correct service items when entering data into the PCIS.

Background

The child health nurse education coordinator approached the continuous quality improvement facilitator to assist in training staff to enter child health data correctly into the PCIS. The health centre was experiencing a high rate of staff turnover and had no dedicated lead in the child health program in the community. The visiting outreach child health nurse visited three communities and had limited capacity to train staff in an ongoing manner. The CHTLR does not reflect the work being performed by the health centre staff because of incorrect data entry. By using the correct PCIS service items, increased improvements will be reflected in the CHTLR.

Measurement

All clinicians will be offered training in using the PCIS within 12 months, and 90% by six months. This needs to be monitored as an ongoing process because of the high turnover of staff.

The above will be achieved by:

- providing staff with the one21seventy audit tool for understanding care plans and the PCIS, and the 'Step-by-Step' booklet by the end of August 2022

- increasing accurate data output collected for the CHTLR by 10% by 31 December 2022. Reports will be calculated and distributed monthly

- embedding the training and booklet into the orientation of new staff by 31 December 2022.

Design

The continuous quality improvement facilitator arranged a four-day visit to the remote health centre with the child health nurse education coordinator and the outreach child health nurse to meet with the primary health centre manager and all health centre staff to brainstorm problems and solutions. To ensure that outcomes are met, buy-in from the health centre staff is required. The child health nurse education coordinator discussed the proposal to consider using the one21seventy child health audit tool as an education tool to train staff in the use of the correct service items and how to navigate the PCIS. The staff were keen to do this.

Over the four-day period, staff wrote down problems and solutions on sticky notes, which were added to butcher's paper on the tea room wall.

Strategy

Two PDSA cycles were designed to improve driver recalls. Drivers have a list of clients to pick up and take to health centres. However, there is currently no follow-up of clients having been seen by a driver. Drivers need training and access to the PCIS to document outcomes for clients on their list. Drivers also need to report to staff in health centres at the end of the day, return a completed list and discuss the recall list.

Results

Within a four-month period, incremental changes were noted on the CHTLR; specifically, KPI 10 (growth faltering children on a growth action plan) increased from 0 to 63%, and KPI 7a (anaemic at last check) dropped from 10 to 3%. Staff quarantined time to do the training and were supported by the health centre.

Figure 1. Results, traffic light report

August 2022

				Traffic Light Table	
Under 5 Population = 108					
Results	**Key Performance Indicators**	**Program Goal**	**Close to Goal**	**Far from Goal**	
97%	KPI 1: Children on a HU5K-PF Care Plan	>95%	90-95%	<90%	
59%	KPI 2: HU5K-PF coverage	>90%	60-90%	<60%	
9%	KPI 3: ASQ-TRAK screening coverage	>90%	60-90%	<60%	
99%	KPI 4: Children on an Immunisation Care Plan	>95%	85-95%	<85%	
54%	KPI 5: Immunisation timeliness	>90%	70-90%	<70%	
61%	KPI 6: Haemoglobin testing	>87%	70-87%	<70%	
3%	KPI 7a: Anaemic at last check	<10%	10-20%	>20%	
7%	KPI 7b: Anaemic in the last 6 months	<10%	10-20%	>20%	
50%	KPI 8: Anaemic children on an Anaemia Care Plan	>90%	70-90%	<70%	
66%	KPI 9: Growth monitoring	>90%	70-90%	<70%	
63%	KPI 10: Growth faltering children on a Growth Action Plan	>70%	60-70%	<60%	

Conclusion

There is still work to do, and we look forward to having ongoing opportunities to share this success with other health centres and other program areas, such as chronic conditions. The training will be embedded into child health orientation.

Next Steps

On request or when the need arises, we can develop a similar process for other program areas, such as preventable chronic conditions, rheumatic heart, mental health and women's/men's health. Given the current difficulties of securing permanent staff in remote health centres, important program work is always at risk of being neglected. Simple processes in place to assist staff will go a long way in improving KPIs.

Project Team

- Jane Whitehead, Continuous Quality Improvement Facilitator

- Maxine Cohen, Primary Health Centre Manager, Gunbalanya Health Centre

- Gabrielle Percy, Outreach Child Health Nurse

- Maricar Alcedo, Child Health Nurse Educator Coordinator

Death Outside the Terminal Phase: Recognising Dying

Ms Clare Warren

Ms Clare Warren
Clinical Nurse Consultant Quality, Safety and Risk Officer
Silverchain

Problem/Aims

Data supplied by the Palliative Care Outcomes Collaboration (PCOC) in 2023 indicated that 36% of our patients who had died at home in 2022 may not have been recognised as dying by clinicians who had not phased them as terminal. Our concern was that this supportive conversation and care planning was being missed.

To reduce the incidence of people dying outside the terminal phase in Western Sydney Community Palliative Care Service to 15% by 2025 and to less than 10% by 2026.

Background

Caring for palliative care patients wishing to die at home requires a coordinated partnership between palliative care clinicians and individuals' families and carers. Clinicians have the ability to smooth this process by recognising the signs that death is likely within days (the terminal phase). Transition to the terminal phase triggers the clinician to have a specific conversation with patients, families and carers explaining the proximity of impending death, addressing any fears and concerns and planning for how to manage the end-of-life care and death as calmly and respectfully as possible.

Measurement

Retrospective analysis of the end-of-life care we provided the patients in 2022 was undertaken by auditing their clinical notes using a PCOC terminal phase audit. Staff were surveyed about why they thought the number was so high, and this indicated a combination of knowledge or experience and fear. Fear was understood as concern about getting the phase wrong and discomfort with having compassionate conversations with families, which were likely to trigger raw emotional responses. Consumer feedback was considered through a retrospective analysis of documented client feedback in 2022.

Figure 1. Diagnostics, cause-and-effect diagram

Figure 1. Diagnostics, cause-and-effect diagram
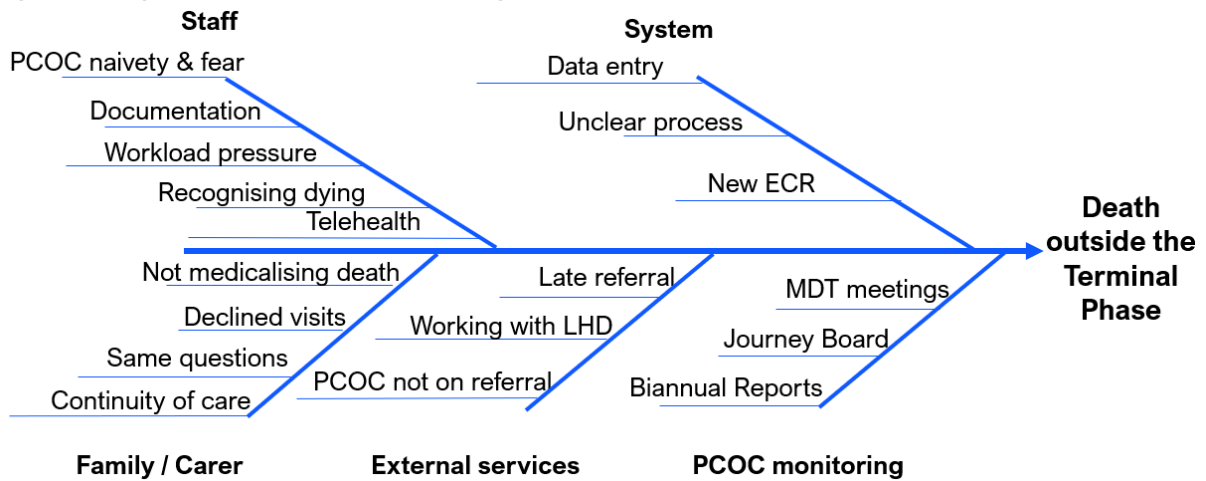
Design and Strategy

Interventions have been planned and some have been started through PDSA cycles. The results of the first PDSA cycle concerning education on the PCOC phases resulted in a reduction of death outside the terminal phase to 23% in April and May. The next intervention that will go through a PDSA cycle is education related specifically to the terminal phase and compassionate conversations.

Recognising that education alone is a weak improvement intervention that is 'often necessary but rarely sufficient',[1] other interventions are also planned.

These include a redesign of the electronic clinical record to promote ease and consistency of recording PCOC assessments, rolling out the PCOC assessments to all clinicians (previously only attended by nursing) and insisting on the phase and other PCOC assessment information as part of referral documentation. Finally, a system of building confidence among staff from the point of onboarding is planned and will include buddying and mentoring by more experienced clinicians.

Figure 2. Intervention, driver diagram exploring change ideas

Figure 2. Intervention, driver diagram exploring change ideas
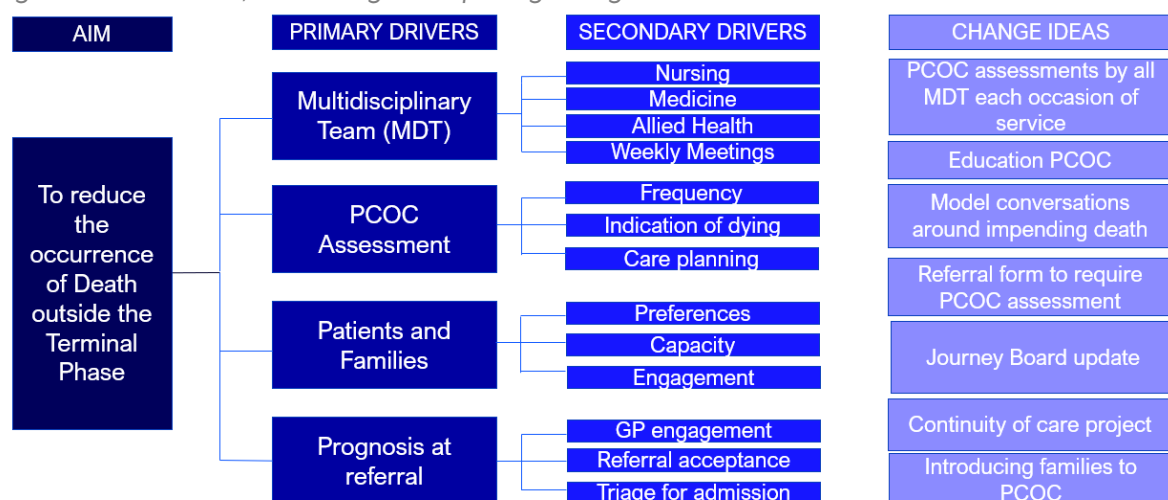
Results

Qualitative feedback is driving continual change and support of education and consumer and family experience of end of life. PCOC reports will be available to show the impact at the end of 2024.

Next Steps

- Routine PCOC terminal phase audit
- Present findings to Silverchain Palliative Care Network
- Continuity of care project
- New ECR 2024

Reference List

1. Soong C, Shojania KG. Education as a low-value improvement intervention: often necessary but rarely sufficient. BMJ Qual Saf. 2020;29:353–357.

Project Team

- Clare Warren, CNC, Quality, Safety and Risk Officer
- Caroline Marasovic, Director of Clinical Operations NSW
- Prudence Edgar, Clinical Nurse Consultant, Palliative Care Western Sydney

Improve Healthcare Service Delivery and Outcomes of Peritoneal Dialysis-associated Peritonitis

Monique Borlace and Dr Chii Yeap

Monique Borlace
Nephrology Nurse Practitioner
Central Northern Adelaide Renal & Transplant
Service

Dr Chii Yeap
Nephrologist
Central Northern Adelaide Renal & Transplant
Service

Problem/Aims

To reduce hospital admissions for the treatment of peritoneal dialysis-associated peritonitis within the Central Area Local Health Network (CALHN) to below 50% over the next 18 months.

Background

Peritoneal dialysis-associated peritonitis is a serious complication of peritoneal dialysis (PD), which is a critically important outcome for all key stakeholders, including patients, caregivers, clinicians, researchers and policymakers. It is the most common type of PD-related infection, resulting in increased health care use, and is associated with significant harms, including pain, treatment costs, transfer to haemodialysis and death. Further, long-term treatment with PD is challenging.[1]

Measurement

In conducting an audit of PD-associated peritonitis cases within our unit from 1 January to 31 December 2021, we uncovered:

- 75% of peritonitis cases presented for initial treatment at Royal Adelaide Hospital ED

- 53% re-presented with recurrent infections

- 40% were on PD for fewer than 90 days

- a 0.5 peritonitis rate per patient year (increased from 0.3 the previous year)

- a change in patient profile (i.e. declining recommended treatment/retraining)

- the same 6% of home dialysis unit presentations resulted in 84% of presentations to Royal Adelaide Hospital ED and 10% presentations to country hospital ED.

Design

A collaborative approach with the healthcare team and consumers to improve PD-associated peritonitis outcomes led to mapping processes, correlating cause and effect and using the Pareto principle to identify key priority areas for action.

Strategy

We conducted PDSA cycle strategies for this project, measuring interventions using the Pareto Chart and the Fishbone Chart to establish key issues needing intervention or improvement. We then used date sheets and run charts to measure and evaluate our outcomes. We conducted additional PDSA ramps and cycles with each intervention.

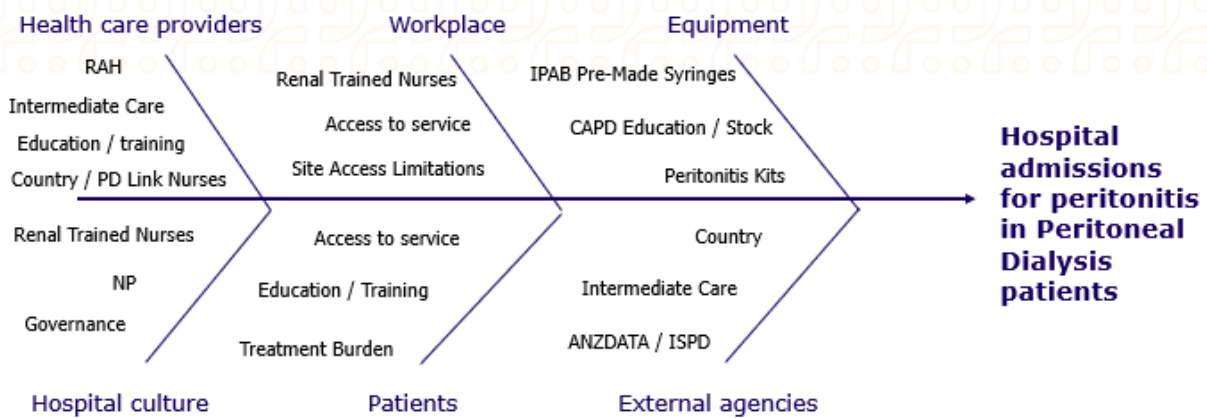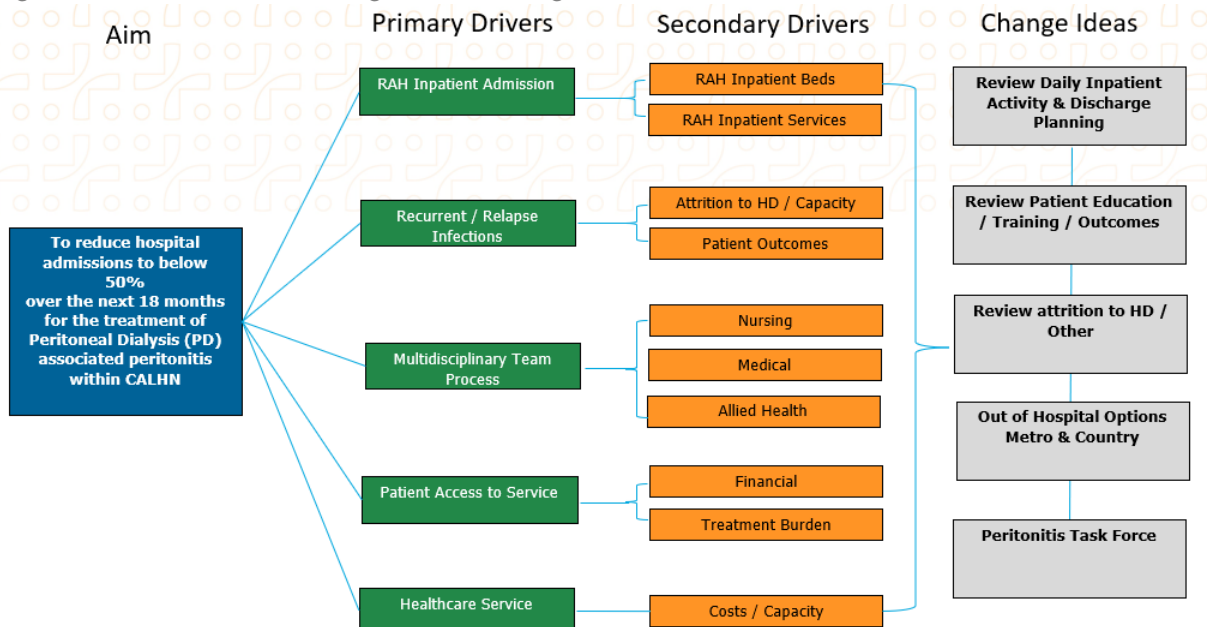*Figure 1. Diagnostics, cause-and-effect diagram*

Figure 2. Intervention, driver diagram with change ideas

Results

Interim results from 1 January to 30 September 2022 show overall reductions in all areas. A key result is Royal Adelaide Hospital ED hospital presentations reduced to 51% from 84% in the previous year.

An interim report shows that the project has reduced hospital admissions to 51% in 2022 (from 75%) for the treatment of PD-associated peritonitis within CALHN.

Conclusion and Next Steps

The process has been useful in understanding our issues and testing change. We plan to continue optimisation of current intervention strategies. Further, we will maintain collaboration with the CALHN integrated care team and progress to publication of the project and our results.

Figure 3. interim outcomes for key success measures following interventions

Hospital avoidance
readmission down 50%

Cost savings
33% decreased admsiions

Improved care
decreased infection rate

Consumer satisfaction
decreased time on PD
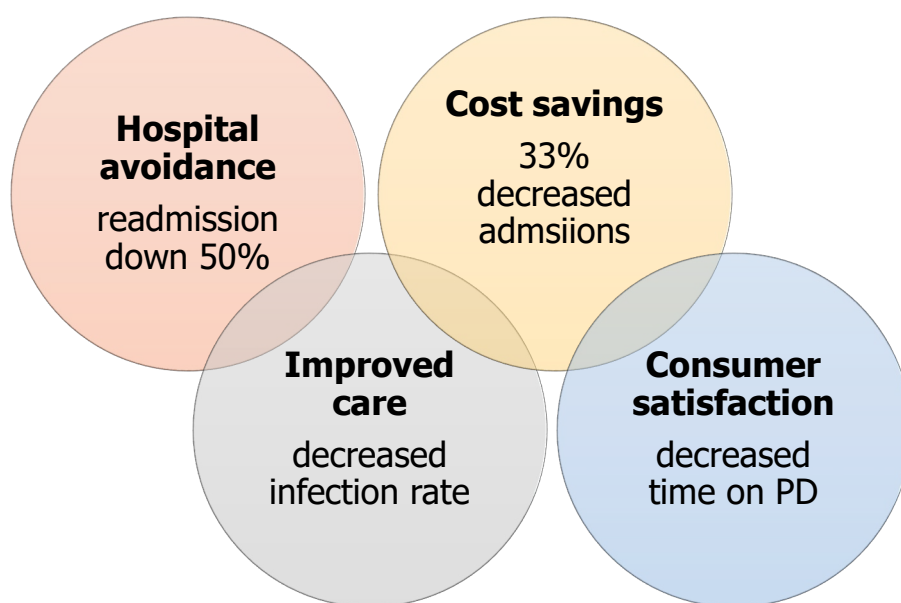
Reference List

1. Li PK-T, Chow KM, Cho Y, Fan S, Figueiredo AE, Harris T et al. ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. Perit Dial Int. 2022;42(2):110–153. doi:10.1177/08968608221080586

Project Team

- Dr Yeap, Nephrologist
- Monique Borlace, Nephrology Nurse Practitioner
- Dr Nicholas Farinola, CALHN Integrated Care Team (Sefton)
- CNARTS multidisciplinary team
- Home Dialysis Unit team members
- RAH Renal Ward (7F) inpatient team
- Dr Richard Le Leu, CNARTS Clinical Research Group
- Anne Britton, CNARTS Clinical Practice Director

Improving the Use of ISBAR Format for Information Sharing and Patient Engagement in Bedside Handover in an Acute Surgical Ward

Mrs Caitlin Pitt and Mrs Roslyn Roberts

Mrs Caitlin Pitt
Patient Safety Officer

Mrs Roslyn Roberts
Quality Consultant

Mildura Base Public Hospital

Problem/Aims

Through routine auditing of bedside handover procedures, it became apparent there were inconsistencies among clinicians as to how and where they conducted bedside handover.

Our project aim was to improve patient participation and compliance with the ISBAR format for information sharing during bedside handover to 80% in an adult inpatient ward within six months.

Background

Bedside handover was rolled out using a staggered approach across the organisation in early 2021. This was approximately the fourth attempt in a 10-year period to implement the procedure.

Evidence was obtained through the VHIMS incident management system, and feedback data indicated that key areas of information sharing that should have been covered during bedside handover were being missed. This led to an increase in medication incidents and complaints about patients feeling uninformed about their care.

Measurement

Qualitative data were collected through interviews and surveys with both patients and staff to identify their wishes to be involved with, and barriers to, completing bedside handover.

Quantitative data were collected through observational audits recording interruptions during handover, length of handover, patient involvement and use of the ISBAR format.

Figure 1. Patient inclusion in handover
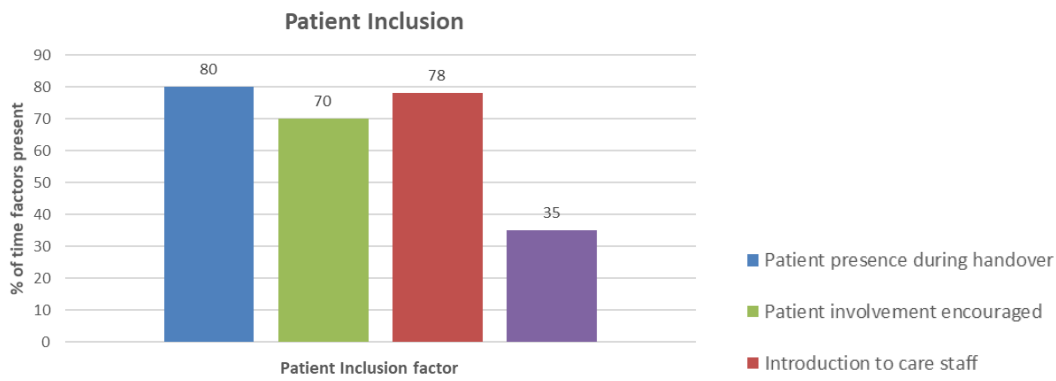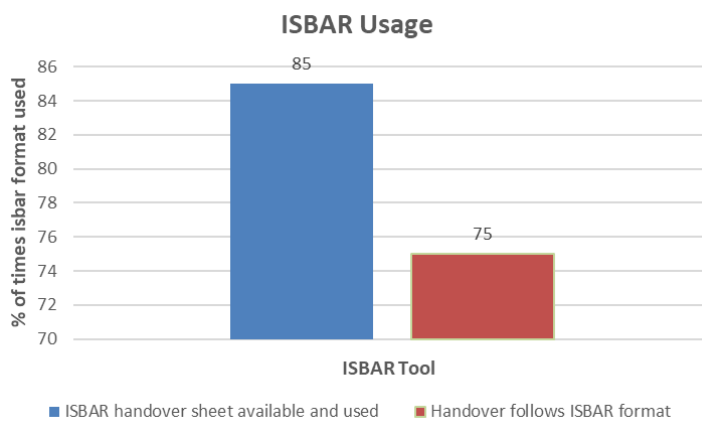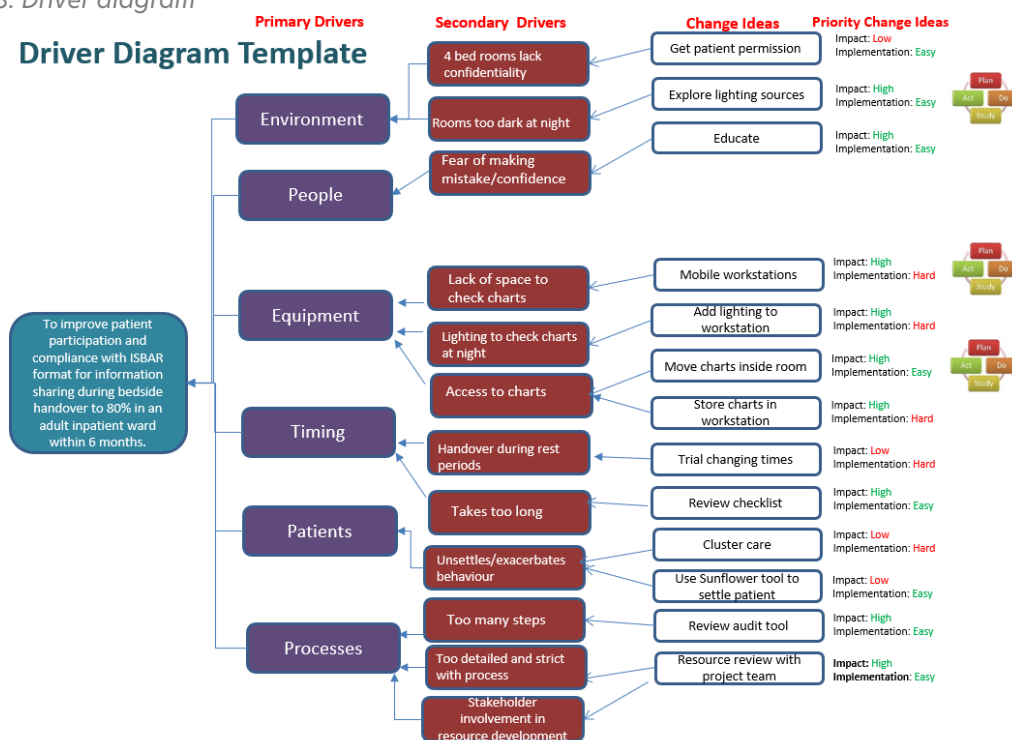
Patient Inclusion

Figure 2. ISBAR usage

ISBAR Usage

Design

Focus was placed on keeping the nurses at the bedside and improving confidence around patient involvement in handover.

Figure 3. Driver diagram

Strategy

The focus for the initial PDSA cycles was overcoming design-based barriers, such as equipment and environmental factors, before considering person-based factors, such as additional education and communication training.

Results

A simple Excel audit tool was developed to monitor our data and PDSA cycles. This allowed us to create hypothetical run charts of our projected improvement over the first six weeks of the PDSA cycles. We predicted that there would be a slow start and minimal improvement in use of the ISBAR tool as staff became used to carrying their charts and the ISBAR checklist on the new trolleys. We also projected a small increase in patient engagement over the period because staff were located at the bedside for longer during handover. However, increasing presence would not be enough to overcome some of the other barriers faced, such as confidence, peer pressure, cultural, linguistic and diversity barriers. Following the first PDSA cycle, we had planned to conduct a repeat survey with the patients to determine whether there was an improvement in them feeling informed about their care, as we projected there would be.

Conclusion

Our project is ongoing and with continued PDSA cycles and the implementation of identified supports, we aim to see an increase in more consistent practices by clinicians during bedside handover, resulting in greater patient participation and use of the ISBAR format.

Next Steps

Share results publicly from each PDSA cycle and review to identify the most-effective PDSA cycles from the trial ward. We can then spread the effective changes across other inpatient areas.

The most-effective PDSA cycles will be implemented first with the opportunity for further cycles in each ward to cater to specialty, environment and equipment availability, among other areas.

We will look for opportunities to improve the involvement of CALD patients, for example, by pre-scheduling interpreters.

Project Team

We would like to acknowledge our project team for their ongoing support and collection of data and feedback to help us to achieve our aim:

- Sarah Knott, ANUM (trial ward)
- Jackie Hale, Registered Nurse (trial ward)
- Trinity Kervin, Graduate Nurse (trial ward)
- Richard Noble, Registered Nurse (trial ward)
- Georgia Mayne, Registered Nurse (trial ward)

Improving Outpatient ECG Delivery in Austin Health Pathology Collection Centres

A/Prof Kerryn Ireland-Jenkin

A/Prof Kerryn Ireland-Jenkin
Medical Director/Deputy Chief Medical Officer
Austin Health

Problem/Aims

Following an extensive network expansion, Austin Health Pathology experienced increased turnaround times in collection and reporting of paper-based ECGs collected in the regional collection centres, and reported in the central metropolitan service, as a result of lengthy courier transport times and manual processes. A digital solution was required.

The aim was for Austin Health Pathology to provide an end-to-end outpatient ECG service that is timely and cost effective for all patients and consumers across the Austin Health Pathology network by the end of 2023, implementing a digital solution and maintaining a high level of accuracy, with scalability to allow for integration into future network expansion.

Background

Over two years, Austin Health Pathology underwent regional network expansion, from a metropolitan pathology provider with local outpatient collection centres, to operating a network of laboratories and collection centres for the Hume, Loddon Mallee and Goulburn Valley regions in Victoria. In the expansion implementation, the existing processes for outpatient ECG collection and reporting were extended to the regional services, who currently perform paper-based ECGs, that are then couriered to the central health service for reporting.

Existing manual processes were not easily scalable to meet the increased volume of regional ECGs, and the combination of manual processing, courier transit times and complex workflows resulted in increased and variable ECG turnaround times, resulting in consumer complaints and increased clinical risk and reputational risk.

Measurement

Current state process mapping revealed complex workflow process with eight swimlanes, duplication, multiple handoffs and manual data entry introducing transcription error risk. The longest manual courier run was 550 km, and courier transport resulted in batching. As the network expanded, the turnaround time (TAT) increased with increasing variability in TAT up to 400%, indicating reduced service reliability. The service was beyond capacity for reliable overall performance, and further growth in ECG demand was anticipated over the next two years.

Figure 1. Diagnostics, swimlane process map with trouble spots identified
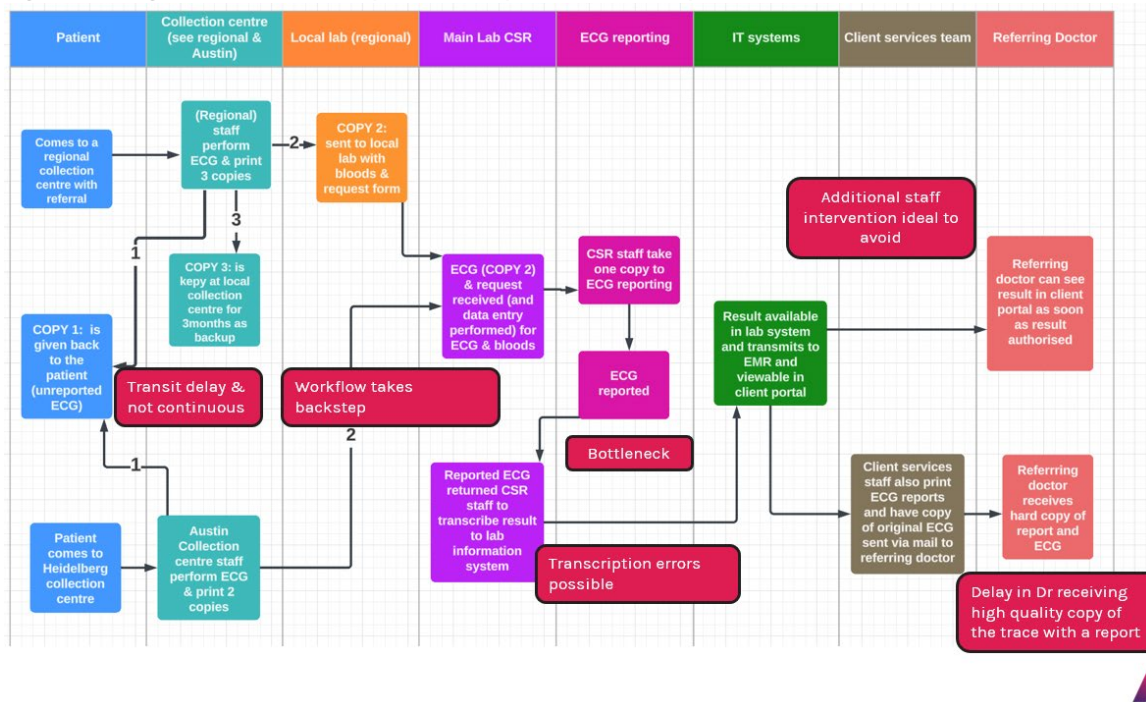
Cost analysis for the current state and desired future state with a digital solution was performed. There were significant consumable costs in the current state, including duplication of paper-based ECGs for backup copies, and associated staff costs because of this workflow duplication.

Figure 2. Diagnostics, cause-and-effect diagram
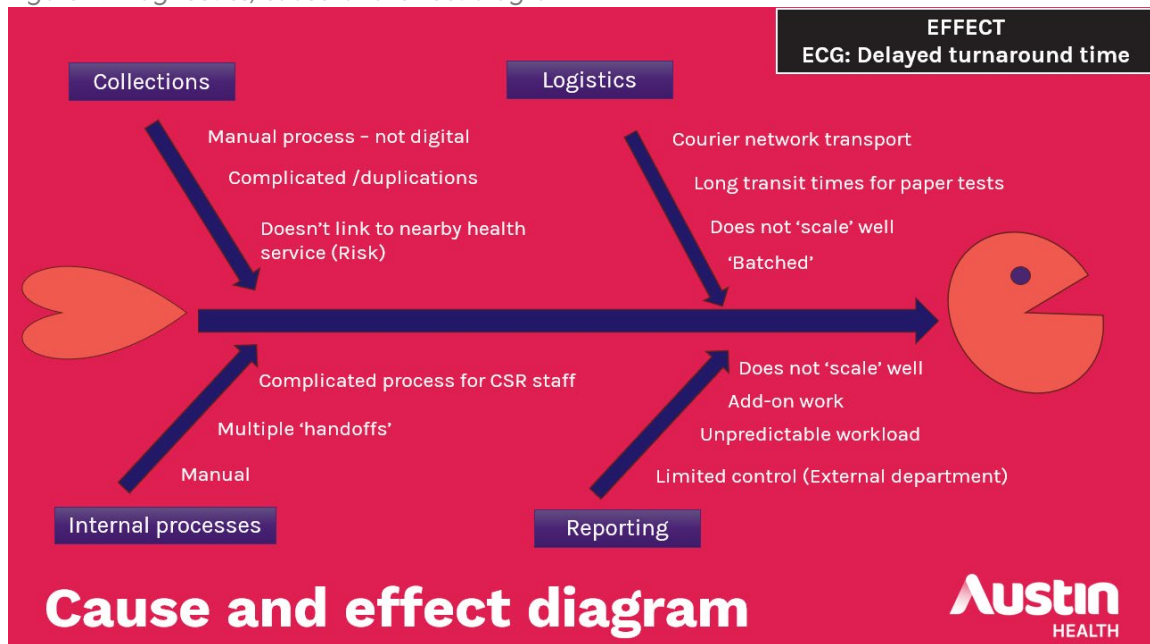
Design

A commercial digital solution was investigated and identified as suitable. Although the commercial digital solution had been successfully implemented at other outpatient pathology services, the current project challenge was being able to reliably implement and successfully integrate the digital solution with existing AHP workflows and ICT systems. The initially designed future state had six swimlanes, no manual transcription of results and a 30% reduction in handoffs.

Figure 3. Intervention, driver diagram with change ideas and PDSA priorities

Strategy

The initial service design was a split model, with ECGs collected in the regional services planned for digital transmission to an external provider, and the ECGs collected at, or close to, the metropolitan service maintaining existing, business-as-usual service delivery to maintain local relationships. The design of workflows to support the split introduced a high level of confusion for the central specimen reception (CSR) staff, with a risk of CSR staff selecting an incorrect unit record number for patients based on the site of collection. There was also no IT solution for a separate screen mask for two models of processing the same test. This first intervention was deemed unsuitable, and a single solution for all tests was developed in the second PDSA cycle.

In the second PDSA cycle, all ECGs were managed with preassigned laboratory barcode test numbers to improve the reliability of locally tracking the tests, which were all transmitted to the digital service provider. This resulted in a single simpler workflow and continuous transmission and reporting, with no batching. Multiple additional PDSA cycles related to fine-tuning the IT and encryption systems and improving the process for handling testing during downtime processes.

Results

An eight-week trial was successfully performed, checking comparability of the results for the traditional and the digital systems, including oversight of double-reading by medical staff. The trial was conducted across four metropolitan collection sites and four inner regional sites, and included high-volume and low-volume services. The end-to-end process aligned with laboratory accreditation requirements for both ICT requirements and result delivery.

End-to-end testing was successful, and the digital solution was implemented, with reduced overall TAT and reduced variability in TAT.

Conclusion

The design and implementation of a digital ECG system were successful and addressed the project aims. All anticipated benefits, including improved service delivery and TAT, reduced clinical risk and a reduction in consumer complaints, were realised. Additional benefits were the reduction in consumable costs and environmental impact. In addition, some of the IT solutions that were introduced for managing downtime procedures were able to be leveraged for improving the reliability of other testing processes during network downtime.

Preventing Health Care Associated *Staphylococcus aureus* Bloodstream Infections: Improving Monitoring to Build a Safer Environment for Inpatients

Mrs Rachel Thomson

Mrs Rachel Thomson
Clinical Nurse Consultant
Royal Hobart Hospital

Problem/Aims

Within the Royal Hobart Hospital (RHH) across a four-month period in the second quarter of 2023 there was an increased number of Health Care Associated-Staphylococcus aureus Bloodstream Infection (HCA-SABSI) events detected in inpatients. These events were reported into the risk program (SRLS) and were reviewed using a London Protocol cluster review. The critical clinical incident review committee agreed that a quality improvement project should be supported, addressing key care delivery problems identified during the cluster review.

The aim was to increase the percentage of Peripheral Intravenous Cannula (PIVC) monitoring on inpatient wards within Medicine and Cancer Services (MaCS) at the RHH from the current rate to 100% within 12 months of project commencement.

Background

SABSI is an event with high-risk implications for patient safety. In relation to HCA-SABSI, there is often a high degree of preventability. This is reflected in ongoing work within the Australian Commission on Safety and Quality in Healthcare and the mandatory reportable requirements in relation to SABSI, including HCA-SABSI nationally, and that SABSI is included on the notifiable diseases register in Tasmania.

Within the RHH, the numbers of HCA-SABSIs has been at levels below the maximum threshold across the past five years.[1] This equated to three to five all-cause SABSI being HCA-SABSIs per quarter.

Between March and June 2023 a total of six HCA-SABSI events were attributed to a PIVC detected in inpatients within the RHH. These numbers equate to all-cause HCA-SABSI, thus indicating an increase over two quarters in this causality for HCA-SABSI.

Measurement

Cause-and-effect factors were mapped to assist in scoping the issue and a Pareto chart was developed to support the establishment of priority domains for the quality improvement. A point prevalence survey was completed in which the monitoring criteria were assessed. This survey showed that minimum eight-hourly monitoring was not occurring, as well as a significant number of patients with a PIVC, not having a monitoring chart in place at the time of audit.

Design

The project design included the following areas:

- assessing barriers to monitoring using the current tool
- improving ISBAR handover processes for newly admitted patients
- building clinician ownership of monitoring data performance using a QR code compliance assessment.

Figure 1. Diagnostics, cause-and-effect diagram
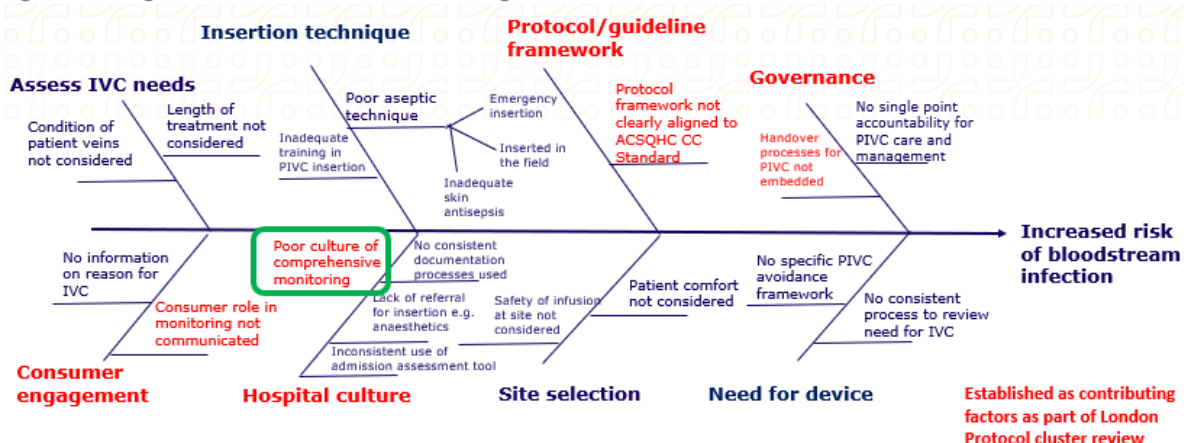
Figure 2. Intervention, driver diagram with change ideas
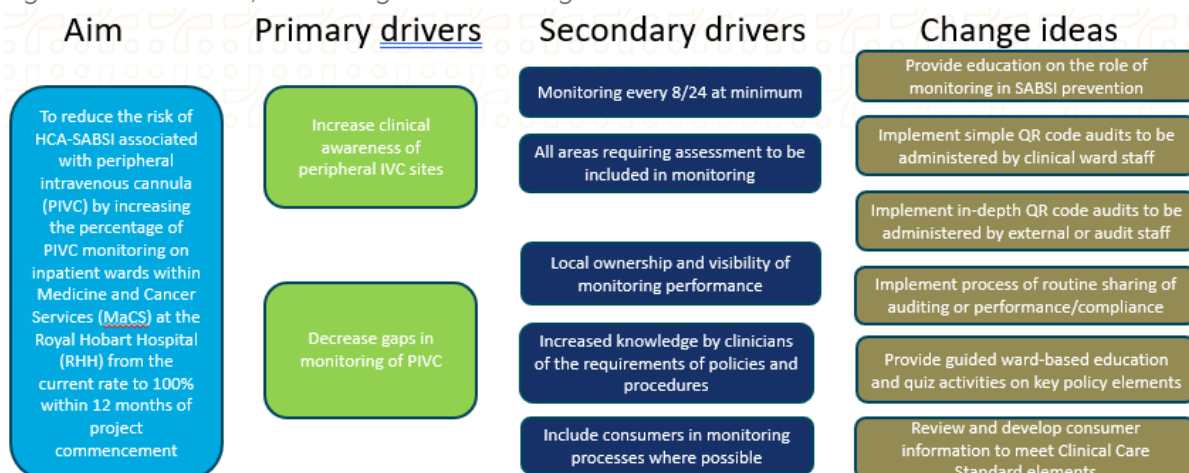
Strategy

PDSA cycles were implemented to test change ideas, starting with bedside QR codes to assist ward staff with monitoring. A second PDSA ramp was implemented to support improved handover and communication or critical information between staff.

Results

Interim data from a trial ward seem to indicate that clinician-led ownership of monitoring on pilot wards contributing to sustained improvements in comprehensive monitoring was able to be established.

Conclusion

HCA-SABSI prevention is a complex, multifactorial issue that requires investigation and action at many levels in the organisation. The role of monitoring as a pivotal step in preventing HCA-SABSIs associated with PIVCs is accepted as a contributor to early identification of issues and the removal or replacement of a PIVC.

Next Steps

- Join the SABSI Prevention Steering Group established during this project.

- Roll out the point prevalence audit to determine monitoring compliance across the organisation and share outcomes via process charts.

- Roll out the clinician-led 90-second QR audit across other units with real-time feedback.

- Develop education strategies to supplement sharing of audit data.

Reference List

1. Tasmanian Department of Health. 2022. Tasmanian Acute Public Hospitals Healthcare Associated Infection Surveillance Annual Report 2022. https://www.health.tas.gov.au/health-topics/infection-prevention-and-control/healthcare-associated-infection-surveillance

Project Team

Guidance team members:

- Colin Banks, Nursing Director MaCS

- Megan Bellette, NUM IPC

Project team members:

- Rachel Thomson, S&Q Consultant MaCS (lead)

- Carla Zuniga, Clinical Coordinator IPC

- Missy Thomas, NUM RAMU

- Kate Arnold, RN Cardiology

Reducing Incidents of Hospital-acquired Endocrine Complications: Hypoglycaemia

Ms Grace Matthews

Ms Grace Matthews
Clinical Quality Systems Manager
Far West Local Health District

Problem/Aims

The aim of this quality improvement project was for the Broken Hill Hospital to reduce endocrine hospital-acquired complications hypoglycaemia episodes by 50% by 31 December 2023.

Background

Broken Hill Hospital is a 98-bed rural teaching hospital offering a wide variety of services, including 24-hour emergency and maternity services, as well as general medicine, surgical, paediatric, dialysis, oncology, acute mental health, operating theatre, specialist palliative care, intensive and coronary care units. The medical ward contains 27 beds and the surgical ward 21 beds.

For the previous eight months the Hospital Acquired Complication (HAC) rate for hypoglycaemia has remained above the service level agreement key performance indicator of 21.8 for the Far West Local Health District. The district board, safety and quality subcommittee would like improvement regarding the key performance indicator statistic for endocrine HACs. The literature and publications from various sources, including journal articles and other local health districts, clearly outline the treatment and management for hypoglycaemia events.

Measurement

A thorough analysis of the data provided by the health intelligence unit indicated that all the hypoglycaemia HACs were occurring in the Broken Hill Hospital. Further analysis indicated that the HACs were associated with fasting patients and 60% of the patients were known diabetics receiving incorrect intravenous fluids.

Identified causes and effects that we attributed to the increase in HACs were a lack of clear guidelines, a need to update current policy, no clear communication, particularly at safety huddles, a lack of education for junior medical officers and nursing staff, and documentation that was not clear and concise (see Figure 1).

Design

A number of secondary drivers led to the generation of several change ideas, which were then tested in rapid PDSA cycles to determine which ideas would make a positive difference to the drivers and, ultimately, our project aim.

Figure 1. Diagnostics, cause-and-effect diagram
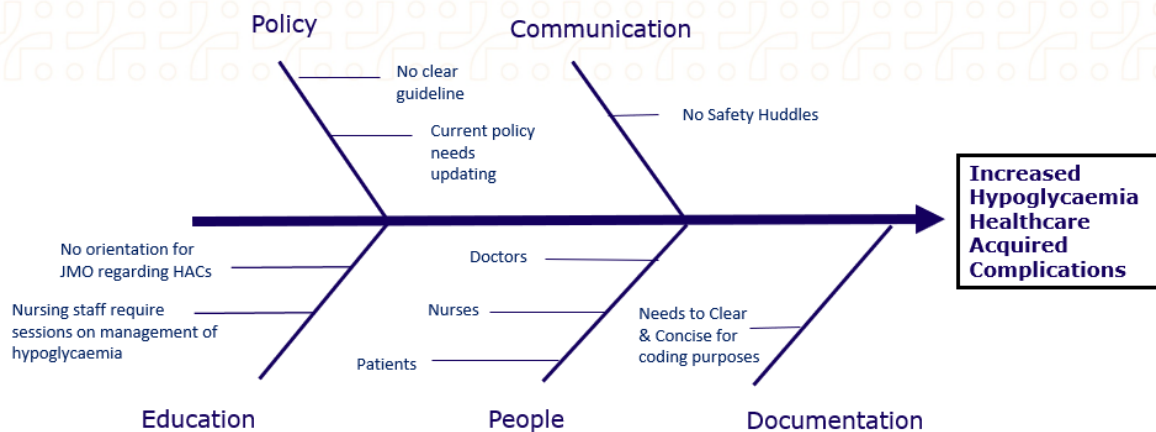
Figure 2. Intervention, driver diagram identifying change ideas
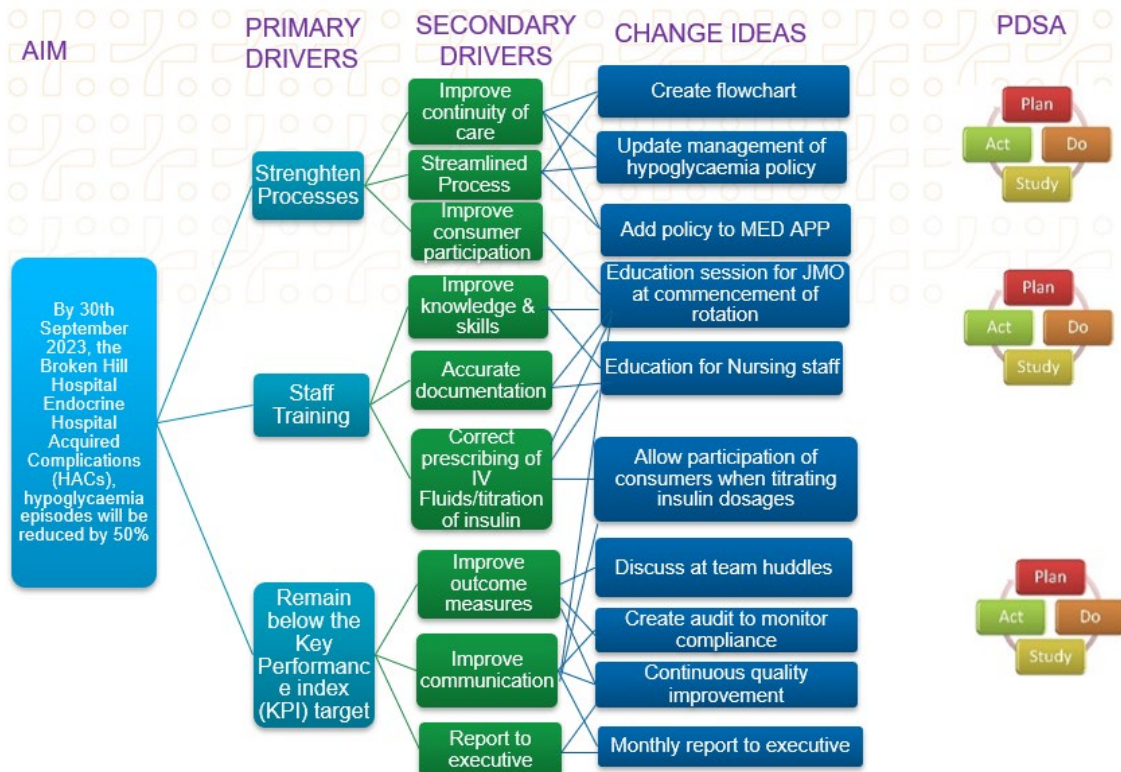
Strategy

Strategies for sustaining improvement include the standardisation of policy documents at the local health district level, the addition of policy and flowchart to the Med App (medical app for doctors and medical professionals) and the continuation of education sessions.

During the analysis phase of the PDSA cycle, we began to see a reduction in hypoglycaemia HACs.

Results

A flowchart was agreed upon and designed for admitted adult patients with reduced oral intake. An audit was established to measure the impact of the flowchart. A brief targeted education session for junior medical officers and nursing staff to increase their awareness of the flowchart and ensure that documentation is clear and concise surrounding hypoglycaemia events has also been initiated.

Figure 3. Intervention, flow chart designed as a part of a PDSA strategy

Prevention of Hypoglycaemia
in
Admitted Adult Patients

Health
NSW GOVERNMENT | Far West Local Health District

Patient admitted to ward with reduced oral intake eg NBM pre-surgery, Bowel obstruction, bowel prep, TIA/Stroke patient etc.

Act | Plan
Study | Do

4/24 BSL's must be done

Surgical Non-diabetic patient	Surgical Diabetic patient	Medical Diabetic Patient
Pre-Admission assessment with review of fasting duration	IV Fluids - Dextrose based	IV Fluids - alternating flasks of Dextrose/Dextrose Saline
On admission - review BSL. Limit fasting duration to appropriate lenght	2/24 BSL's	Maintain NBM until reviewed by Dietician and carbohydrate review
IV Fluids - alternating flasks of Dextrose or Dextrose Saline	Review and adjust insulin daily or as necessary	Review and adjust insulin daily or as necessary
continue monitoring 4/24 BSL's until surgery	Continue monitoring until surgery	

Since the introduction of the flowchart and education sessions, the aim of reducing endocrine hospital-acquired complications hypoglycaemia episodes by 50% has been achieved and remains perpetual. The audit has been contributory and influential in maintaining reduced levels of hypoglycaemia events. Conclusion

The project confirmed that implementing successful strategies has been instrumental in maintaining sustainability of the project.

Next Steps

Given that this has been a successful project, further initiatives to reduce the rates of hospital-acquired complications across the LHD have been scrutinised.

Project Team

Executive sponsor:

- Wendy Gleeson, Executive Director Nursing and Midwifery, Director of Clinical Governance

Project team members:

- Grace Matthews, Clinical Quality Systems Manager, team leader

- Dr Sarah Wenham, Director Medical Services

- Pamela Illingworth, Nurse Manager Policy, Practice and Initiatives

- Katie Scanlon, Practice Development and Quality Improvement Coordinator

Consulted:

- Julie Manoel, Director of Nursing and Midwifery/site manager Broken Hill Hospital

- Nurse Unit Managers:
  - o Jill Lord, surgical ward
  - o Shane Webb, medical ward
  - o Tracey Kerle, theatre

Reducing Unwarranted Variation in the Care Pathway for Patients with Gastrostomy Feeding Devices Referred to the Percutaneous Endoscopic Gastrostomy Clinic

Ms Adina Quattrini

Ms Adina Quattrini
Safety and Quality Lead
Fiona Stanley Hospital Fremantle Hospital

Problem/Aims

The aim of the project was to decrease the number of unplanned or unscheduled consultations for patients with gastrostomy feeding tubes referred to the Percutaneous Endoscopic Gastrostomy (PEG) Clinic by 25% in six months while ensuring the patient received the right care at the right place and time.

Background

The PEG Clinic Clinical Nurse Specialist (CNS) noted that the demand for outside-of-clinic consultations had increased and this was affecting the ability to manage other tasks related to the role of the CNS in endoscopy. Data on patient consultations showed that the number of patient consultations had steadily increased over three years. Similarly, the proportion of time required for the consultations relative to the total time of the CNS had increased. Concern was expressed that this continuing trend could compromise the ability to provide quality care for the patients in the endoscopy unit. Adherence to evidence-based guidelines is crucial to ensure the safety and efficacy of PEG tube-insertion procedures.[1]

Reducing unwarranted variation provides patients the best chance of successfully managing their care at home to avoid complications that require ED presentation or readmission to hospital.[2,3] Further analysis was needed to identify the drivers for the increasing consultations.

Closing the gap between current and best practice for preparing patients and carers for avoiding complications and managing their gastrostomy feeding devices requires skilled

clinicians able to increase patients' and carers' self-efficacy, both for discharge readiness[4] and continuing self-management in the community.

Measurement

Semi-structured interviews were conducted with multidisciplinary team clinicians and the ward clerk's representative of the specialities that refer to the PEG Clinic. This information was used to inform the mapping of current processes for inpatients and outpatients with gastrostomy tubes and devices requiring insertion (new, replacement or removal), post-insertion and post-discharge ongoing care and management.

The processes mapped showed variability between specialities and multidisciplinary treating teams, resulting in multiple care pathways and outcomes for the patient. The practice guideline1 and role of the endoscopic nurse in the placement and removal of percutaneous endoscopic gastrostomy tubes and replacement devices[5] endorsed by the Gastroenterological Nurses College of Australia was used to review the care pathways to identify gaps in best practice.

Patient data from the PEG clinic booking and theatre management system databases provided information on inpatient and outpatient service from March 2021 to September 2023. The PEG Clinic CNS recorded patient data on consultations provided outside of clinic hours, which included data on the reason for consultation, the intervention provided, the length of consultation, the type of consultation, specifically, face to face or on the phone (commenced September 2022), and whether they were an inpatient or an outpatient. These data were reviewed and grouped into categories for analysis.

The data analysis for outpatients highlighted that 23% of consultations were from patients who lived in Rockingham/Peel region and 10% were from other regions of WA for example, Pilbara. The main reason for consultation for patients with a PEG was for a review, followed by education, compared with patients with a Percutaneous Endoscopic Gastro-Jejunostomy (PEGJ), which was for a blocked PEGJ, followed by a PEGJ leak.

Figure 1. Diagnostics, data analysis

Patient consultations inpatients/outpatients
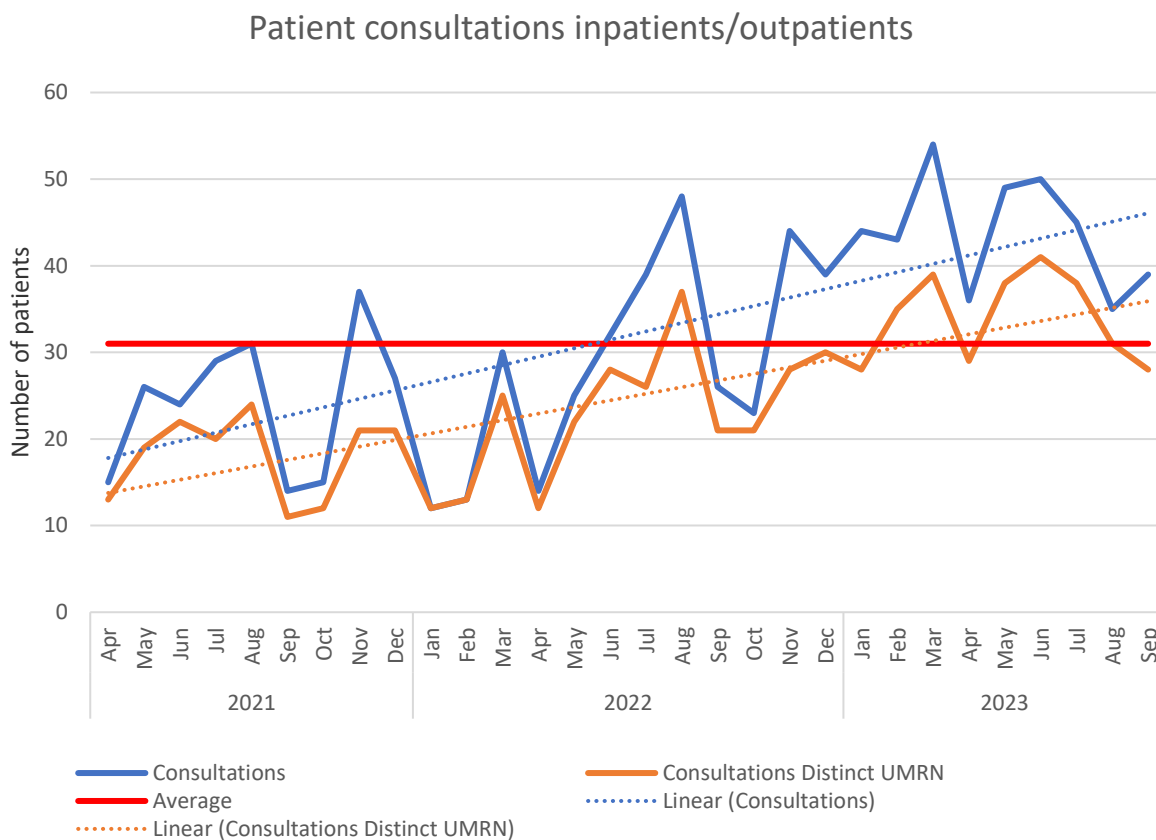
Design

The driver diagram outlines the important drivers for change and how these would be implemented. The gaps identified in the process mapping, applicable to the PEG CNS, and Pareto charts were used to inform the driver diagram.

The design of the intervention was focused on standardising processes to reduce the variability in delivery of care, namely, implementing standardised discharge and referral processes and improving patient and carer readiness for discharge. Interviews with patients and carers on what is important to them at various points along the care pathway were used to guide the resources developed for patients and carers for discharge and staff training. The primary driver relating to staffing involves establishing a training program to align with the priorities identified in the data analysis, as well as ensuring quality data by refining data collection processes to improve data accuracy.

Figure 2. Intervention, driver diagram
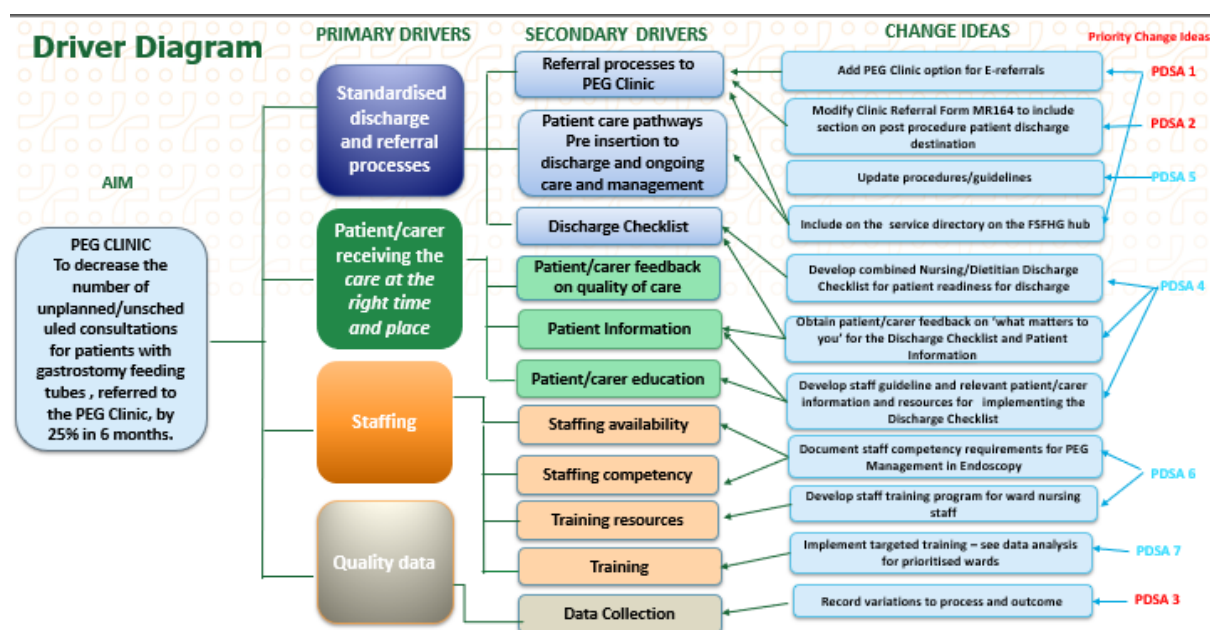
Strategy

The change ideas were implemented in multiple PDSA cycles. PDSA Cycles (1 and 3) have been completed, PDSA Cycle (4) is in progress and undertaken in collaboration with nursing and dietetic clinicians and consumer engagement, PDSA Cycle (7) has been commenced and PDSA Cycles (2, 5 and 6) have not been commenced.

Results

A key priority change idea was to add the PEG Clinic CNS as an option on the e-referral (PDSA Cycle 1). This resulted in standardising of the referral process and improved timely access to referrals by the CNS. The ED referrals were ad hoc; however, the uptake of the e-referral option has improved communication of patient needs, resulting in referrals or providing outcomes on the intervention required in ED. Medical imaging referral processes often resulted in missed or delayed notifications to the PEG Clinic CNS. However, now all referrals are captured and appropriately triaged for a follow-up.

Conclusion

The data analysis supported the observations noted by the PEG Clinic CNS.

Most of the change ideas have yet to be fully implemented, thus impacting on the drivers needed to achieve the aim of decreasing the number of unplanned or unscheduled outside-of-clinic-hours consultations.

Next Steps

The progress for implementing the change ideas for the PEG Clinic has been slow because of competing priorities within the endoscopy service and limited availability of the PEG CNS.

The plan is to secure funding to enable the CNS time to develop and finalise the documents and resources needed to implement the PDSA cycles in collaboration with clinicians and consumer engagement.

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Acknowledgement

Self-Possession of Insulin at Alice Springs Reintegration Facility

Mrs April Saladores

Mrs April Saladores
Project Manager, Diabetes
Department of Health, NT

Problem/Aims

The current population of the Alice Springs Reintegration Facility (ASRF) is 138. Among these prisoners, 38 have diabetes. The prevalence of type 2 diabetes mellitus is about 27%. These statistics were derived from an activated diabetes care plan with pathology results of HbA1c that confirmed their diabetes. Given that the ASRF focuses on rehabilitation and reintegration, we can assume that this pertains to prisoners learning and developing independence with their diabetes management while being detained and awaiting release back to the community.

The aim was for self-possession of insulin medication to be granted to selected prisoners to manage their diabetes at Alice Springs Correctional Centre (ASCC).

Background

Managing diabetes in a prison environment has challenges (hypoglycaemia), especially when prisoners need a diabetes injectable (potential weapon), including insulin and GLP1s. These risks need to be mitigated.

Low blood sugar levels can cause unconsciousness, seizures, coma and death. This risk can be managed through patient education and the provision of sugars in their cell overnight (honey and sandwiches). An insulin pen could be used as a weapon, or for self-harm. This risk can be managed by careful selection of inmates and appropriate housing, as well as the use of retractable needles and locked boxes.

Poorly controlled diabetes leads to complications such as kidney disease, heart attacks, strokes, nerve damage, amputation and blindness.

Managing diabetes in the prison environment is very challenging, including the follow factors:

- lack of food choice

- periods of lockdown and inability to exercise

- boredom and stress, which leads to unhealthy eating

- snacks for purchase, which have a high level of fat and sugar content

- low literacy skills

- coexisting mental health disorders, including intellectual disability and psychiatric illness, which can lead to challenging behaviours and poor decision-making

- rigid timetables for medication rounds twice a day, not coinciding with meals.

When insulin is required for management of type 2 diabetes, short-acting or mixed insulin can be administered before meals or with meals. The current requirement for insulin to be administered on the medication rounds, which are not timed with prison meals, is very challenging. Self-administration of insulin would not only teach the patient how to manage their meals and insulin but would also reduce the risk of dangerously low blood sugar levels, as well as helping to prevent longer-term complications of diabetes.

Measurement

Consumer and staff feedback was sought to understand the experience of insulin management and missed doses within the service. Staff also contributed by exploring barriers and causes of concerns, building a cause-and-effect diagram (see Figure 1).

Figure 1. Diagnostics, cause-and-effect diagram
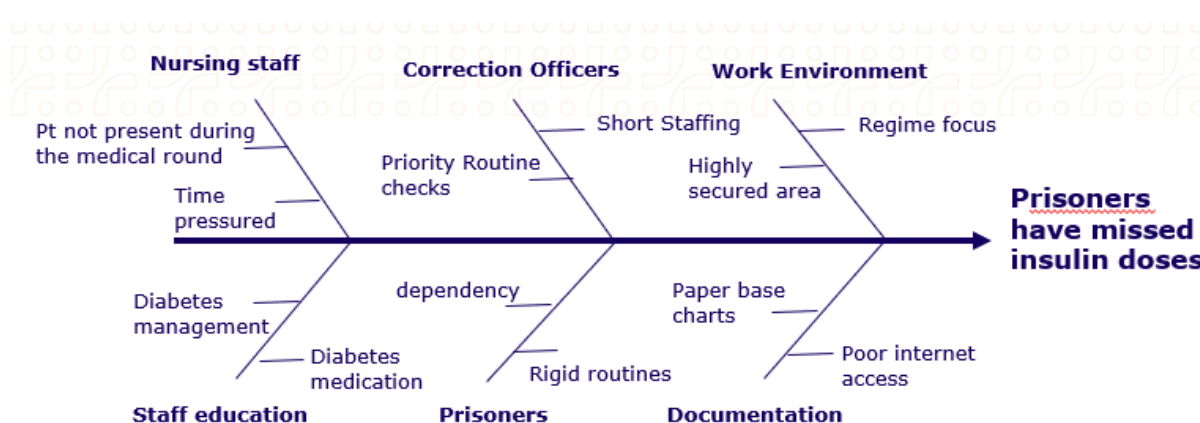
Design

A PDSA model will be used for implementation and evaluation of self-possession and administration of insulin in ASCC. A general meeting with custodian offices will be scheduled to discuss the project and mitigate the risk of prisoner safety in self-possession of insulin at ASRF. The nurse practitioner or doctor will diagnose diabetes and determine whether insulin is required.

They will then undertake a period of education with the patient about insulin and diet management. If the patient is deemed to have the skills to manage it, a process (yet to be determined) will be followed in which the clinic manager, pharmacist and corrections (from a security perspective) will approve the self-possession of an insulin pen, Blood Glucose Level (BGL) monitor, testing strips and finger-prick needles in a locked box. Prisoner progress will be monitored by the nurse practitioner or doctor. The whole process will be reviewed periodically.

Conclusion

The project is in its preliminary stages and waiting to be approved by custodian officers before being rolled out to eligible prisoners at ASRF. Expected benefits are:

- patients will leave prison with a feeling of autonomy and increased skills and health literacy

- insulin administration will be more closely timed with meals, thereby allowing more careful dose titration and better blood sugar control

- complications of diabetes will be prevented

- recidivism will potentially be reduced through autonomy and wellness

- workload for nurses and corrections officers will be reduced.

Project Team

- Dr Sarah Kemp, Medical Lead Supervisor

- Tony Clark, PHCM Liaison Personnel for Correctional Officers

- Saneesh Thomas, Nurses Team Leader

- Shavi Wirasinha, Pharmacist Team Leader

Introducing Safe Single-checking of Low-risk Medication to Improve Nursing Workflow for Medication Administration in Paediatric Patients

Ms Sophie Sennar

Ms Sophie Sennar
Medication Safety Consultant
Women's and Children's Health Network,
Adelaide

Problem/Aims

The aim of the project was to introduce safe single-checking of low-risk medications for paediatric patients to improve the workflow of nurses who are administering medications and to increase staff satisfaction with the medication administration process, without seeing any increase in harm from medication errors.

Background

Independent double-checking of medications in paediatrics has been well embedded for over 20 years despite little evidence to support its impact on reducing medication administration errors.

The literature suggests that when checking of medicines is completed independently this can help reduce errors; however, most of the time this is conducted as a primed double-check, resulting in errors not being identified because of confirmation bias, deference to authority and automatic processing. Double-checking requires a lot of resources and time and often leads to interruptions.

Medication administration errors are the highest reported medication error at the Women's and Children's Health (WCH) Network. About 80% of these errors are due to a failure in the checking process. Previous quality improvement activities at the health network have identified that time restraints, workflows and interruptions during the checking process lead to ineffective checking. These local findings were supported by the published literature.

Benchmarking against other Australian paediatric hospitals demonstrated that WCH nurses administer a much smaller number of oral medications as a single-checked medication than others.

Measurement

The project was conducted using multiple methods of data collection. The first phase involved staff workshops, observation of clinical practice and a staff survey. The second phase encompassed the practice change and its evaluation post-implementation.

In addition, consumers were surveyed to seek their perceptions of current medication administration processes.

The Safety Learning System was used to monitor medication administration incidents.

Design

A series of focus groups were undertaken to review the challenges of medication administrations (see Figure 1). The information validated the aims of the project, demonstrating the same issues identified in previous quality improvements.

Strategy

PDSA cycles were undertaken every 2 weeks with the project team during the implementation phase. A driver diagram was used to help plan improvement initiatives (see Figure 2).

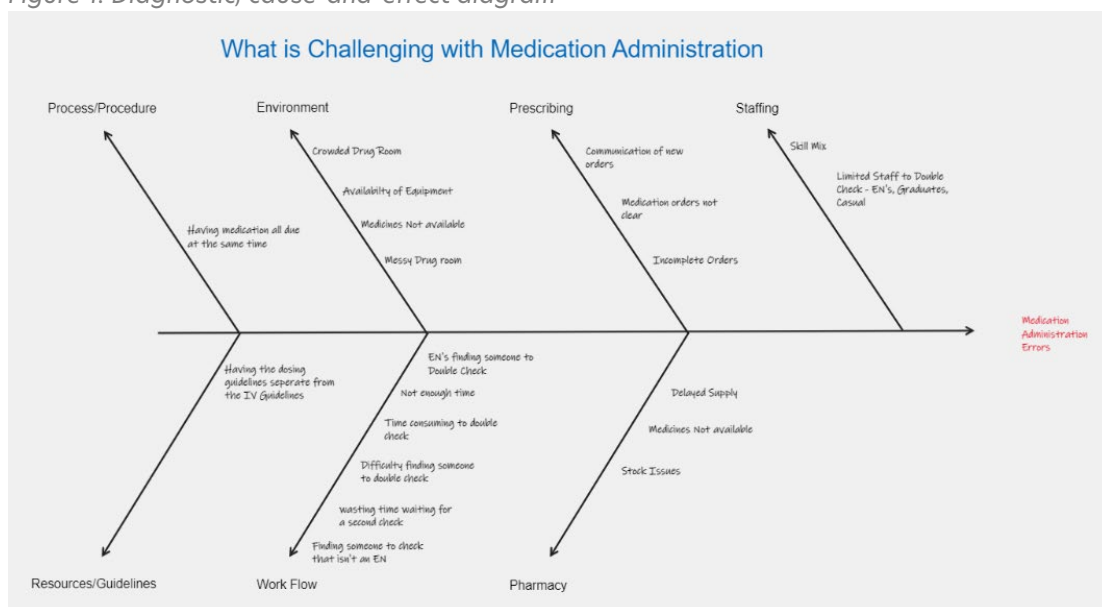*Figure 1. Diagnostic, cause-and-effect diagram*

Figure 2. Intervention, driver diagram with change ideas and PDSA ramps 1–5
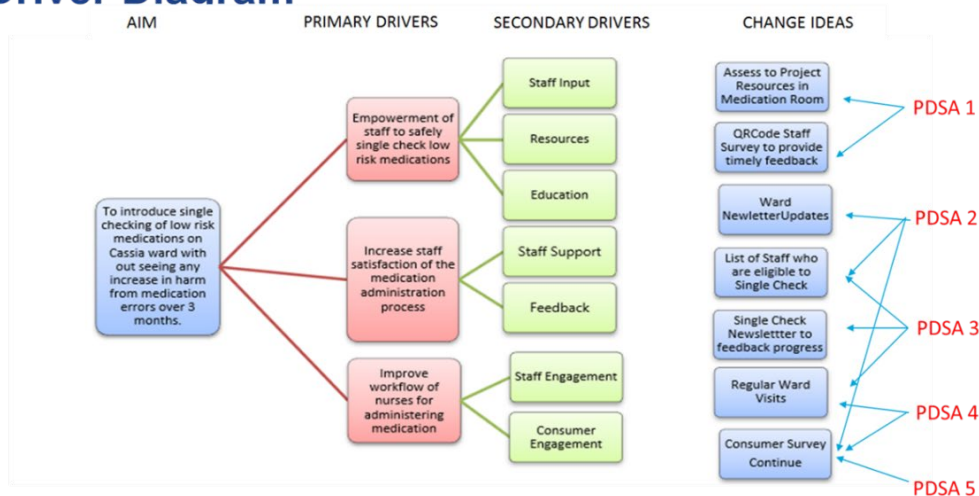
Results

Staff reported an improvement in workflow, positively affecting staff satisfaction. Staff reported improved teamwork and time saving, both leading to more medications being administered on time. There was no increase in reported incidents during the project.

Staff feedback identified an improvement in their medication knowledge, which resulted in greater confidence in the medications they administered. Staff stated that there was more accountability for nurses, leading to greater attention being paid when checking medications.

Fifty per cent of staff said that they chose to have a single-check medication double-checked at some point during the project according to clinical judgement.

One hundred per cent of staff supported the implementation of single-check continuing.

The consumer survey identified a 16% increase in consumers stating that they received their medications on time during the project.

Conclusion

The project demonstrated that implementing single-checking of low-risk oral medications in a paediatric setting can be conducted safely without any increase of incidents or harm. It also confirmed that nursing staff have a higher level of satisfaction when single-checking because nurses appreciate the greater sense of ownership, time savings and reduced interruptions. It improved workflow, resulting in more medications being given on time.

Next Steps

The safe single-checking project was subsequently trialled in two other paediatric wards in February 2024. Both wards reported similar outcomes to the pilot ward.

The Medication Safety Committee and Nursing and Midwifery Clinical Council have since endorsed the rolling out of single-checking of low-risk oral medications to all hospital paediatric areas.

Project Team

- Sophie Sennar, Medication Safety Consultant (project lead)
- Katlyn Bury, Cassia Nursing Unit Manager
- Madeline Gough, Cassia Nurse Educator
- Kathryn Combe, Cassia Associate Nurse Manager
- Emma Jeffs, Clinical Practice Development Support

Acknowledgements

- Rachel Yates, Executive Director Nursing and Midwifery
- Sean Turner, Director of Pharmacy
- Medication Safety Committee
- Nursing and Midwifery Clinical Council
- Single-Checking Working Group

Medication Errors in Critical Care

Andrea Kraler

Andrea Kraler
Clinical Nurse Manager ICU
Royal Darwin Palmerston Hospital

Problem/Aims

Medication errors in the intensive care unit (ICU) at the Royal Darwin Palmerston Hospital (RDPH) are common, and most errors result in no harm to patients. However, the majority have the potential to cause severe adverse consequences. This project aimed to reduce the incidence of medication errors in critical care by 30% within 12 months.

Background

The RDPH is a 350-bed hospital that annually admits approximately 1,200 critical care patients to the ICU. The unit has 18 beds and provides critical care for adults and a small number of paediatric ICU patients. The ICU had been using paper charts and rolled out an electronic medication management system at the end of 2022. Currently, the unit uses two paper charts: an ICU flow chart for infusions and stat orders and the National Inpatient Medication Chart for regular medications. The ICU has a full-time critical care pharmacist. The frequency of medication errors in the ICU is under reported. Audits and incident reporting suggest that medication errors are widespread, serious and predictable.

Measurement

Affinity diagrams and Pareto charts were used to review the causes and types of medication errors. The Pareto charts identified missed and delayed dose administration as a leading cause of medication errors in the ICU. Quality improvement tools, consumer engagement and literature reviews were used to identify areas for improvement and to assist in developing PDSA testing of interventions. Tally sheets were trialled to collect data; however, this was not achievable, and instead data from the electronic medication management application (eMMa) was used to inform decision-making.

Figure 1. Diagnostics, Pareto chart, medication administration issues
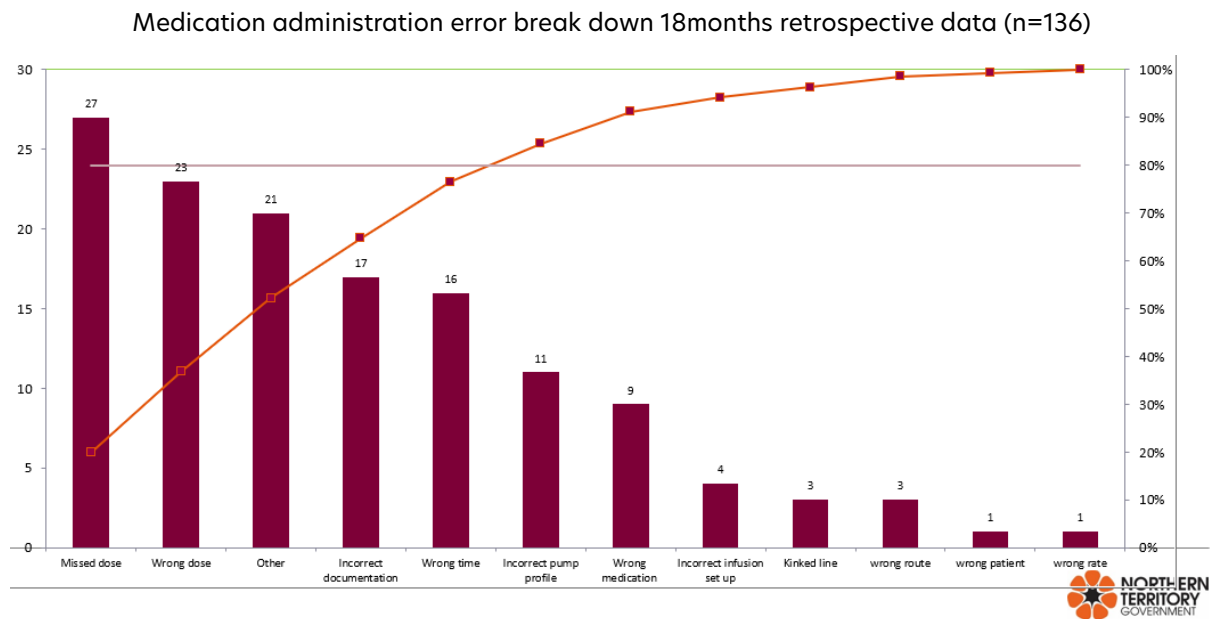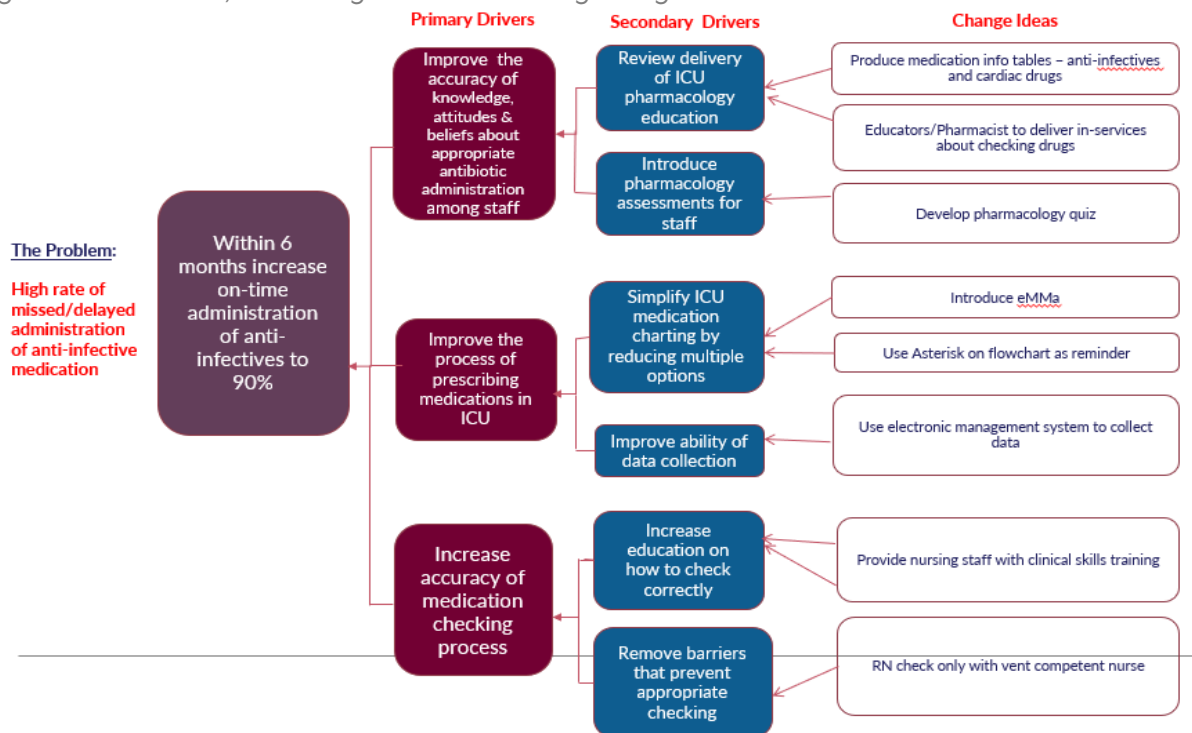
Medication administration error break down 18months retrospective data (n=136)

Figure 2. Intervention, driver diagram demonstrating change ideas

Design

Three interventions were selected for PDSA testing: asterisk reminder for timely administration of antibiotics, medication information reference guide and specific nurse allocation for medication checks. We focused on the timely administration of anti-infectives in critical care patients to ensure patients receive evidenced-based sepsis treatment.

Strategy

The first PDSA cycle was designed to highlight administration times on the ICU flowchart and make antimicrobial due times easily visible. This was an easy strategy to manage the complexities of multiple charts that contribute to medication errors. The second PDSA cycle involved the development of a medication information reference guide for antimicrobials and cardiac medications. This resource paper was made available to staff at the bedside. The third PDSA cycle was designed to improve the accuracy of the checking process by asking staff to check medications with a ventilation-competent registered nurse to avoid novice nurses checking drugs with other novice nurses.

Results

During the project, the ICU transitioned to eMMA, which took priority over completing the PDSA cycles. This eliminated the need for the first PDSA cycle. Qualitative data collected post-implementation of the medication reference guide demonstrated positive feedback from staff. The medication check PDSA results demonstrated the need to refine this intervention and trial allocation of the task to specific nurses.

Next Steps

Several strategies to reduce medication errors in ICU were identified, and PDSA cycles have started to test these ideas. Plans for the next steps at the time of writing include focusing on antimicrobial administration in septic patients and improving the accuracy of drug checks.

Project Team

- Sarah Griffin, Co-director Surgery and Critical Care (executive sponsor)
- Andrea Kraler, Clinical Nurse Manager ICU (team leader)
- Stephen Fowler, ICU Pharmacist
- Rebecca Trethewie, Clinical Nurse Consultant ICU
- Rebecca Francis, Clinical Nurse Educator ICU
- Andrea Mitchell, Clinical Nurse Consultant Liaison
- Alex Carver, Clinical Nurse Specialist ICU
- Dr Sidhard Agarwal, ICU deputy director

Project Zero Omissions

Ms Nicole Michelsen

Ms Nicole Michelsen
Safety and Quality Lead
Fiona Stanley Fremantle Hospital Group

Problem/Aims

Medication incidents are the highest reported incident type in the organisation, and 'administration to patient' incidents account for 70% of all medication incidents while failures to administer and 'omissions' represent 43% of the administration incidents.

The project was developed to improve medication administration safety, focusing on reducing failure to administer and omission rates by 25% within 12 months, and by 50% within two years.

Background

Medication errors are one of the highest clinical incident types that occur in Australian hospitals. Administration errors account for 56.8% of medication errors.

Medication administration errors have the potential to increase length of stay and reduce the effectiveness of treatment, in addition to the increased cost and potential for serious harm.

Causative factors related to medication administration errors can be classified into three key themes: knowledge, personal or contextual, with evidence recommending a multifaceted approach to change interventions.

Measurement

Measurement included monitoring rates of failures to administer and omissions notified through the Datix clinical incident management system, staff feedback and consumer engagement.

Baseline data from the wards involved demonstrated that an average of 72% of all medication incidents were related to administration to patient and 45% of those incidents were due to failures to administer or omissions.

Figure 1. Diagnostics, process mapping, identifying trouble spots
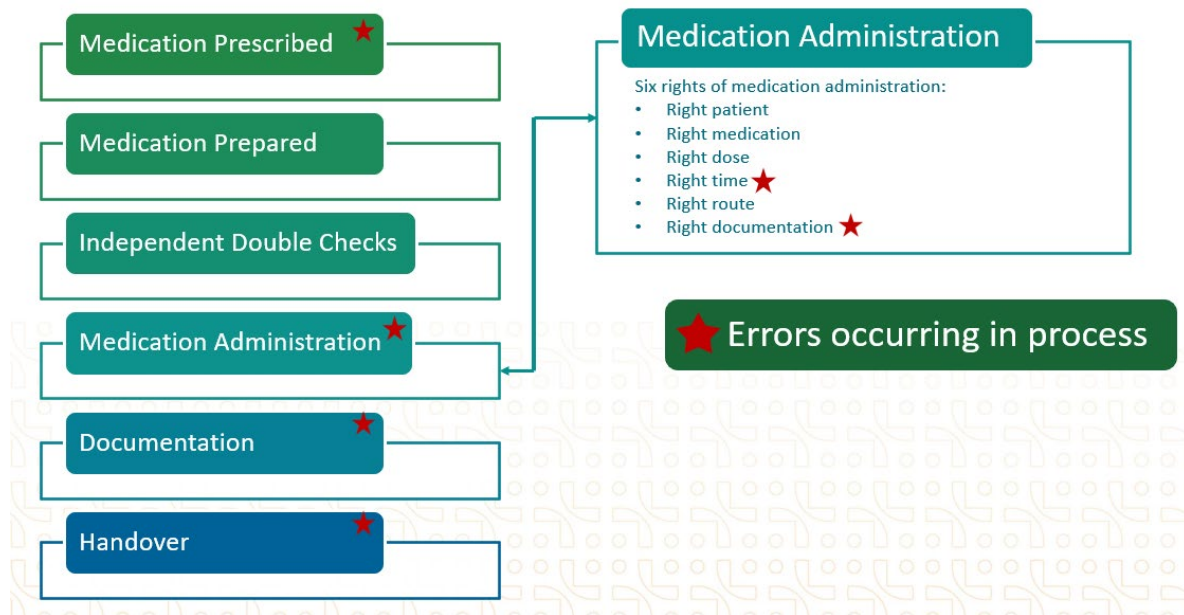
Figure 2. Intervention, driver diagram with change ideas
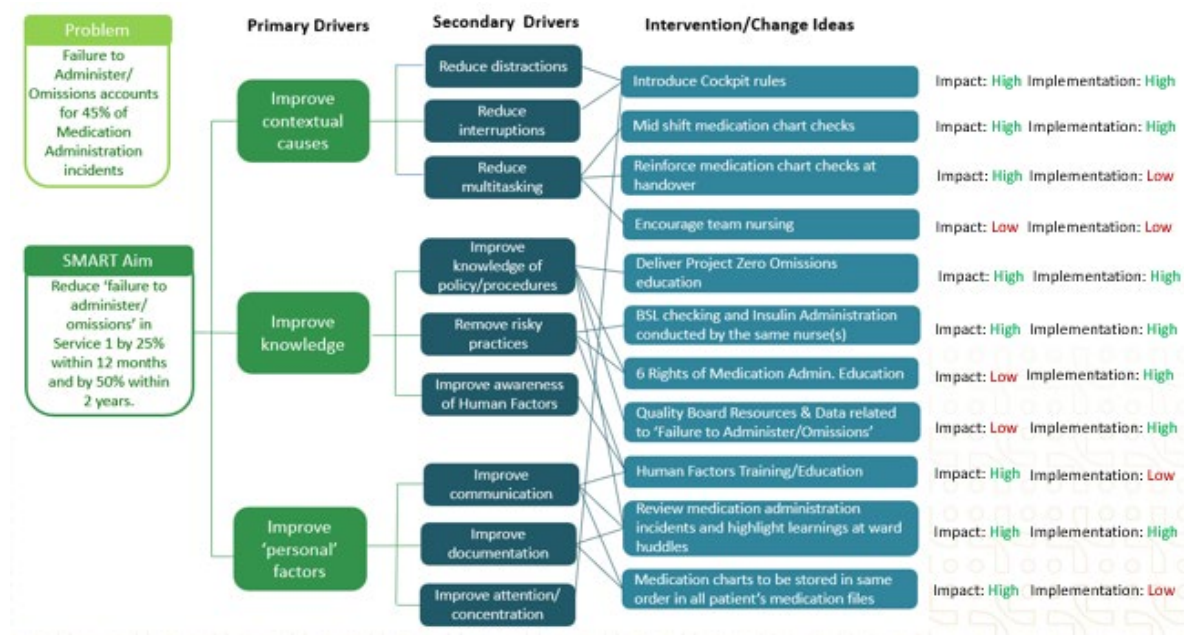
Design

Diagnostics included developing affinity and driver diagrams using the three key primary drivers—contextual, knowledge and personal factors—enabling change interventions to be developed and assessed against ease of implementation and the impact on the project aim.

Interventions included staff education, resource packs and the implementation of four key strategies:

- cockpit rules
- medication chart order
- insulin administration
- medication chart checking.

Strategy

The project used PDSA cycles to test change in a local context. The aim of the first two PDSA cycles was to provide education to nursing staff, introduce the four key strategies and audit compliance against the interventions. Incident reporting remained above the median line through both PDSA cycles. The most challenging intervention to implement was mid-shift chart checking, and various causative factors were identified as affecting the successful implementation of this strategy. Key learnings from PDSA Cycle 2 included identifying the challenges to mid-shift chart checking and developing strategies to address these.

Results

Failures to administer or omissions reported via the Datix clinical incident management system increased slightly compared against baseline data, which could be attributed to increased awareness and focus on medication administration.

Auditing of the four key strategies indicated compliance above 80% for 8 of 10 survey questions. The two areas below 80% included the storage of medication charts in the correct order (79%) and mid-shift chart checking (18%). Data analysis identified that mid-shift chart checking will be a key strategy to reduce failures to administer and omissions.

Figure 3. Interventions, PDSA cycle
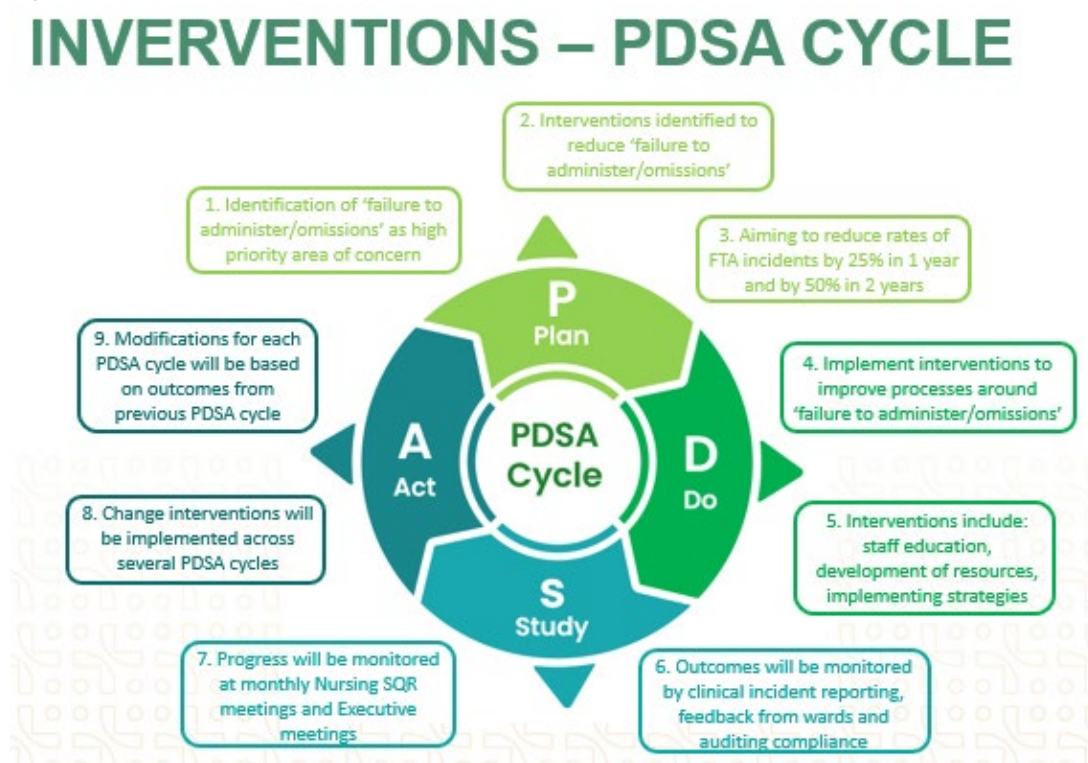
Figure 4. Results, statistical process control chart
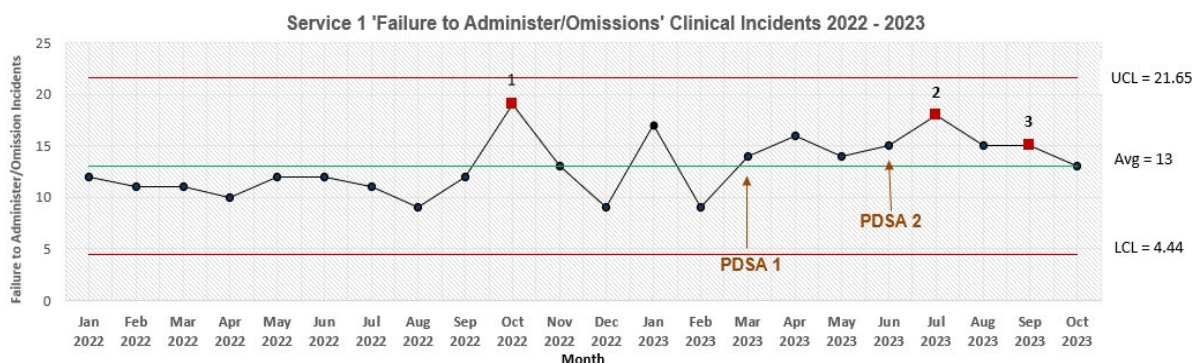
Conclusion

The project identified the main causative factors in failures to administer and omissions, enabling targeted interventions to improve medication administration processes.

The project is ongoing, and it is anticipated that failure to administer and omission rates will decline as the project progresses through PDSA cycles. Change interventions will be reviewed and modified according to continued data analysis.

Lessons and Limitations

Lessons and limitations include the challenges in implementing change interventions across nine wards. An initial pilot of a smaller scope would have enabled shorter PDSA cycles and earlier identification of successful strategies. One of the barriers identified was engaging staff to embrace change practices.

Project Team

Service 1:

- A/nurse director, Coordinator(s) of nursing, Nurse unit managers, Clinical nurse specialists and nursing education representative

- SQR consumer representative and secretariat

User-applied Line Labelling: Monitoring Compliance, A Retrospective Analysis

Mrs Emily De Bruyn

Mrs Emily De Bruyn
Safety Quality Lead
Southern Metropolitan Health Service, WA

Problem/Aims

The aim of this quality improvement project was to increase monitoring and improve compliance with the user-applied line-labelling policy in relation to medication administration to above 80% across the Fiona Stanley Fremantle Hospital Group by December 2023, thus reducing the potential risk of harm to patients.

Background

During accreditation in 2022, improvement opportunities were recognised with user-applied line labelling, according to Standard 4.02, Medication Safety. At this time, overall line-labelling compliance was 57% and for some services this was as low as 23%. Absent or incorrect line labelling increases the risk of medication related incidents, which may affect patient safety.

Measurement

With the support of the medication safety committee and the SQR executive, data were collected using various audit methodologies. The Weekly Engagement of Consumers in an Audit of National Standards (WECAN) program generates ongoing, current data across all areas and populations as a dashboard that can be viewed for ward-level compliance.

Design

The medication administration policy requires that staff apply labels to all administration lines that are used to deliver injectable medicines. These labels should identify the route, date and time the line was set up. Through feedback from staff and process mapping, we were able to identify obstacles to line labelling being completed. These identified obstacles, including lack of knowledge and poor availability of resources, were used as stimuli for the interventions to improve compliance with line labelling.

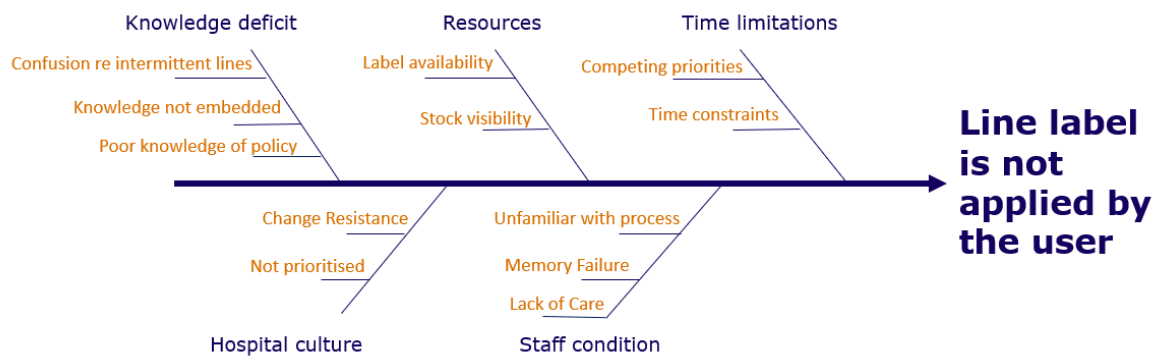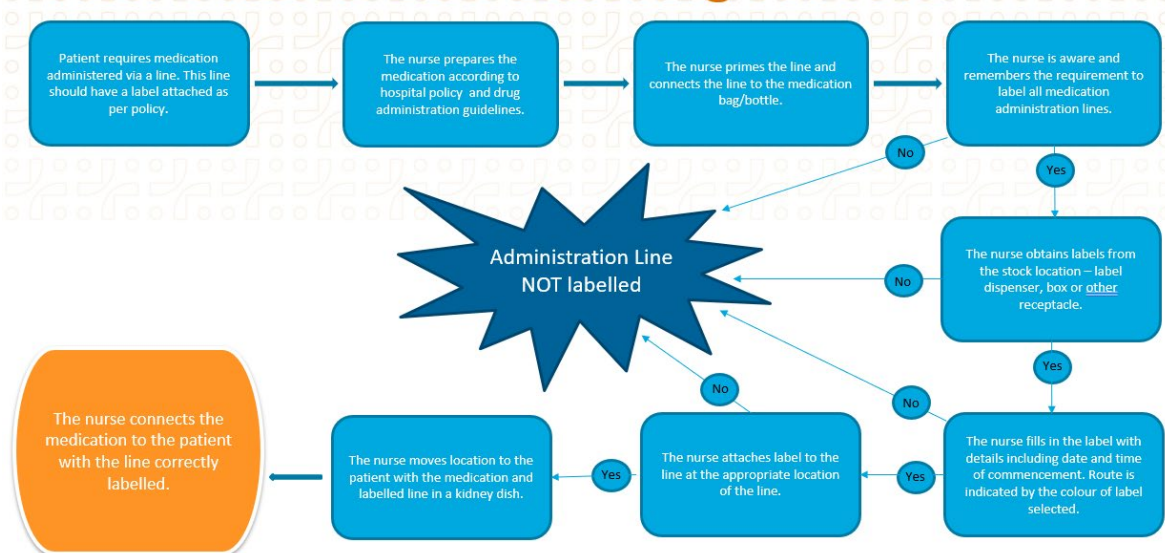Figure 1. Diagnostics, cause-and-effect diagram

Cause and effect diagram

Knowledge deficit
Confusion re intermittent lines
Knowledge not embedded
Poor knowledge of policy

Resources
Label availability
Stock visibility

Time limitations
Competing priorities
Time constraints

Line label is not applied by the user

Change Resistance
Not prioritised
Hospital culture

Unfamiliar with process
Memory Failure
Lack of Care
Staff condition

Figure 2. Diagnostic, process mapping identifying areas for opportunity

Flow Chart of Line Labelling Process

Patient requires medication administered via a line. This line should have a label attached as per policy.

The nurse prepares the medication according to hospital policy and drug administration guidelines.

The nurse primes the line and connects the line to the medication bag/bottle.

The nurse is aware and remembers the requirement to label all medication administration lines.

No → Yes →

Administration Line NOT labelled

The nurse obtains labels from the stock location – label dispenser, box or other receptacle.

No

Yes

The nurse connects the medication to the patient with the line correctly labelled.

The nurse moves location to the patient with the medication and labelled line in a kidney dish.

Yes

No

The nurse attaches label to the line at the appropriate location of the line.

No

Yes

The nurse fills in the label with details including date and time of commencement. Route is indicated by the colour of label selected.

Strategy

The first PDSA ramp focused on education and bringing focus to the issue of line labelling. Communications were disseminated to staff, and, as part of the education, all wards were provided with a huddle script and posters detailing the line-labelling process and requirements for improvement. At this time, action was taken to ensure that all wards had access to the appropriate line labels for their patient cohort.

The PDSA ramp had the medication safety nurses audit line-labelling compliance across ward areas. While conducting these audits, they provided real-time reactive education when they found a non-compliant line.

The PDSA ramp was a hospital-wide audit conducted to assess WECAN reliability when measured against a much larger sample size while evaluating whether the improvements made through the first two initiatives had been sustained.

Results

An annotated run chart demonstrated that because of the three PDSA cycles, line-labelling

compliance improved from 57% to 73% at the last measurement. The compliance improved after the first PDSA cycle, with the trend graph showing a steep incline. The compliance rate peaked at 82% after PDSA Cycle 2. The period between PDSA Cycle 2 and PDSA Cycle 3 demonstrated that stability in the compliance level had been achieved. This six-month period showed that the improvements made in PDSA Cycle 1 and PDSA Cycle 2 could be maintained within a small margin of variance.

Conclusion

Increasing awareness and education, as well as the process of auditing, led to a positive improvement in the compliance for line labelling. Monitoring of line-labelling compliance will continue through the WECAN program, generating ongoing data to be monitored by the medication safety committee. The WECAN audit means that a focus online labelling is maintained as part of everyday processes. This ongoing focus will support the maintenance of the level of line-labelling compliance at the hospital.

Next Steps

The interventions considered in this project were hospital-wide, so the spread of the interventions has already occurred as part of the project. The medication safety committee will continue to monitor the WECAN line-labelling compliance and implement actions as required should the compliance rates decrease.

Project Team

- Service 3 Safety Quality Lead and Medication Safety Lead Emily DeBruyn

- Medication safety committee

- FSFHG Safety Quality Executive Majorie Cameron

- FSFHG accreditation steering committee

Figure 3. Annotated run chart
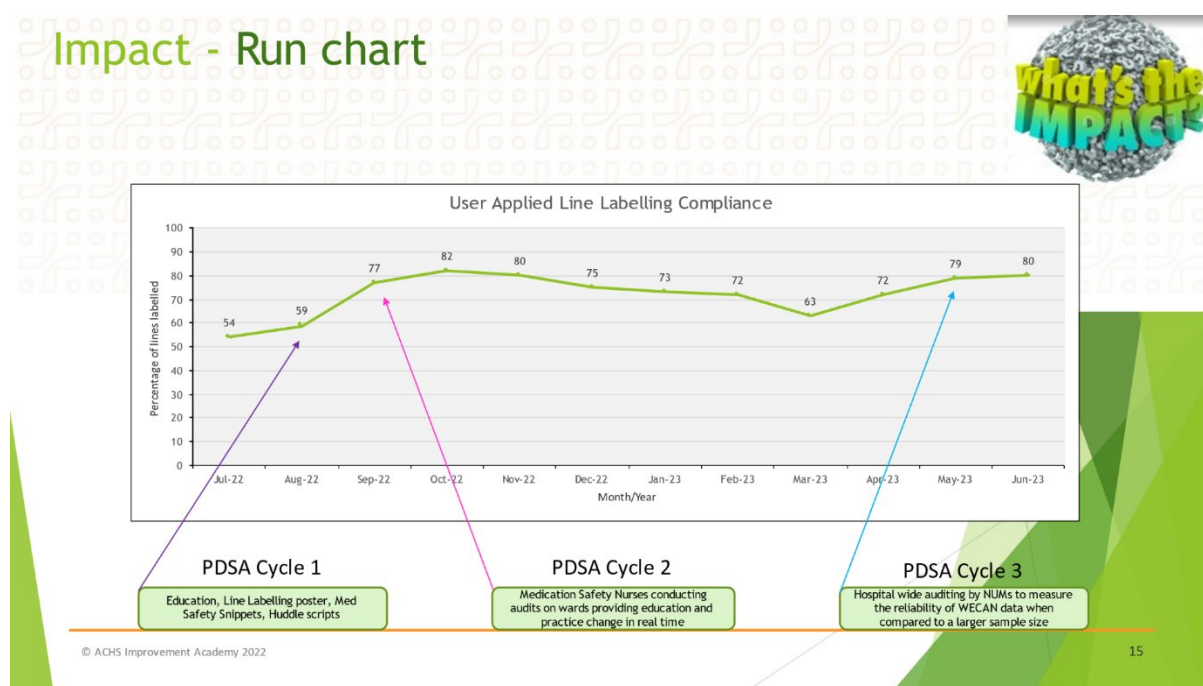
Reducing the Youth Unit 28-day Readmission Rate

Mrs Carole Steiner and Mrs Claire De San Miguel

Mrs Carole Steiner
Clinical Nurse Specialist, Clinical Improvement
Mental Health Service, Fiona Stanley Fremantle
Hospital Group

Mrs Claire De San Miguel
Clinical Nurse Specialist, Clinical Improvement
Mental Health Service, Fiona Stanley Fremantle
Hospital Group

Problem/Aims

The Fiona Stanley Hospital is a tertiary hospital and includes three mental health wards. The 14-bed youth unit, providing care for 16 to 24-year-olds, was above the established target rate for readmissions to a mental health unit. The national and state target for readmissions to a mental health service within 28 days of discharge is less than 12%; the Fiona Stanley Youth Unit was averaging 27%.

The aim of this quality improvement project was to reduce the 28-day readmission rate to the mental health youth unit to less than 16% by December 2023, and less than 12% by May 2024, by identifying key areas for improvement and facilitating the development and delivery of targeted care pathways and interventions, aimed at improving mental health care delivery and patient outcomes.

Background

Readmission rate is globally considered to be a performance measure for mental health services because it potentially points to deficiencies in the functioning of the system. Although multiple hospital admissions over a lifetime may be necessary for someone with ongoing illness, a high proportion of readmissions shortly after discharge (within 28 days of discharge) may indicate that inpatient treatment was either incomplete or ineffective, or that follow-up care was inadequate to maintain recovery out of hospital. Rapid readmissions create bed pressure and may reduce care access for other consumers in need. These readmissions mean that patients spend additional time in hospital using additional resources. A low readmission rate may suggest that good clinical practice is occurring.

Measurement

Existing Western Australia Department of Health readmission data for the youth unit for July 2021 to June 2023 was accessed. The

average monthly readmission rate was established at 27%. A proforma was used to identify patient age, diagnosis, comorbidities, length of initial admission, catchment area, timing of readmission, engagement with community mental health and follow-up after being discharged.

A series of diagnostics were implemented to understand the problems, issues, challenges and barriers to reducing the readmission rate. A literature review identified risk factors and current best practice. A flowchart of the current admission to discharge process was developed to help identify potential gaps, variations or areas of concern. A cause-and-effect diagram and Pareto charts provided a focus for improvement efforts.

Brainstorming sessions were held with key stakeholders to identify potential reasons and causes contributing to the youth unit's high readmission rate. A youth consumer with experience of frequent readmission was engaged to provide a perspective on readmission drivers.

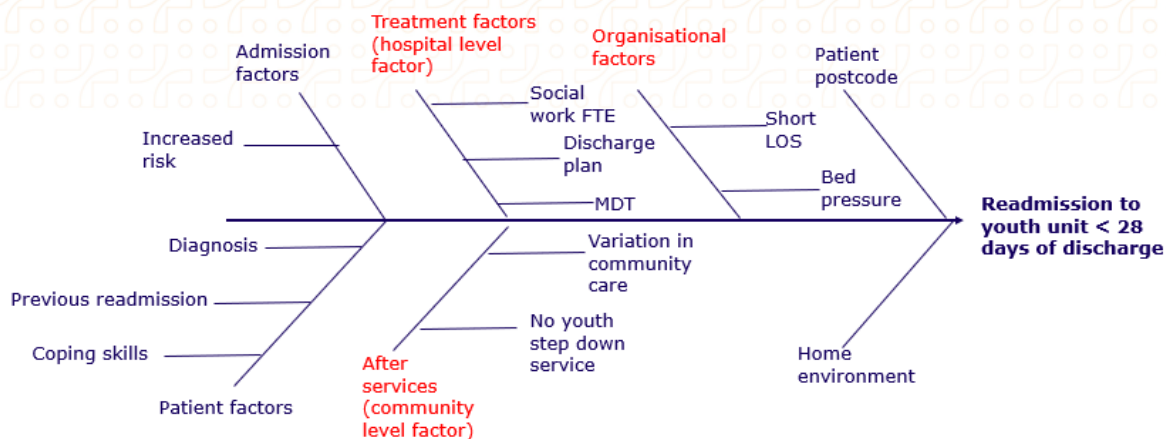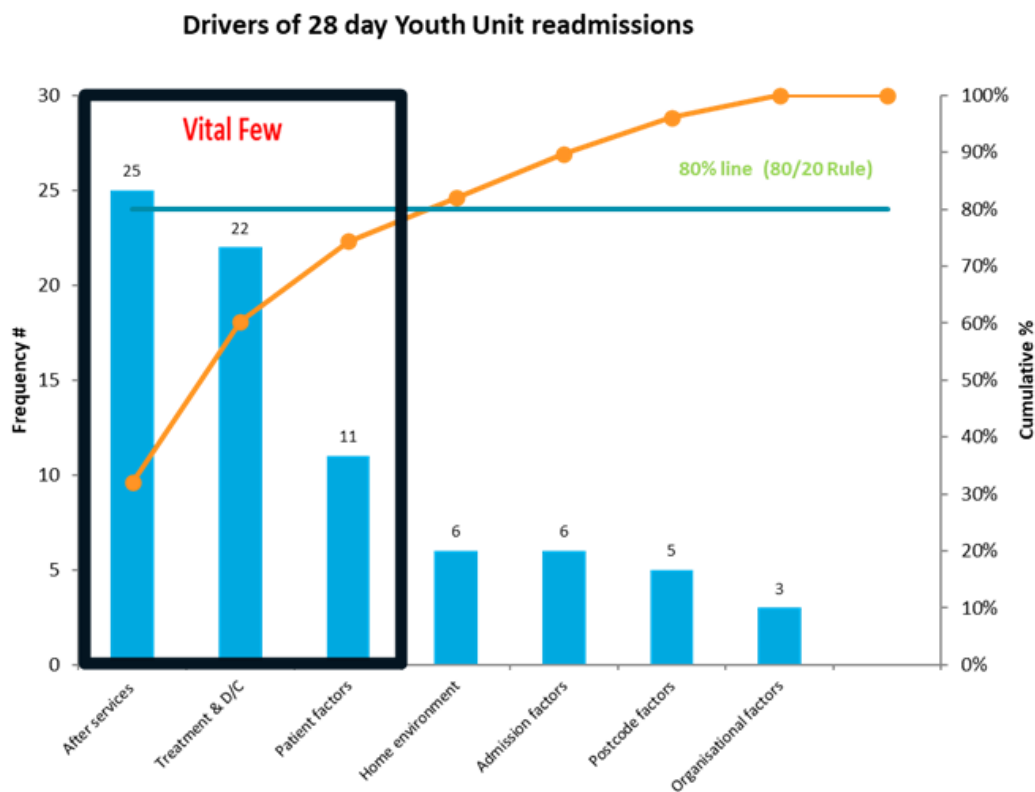*Figure 1. Diagnostics, cause-and-effect diagram*

Figure 2. Diagnostics, Pareto chart to prioritise interventions

Design

Improvement strategies identified through brainstorming and data diagnostics informed a strategic plan to address the youth unit readmission rate and patient flow.

Results

Interventions continue to be tested and implemented. A number of factors beyond the control of the youth unit influenced progress but enabled redesign of the project. We expect to see results into the latter half of 2024.

Conclusion

Readmission to a mental health unit is complex and multifactorial. Potential drivers include patient, hospital and community factors. The project confirmed that readmission to a mental health unit within 28 days of discharge may be appropriate for those aged between 16 and 24 years who are in a developmental phase with evolving diagnosis. Readmission for risk containment may form part of the patient's treatment and recovery plan.

Next Steps

The mental health service safety and quality team will focus ongoing improvement efforts on identified hospital and community factors that can be influenced.

Project Team

- Carole Steiner, CNS, Project Lead
- Claire De San Miguel, Project Lead
- Kate Smith, SQR Officer
- Maureen Wiltshire, NUM
- Vicky Forbes, CNS Youth Unit
- Lauren Nicholson, Data Analyst
- Sharon Delahunty, ND and Executive Sponsor

Figure 3. Patient flow
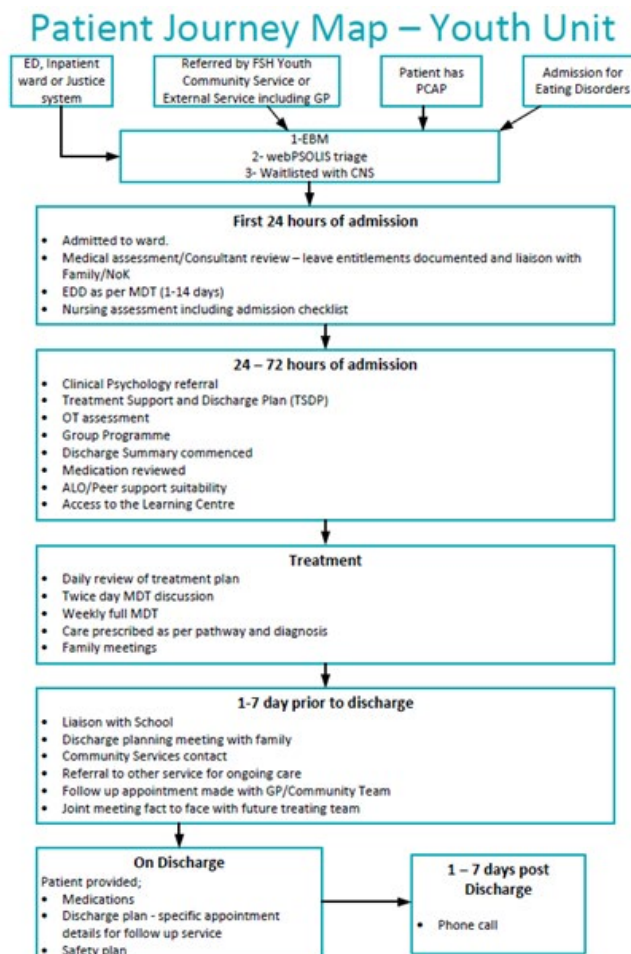
Clinical Handover: Making it Stick

Mrs Karen Cavanagh

Mrs Karen Cavanagh
Clinical Nurse Consultant Safety and Quality
NT Health

Problem/Aims

The aim of this quality improvement project was for 100% of handovers on the target ward to be conducted using the ISoBAR handover sticker and the sticker to be placed in the patient record in four months time.

Background

Quality clinical handover is the foundation for the safe transfer of patient care and nursing accountability and responsibility from one nurse to the next. The most frequent handover is the change-of-shift handover. Poor handover can contribute to missed care, delays in treatment or adverse events that may result in preventable harm or, at worst, death.

In 2020 a nursing ISoBAR handover sticker for shift-to-shift handover was trialled then rolled out hospital-wide. Feedback from staff was very positive. The sticker guides staff through the ISoBAR handover format, using prompts throughout, and then it is placed in the patients' medical record following handover. The sticker also provided documentary evidence that handover occurred. It was thought that the nurse would read recent entries by other clinicians for any information that may not have been communicated verbally to the nurse by other clinicians in verbal handover processes.

Measurement

A hospital-wide audit in June 2022 found 170 stickers in 123 patient records on the date audited; however, there should have been 369 stickers, making the compliance rate 46%. The rate for the target ward was 27%. This fell further to 6% during a spot audit in November 2022.

The diagnosis discovered several factors affecting the low level of sticker use. Brainstorming and affinity charting identified that staff found the sticker time consuming and being busy was the leading cause of failure to use the sticker or place the sticker in the notes. It was further identified that the nursing staff were not using the sticker as intended. The

nurse receiving handover was trying to write their handover notes, fill in the sticker and check charts simultaneously. This practice had become the norm.

Design and Strategy

Patient records were audited after the first week of the revised handover format to determine whether there was an improvement. The handovers were timed to identify whether there had been a reduction in the time spent handing over. Areas that required further education were identified and meetings were held with staff to discuss the findings and workshop issues identified for causes and solutions.

The new practice became routine; however, there was still improvement to be made. Nurses found it difficult to access the medical record, so a quarantine time was implemented. Consequently, the notes were freely available to nurses for half an hour from the start of their shift, other than for urgent medical reviews, medical emergency/MET and code blue calls.

Chart audits and handover timings continued weekly over the next two months and issues were dealt with through further brainstorming and affinity charting.

Figure 1. Diagnostics, flow chart demonstrating major problem areas
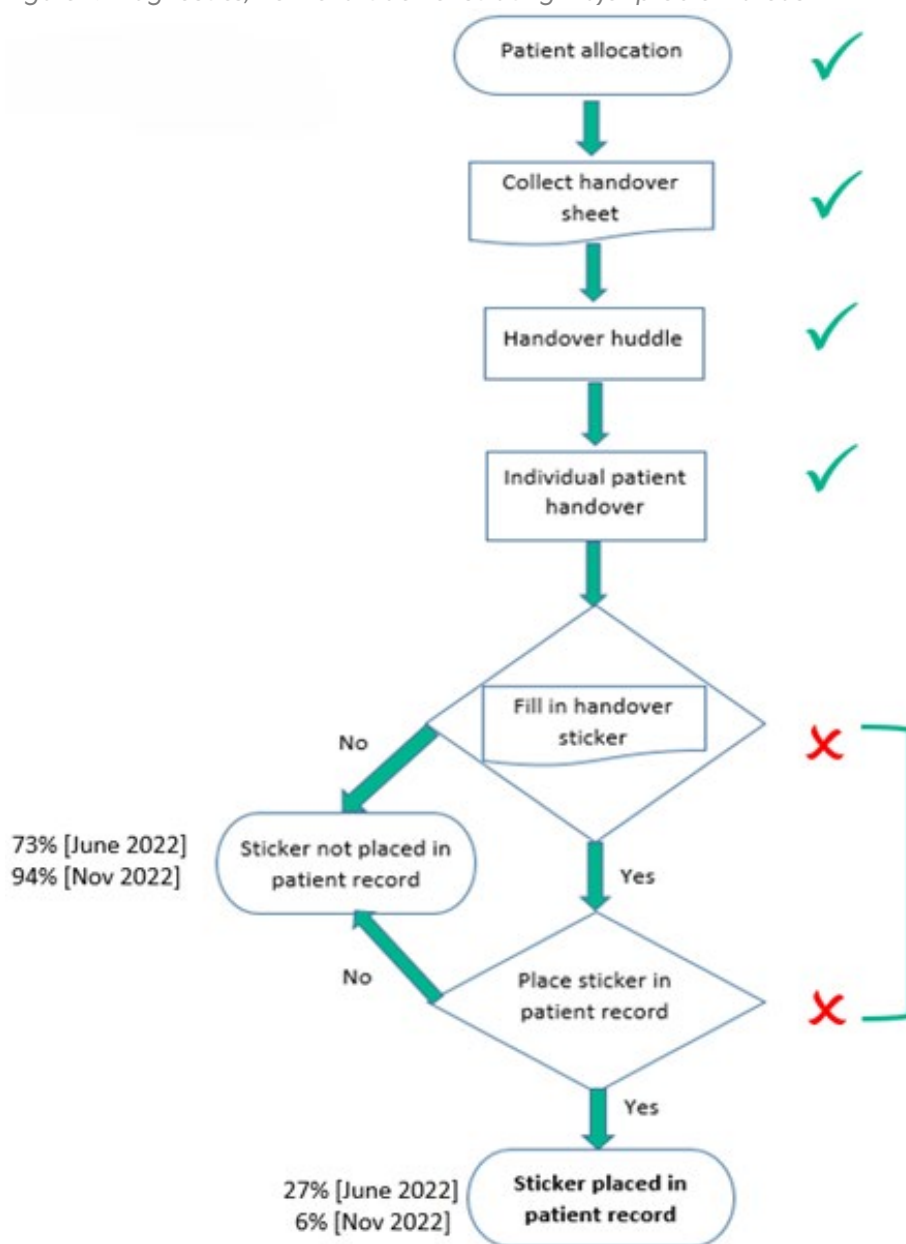
Figure 2. Diagnostics, Pareto chart, prioritising where to act

Pareto Chart

Causes of delays to placing the handover sticker in the patients notes
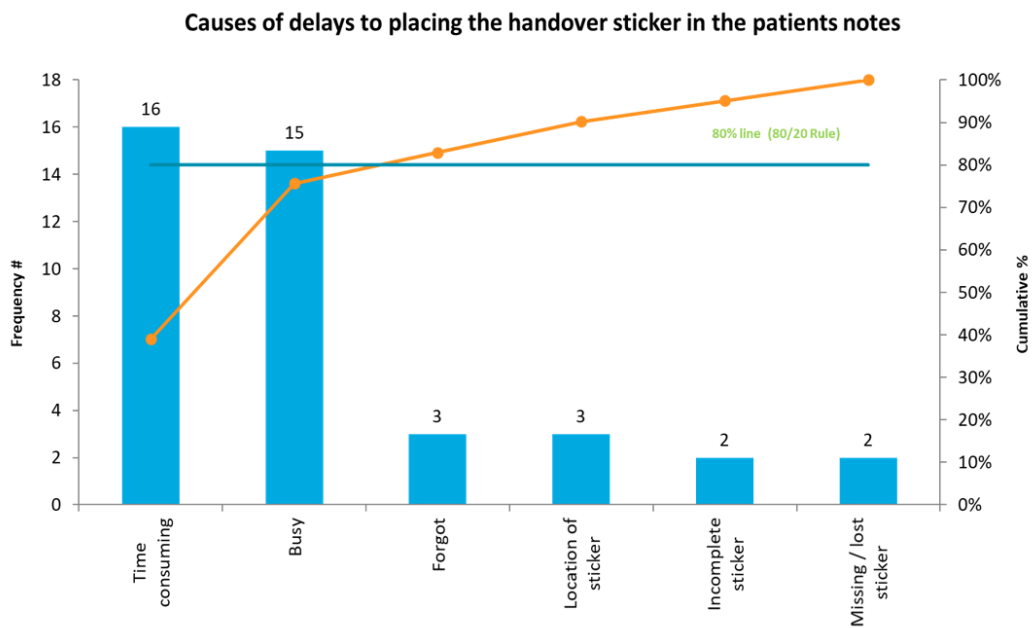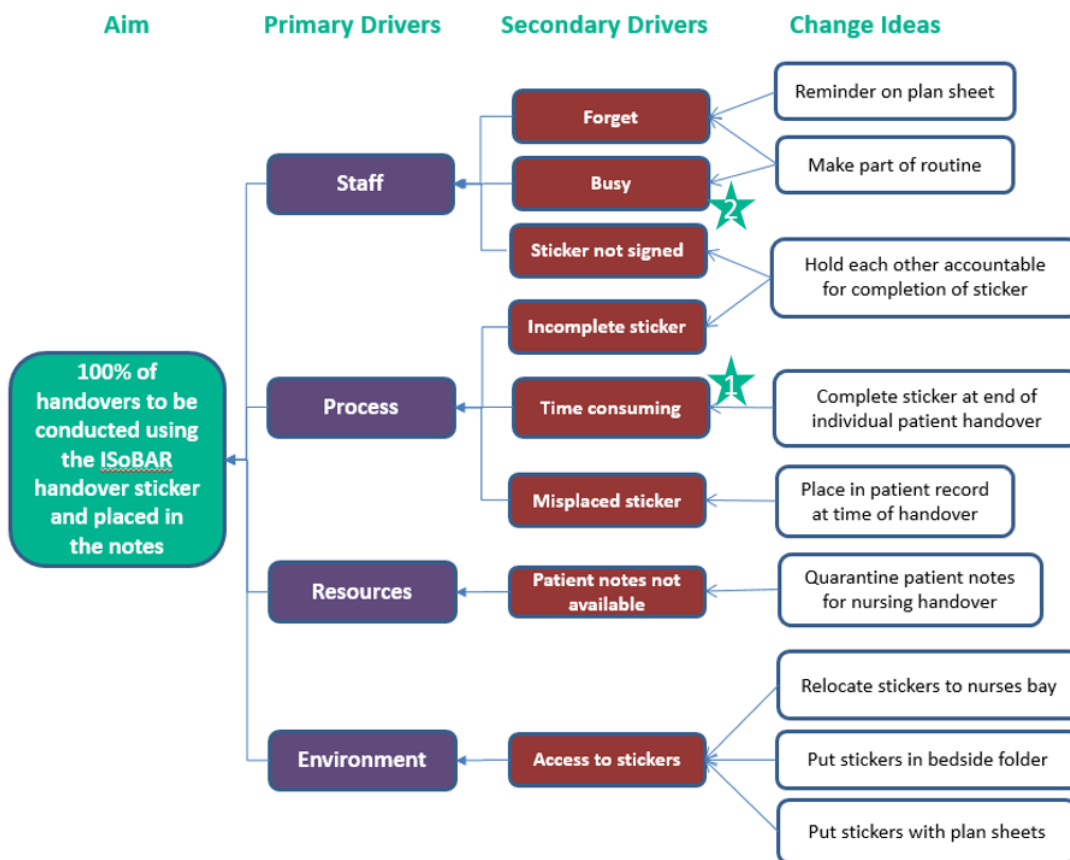

Figure 3. Intervention, driver diagram and change ideas

Results

We hoped to see at the end of four months that 99% of handovers occurred using the handover sticker correctly, the documentation was complete, and the stickers were placed in the medical record within 30 minutes of handover.

We hoped that nurses would report increased satisfaction with the sticker and recognise its value in providing a comprehensive and safe handover. The success found on the target ward will lead to the changes being implemented across the hospital.

We found that 70% of nurses found that the sticker helped guide them through the ISoBAR handover, but we were unable to address the barriers for consistent application of a structured handover process.

Next Steps

We will continue to investigate local solutions in each ward and department, driven by a desire to improve outcomes and rectify accreditation recommendations. Observational audits will continue to monitor changes and adjustments from further local PDSA ramps and cycles.

Conclusion

The process of identifying problems and brainstorming solutions was useful, even if the results did not unfold as expected. Challenges with sustained improvement despite understanding the importance could be influenced by the large numbers of transient and agency staff used to support care delivery and the interventions focused on education.

Project Team

Project Lead:

- Karen Cavanagh

Participants:

- Margaret Brennan, CNM

- Jinglin Chen, CNE

- All nursing staff on the ward with co-operation from medical and allied health staff.

Enhancing Pressure Injury Prevention on Ward K9W: A Quality Improvement Initiative

Ms Terri Cooper

Ms Terri Cooper
Clinical Nurse Consultant
Hospital South, Royal Hobart Hospital

Problem/Aims

Pressure injuries (PIs) represent a formidable challenge in health care, leading to adverse patient outcomes, prolonged hospital stays and increased healthcare costs.[1,2,3] Hospitals South, as per health round table data, has consistently exceeded benchmarks for PI rates, necessitating the creation of a working party to address gaps in prevention processes, particularly within the general surgical ward (K9W).

This initiative aimed to reduce hospital-acquired PIs on K9W by 10% within three months and 20% within six months, ultimately preventing the development of PIs at Stage 3 or higher. The stretch goal was an elimination of hospital-acquired PIs at the Royal Hobart Hospital.

Background

Analysis of health round table and safety event reported data underscored the urgency of this initiative. A staff survey and education record review revealed deficiencies in formal staff education and confidence in PI identification and management. Patient surveys exposed a lack of active patient involvement in PI prevention, contributing to avoidable harm and straining K9W resources. This underscored the imperative for enhanced patient and staff education.

Measurement

The project's measurement process combined qualitative and quantitative data, assessing patient and staff perspectives through surveys, Hospital Acquired Complication (HAC) data and point-of-care audits of screening and assessment rates. The goal was to measure the impact of interventions on preventing PIs.
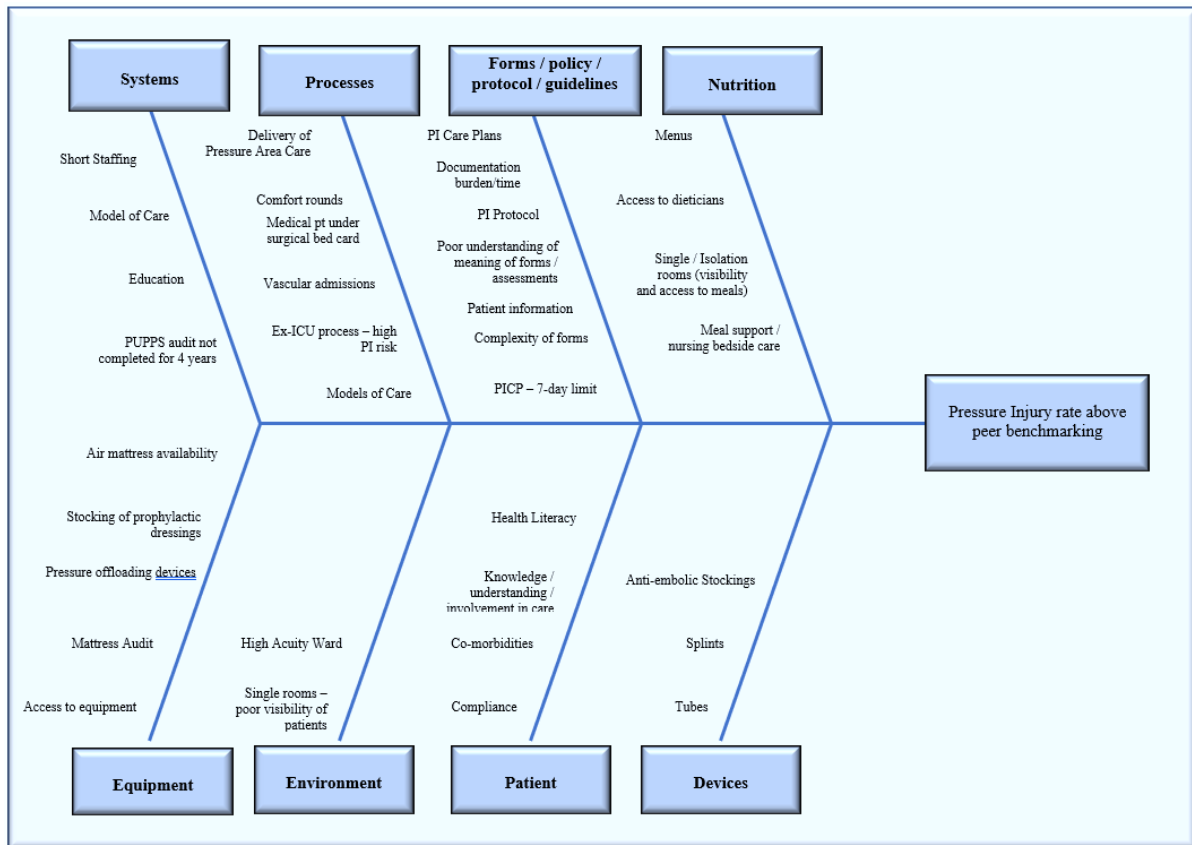
Figure 1. Diagnostics, cause-and-effect diagram

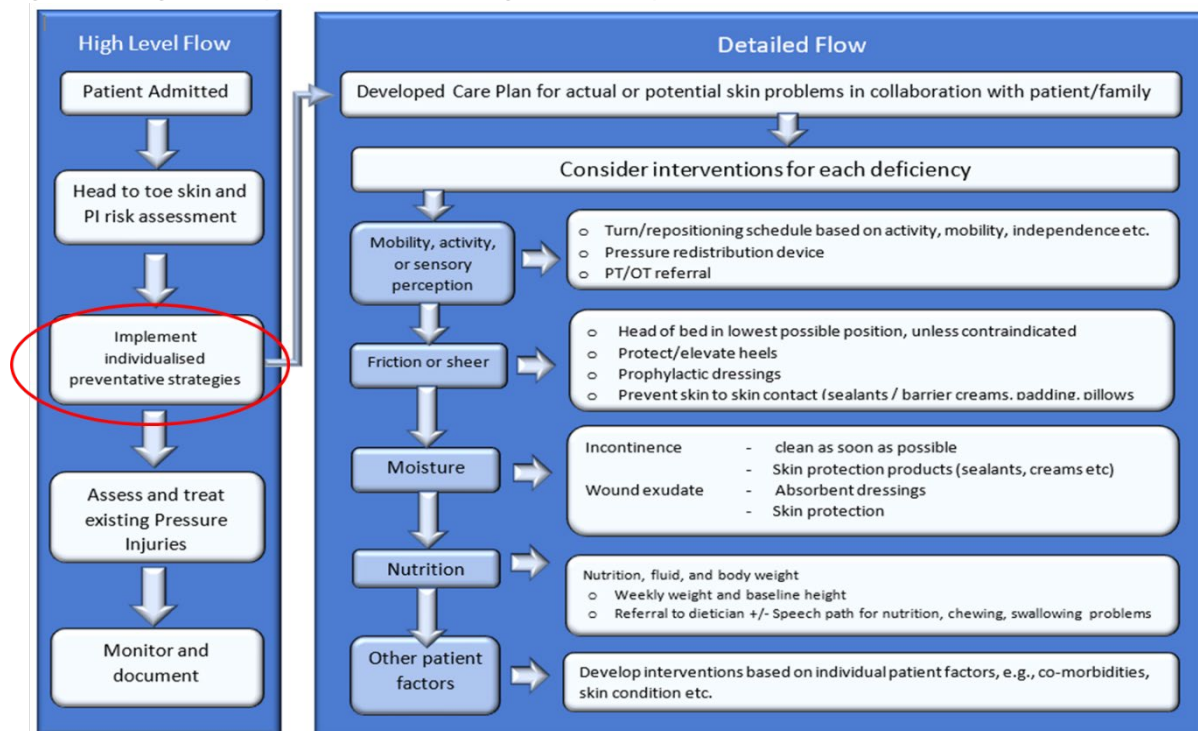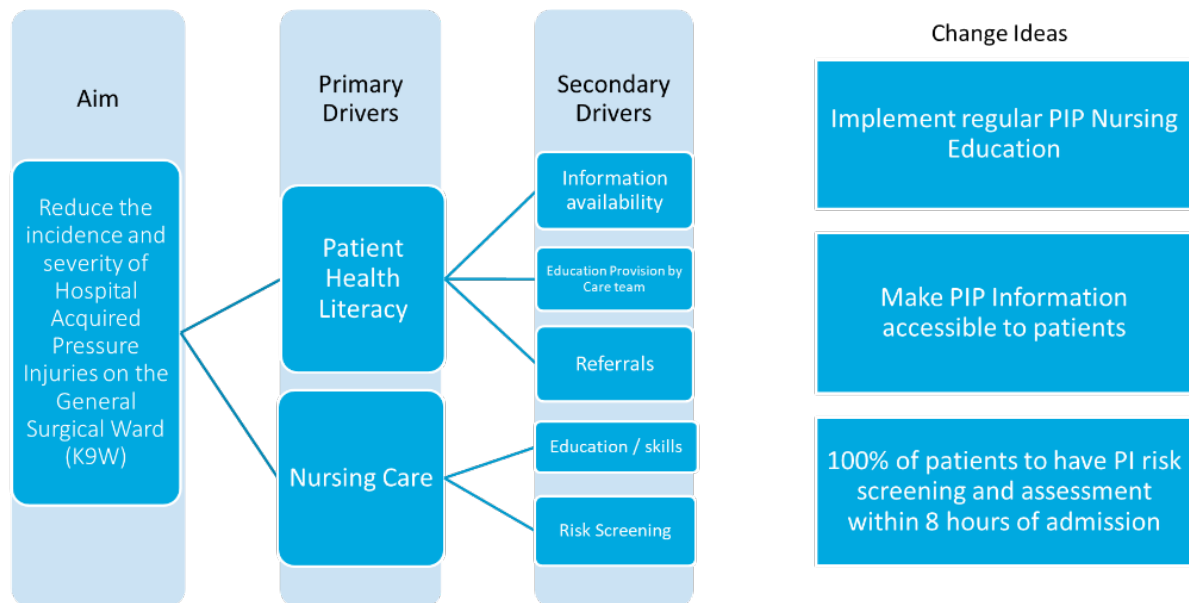*Figure 2. Diagnostics, process flow showing area for improvement*

Figure 3. Intervention, driver diagram

Design

The project implemented four key interventions: sourcing and developing patient education tools, staff training, incorporating patient feedback and pilot testing a revised process.

Strategy

PDSA cycles refined these interventions, guided by feedback obtained during pilot testing to ensure effectiveness and sustainability and to inform iterative adjustments.

Results

Preliminary results showed positive changes in patient and staff perceptions and engagement, and there is an anticipated reduction in PIs. Consumer participation, evidenced by surveys and educational brochures, indicates increased awareness and engagement.

Conclusion

The interventions show promise in mitigating PIs on K9W. Continuous monitoring and feedback loops will play a crucial role in refining strategies. Enhanced patient and staff education, combined with consumer involvement, is expected to contribute to positive outcomes.

Next Steps

The next steps involve expanding interventions hospital-wide, supported by the Comprehensive Care Committee. Data collection will inform organisational quality improvement efforts, emphasising ongoing communication through reports, meetings and educational initiatives. This project exemplifies a commitment to refining and disseminating best practices in PI prevention, establishing a culture of continuous improvement within the healthcare system. The collaboration between stakeholders and the integration of consumer perspectives set a precedent for future initiatives. In addition, there is an opportunity to present this project at the Tasmanian Nursing and Midwifery Symposium and other in-house platforms.

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2. Parisod H, Holopainen A, Koivunen M, Puukka P, Haavisto E. Factors determining nurses' knowledge of evidence-based pressure ulcer prevention practices in Finland: a correlational cross-sectional study. Scand J Caring Sci. 2021;36:150–161.

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Project Team

Guidance team members:

- Felicity Hennessy, CNC

- Terri Cooper, CNC

Project team members:

- Kiara Rolf, CNC K9W

- Emily Lucas, CNE K9W

Reducing Surgical Site Infection Rate after Lower Segment Caesarean Sections

Mrs Georgie Kakoulis

Mrs Georgie Kakoulis
Adv Nurse Consultant Infection Control
Women and Children's Health Network,
South Australia

Problem/Aims

In March 2022, the infection prevention and control unit noted a rise in the infection rate of caesarean section wounds. This increase continued throughout 2022, resulting in a rate of 2.0 per 100 procedures, compared with 0.8 per 100 procedures in 2021.

The aim was to reduce the surgical site infection rate for patients after caesarean sections to less than 1% within 12 months.

Background

The Australian Council on Healthcare Standards (ACHS) and the Australian Guidelines for the Prevention and Control of Infections in Healthcare have determined that healthcare-acquired infections are the most common complication affecting patients in hospital. As well as causing unnecessary pain and suffering for patients and their families, these adverse events prolong hospital stays and are costly to the health system.

A small working group of key stakeholders met in April 2022. A transparent, absorbent dressing on the wound was considered best practice because it has the advantage of increased visibility of the Lower Segment Caesarean Sections (LSCS) wound when assessing for signs of infection. However, the increased use of self-adhesive non-woven dressing was noted. It was decided that further investigation into the complete patient journey—including dressings, pre- and post-surgery and antibiotics, benchmarking and examining the best practice evidence—was needed and therefore a quality improvement project was commenced in September 2022.

Measurement

We sought data from a variety of aspects of care, including people, environment, equipment,

processes and products, as well as the systems and policies that support practice. The main outcome measure was the rate of Surgical Site Infection (SSI) infections for LSCS.

Design

To initiate this quality improvement project, a multidisciplinary team consisting of obstetricians, nurses, a pharmacist, an infection control specialist and quality improvement staff was formed. Quality improvement methodology and tools were used, and a root cause analysis was performed to identify potential risks and causes. The PDSA cycle was adopted as the guiding principle for the interventions.

Figure 1. Diagnostics, cause-and-effect diagram
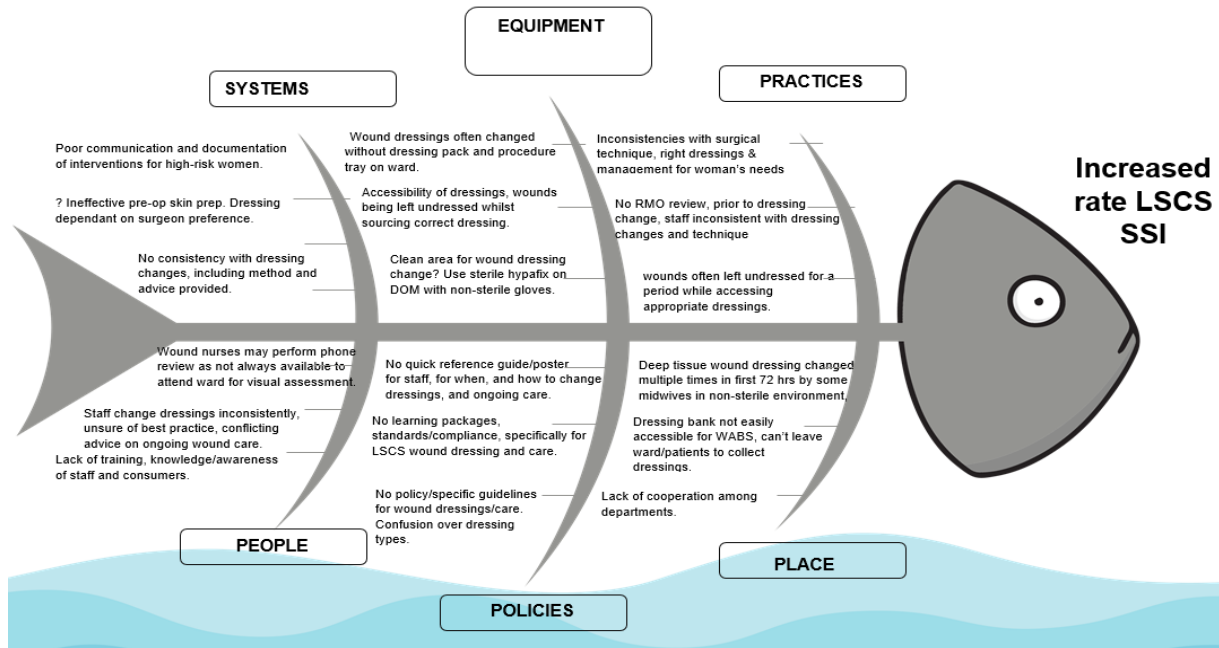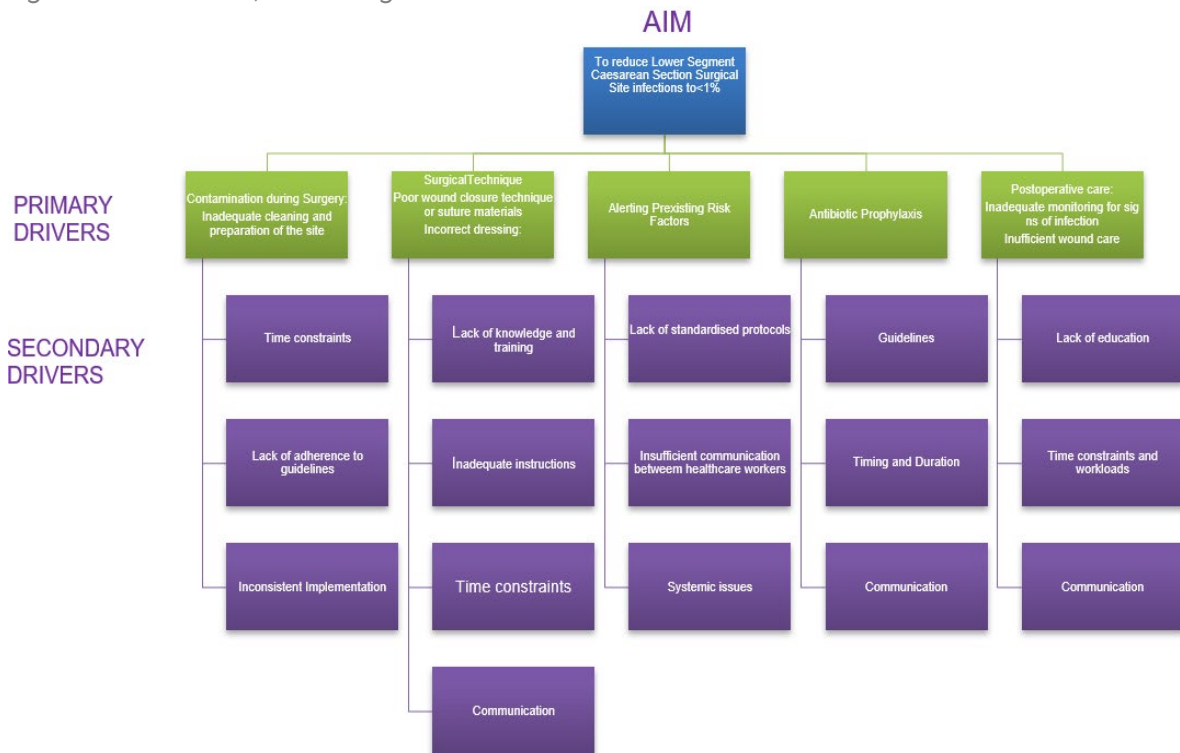

Figure 2. Intervention, driver diagram

Strategy

Although individual interventions have shown some efficacy in reducing LSCS SSI, a bundled approach provides a more comprehensive and synergistic strategy. We decided to first develop a procedure, recognising the importance of a multidisciplinary team in implementing these interventions effectively. Despite broad agreement on this strategy and presentation of the comprehensive bundle to key stakeholders, a notable delay occurred in receiving feedback and securing final approval for the procedure, primarily because of resistance towards change. The matter was escalated to the executive level, prompting the initiation of a risk-profiling session. Simultaneously, a personnel change occurred, leading to the reestablishment of working group meetings. Soon after, the subsequent procedure and quick reference poster was sent out for broad consultation in June 2023.

Results

Even though the procedure has not been implemented, discussing the issues over the past year has yielded preliminary results that show a decrease in LSCS SSI to 0.8 per 100 procedures (see Figure 3). Regular audits, feedback mechanisms and continuous quality improvement initiatives will continue to be in place to ensure compliance and ongoing monitoring of outcomes.

Conclusion

The collaborative efforts of the multidisciplinary team and the systematic application of quality improvement methodologies have proven to be effective in achieving the desired outcomes.
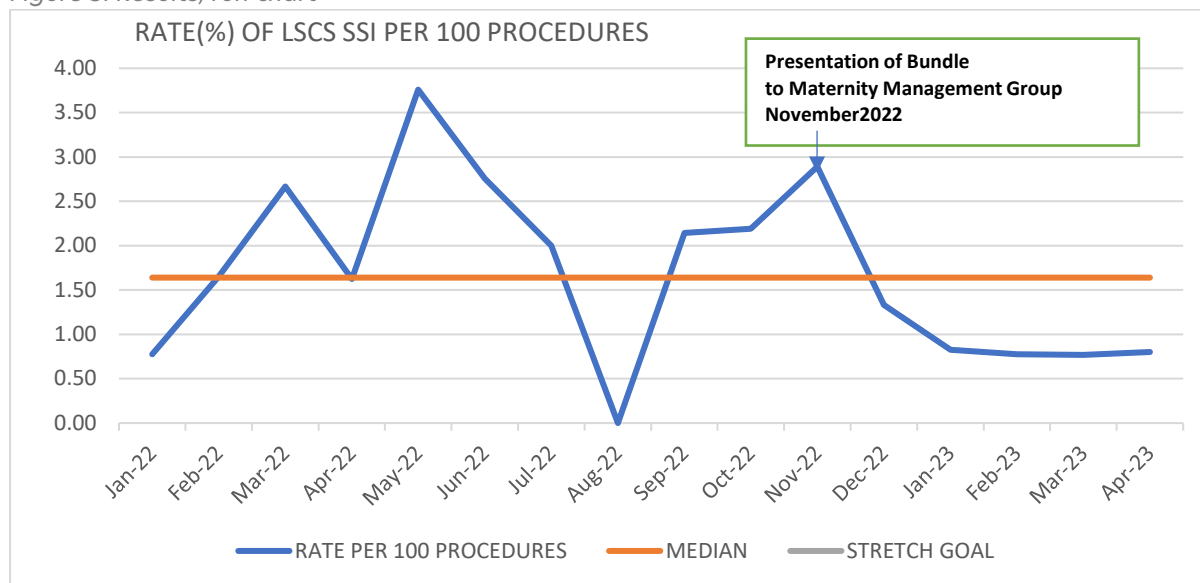
Next Steps

Further education on wound management is to be provided. Wound champions will be allocated to the postnatal ward, and a business case for a wound nurse will be presented to the hospital executive. We plan to develop a co-designed bundle of care that is culturally appropriate for consumers that were identified as the most prevalent group of getting a LSCS SSI.

Project Team

- Linda Robertson, Perinatal Quality Improvement Manager/Facilitator
- Dr Mojgan Vatani, Senior Consultant O&G
- Dr Stefan Lammerink, Infectious Disease Consultant
- Ulrik Lorenzen, Senior Pharmacist
- Cassie Dujmovic, Stoma /Urology /Wound /General Surgery Nurse Consultant
- Laura Summers, acting Perinatal QI Manager/Facilitator
- Heather Welch, Midwifery Unit Manager, Women's Outpatients Department

Figure 3. Results, run chart

RATE(%) OF LSCS SSI PER 100 PROCEDURES

Presentation of Bundle
to Maternity Management Group
November2022

Legend: RATE PER 100 PROCEDURES — MEDIAN — STRETCH GOAL

Using Machine Learning Risk Prediction to Reduce Healthcare-associated Urinary Tract Infections

Ms Samantha Maybury

Ms Samantha Maybury
Coordinator Quality Improvement and Performance
Consumer Experience and Clinical Excellence, North Metropolitan Health Service, WA

Problem/Aims

During benchmarking, Sir Charles Gairdner Hospital was noted to be an outlier when compared with other hospitals in the state. Healthcare-acquired infections have significant clinical implications and increased lengths of stay for patients, as well as significant financial losses for healthcare services.

The aim was to reduce healthcare-associated urinary tract infections (HAC UTIs) by 50% in a three-month period on ward G52 of Sir Charles Gairdner Hospital.

Background

A hospital-acquired complication (HAC) refers to a complication that occurs during a hospital stay for which clinical-risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring. Not only do HACs adversely affect patient outcomes and increase time in hospital[1] but healthcare resources are negatively influenced and funding penalties are applied. At North Metropolitan Health Service, healthcare-associated infections were the most common HAC during financial year 2021–2022, resulting in a funding adjustment of almost $1.9 million. Urinary tract infections (UTIs) accounted for 34% of these HACs.

Measurement

Data from hospital administration systems (TMS, EDIS, webPAS) were analysed for 65,968 multiday inpatient episodes between July 2020 and April 2022 to identify the variables significantly contributing to the risk of developing a UTI. Further diagnostics were completed with staff, literature reviews and consumer advisors to identify causes of HAC UTIs.

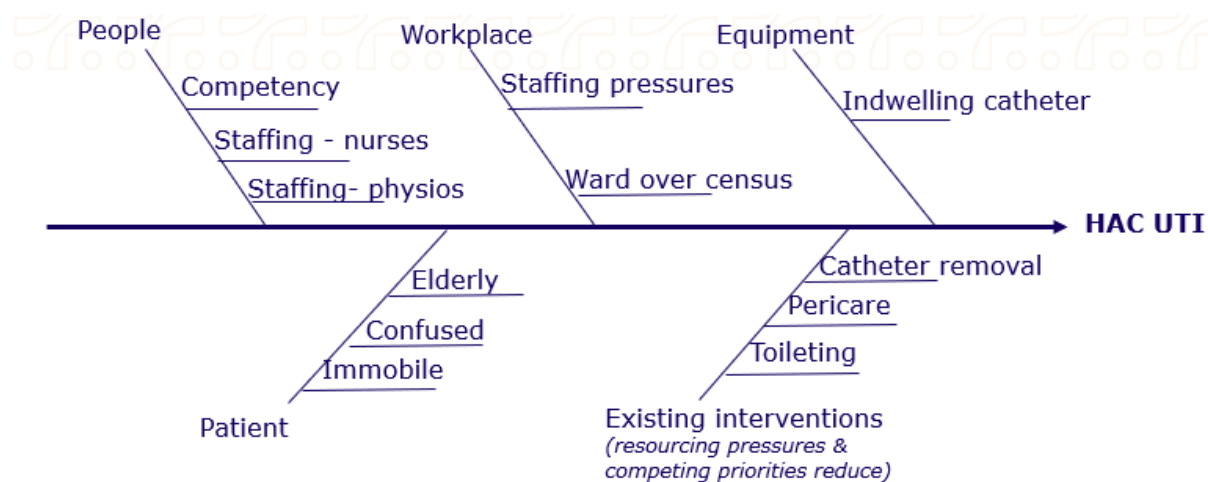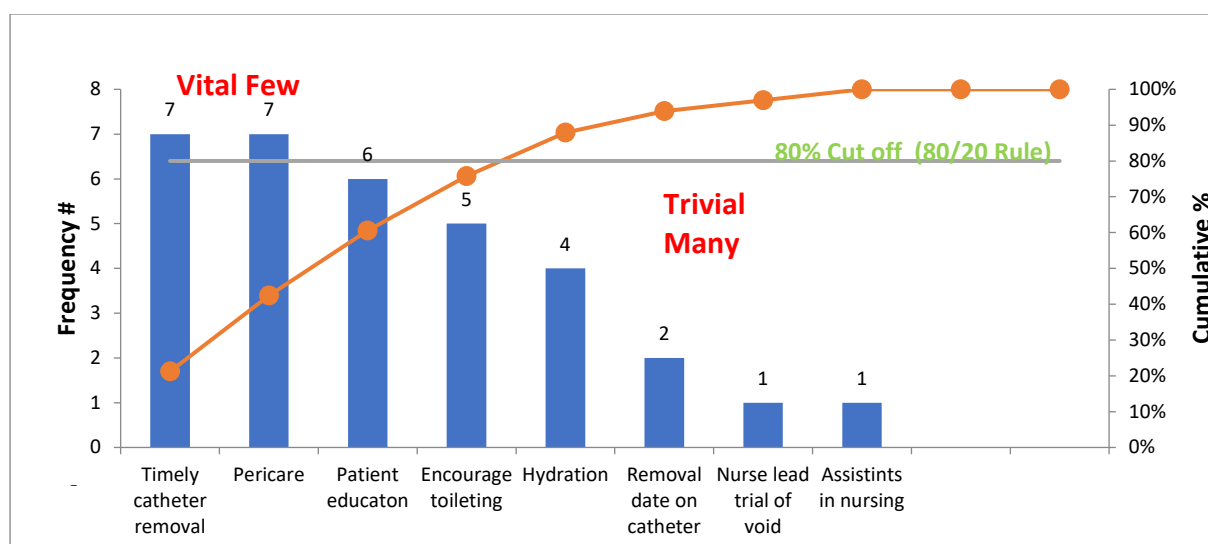*Figure 1. Diagnostics, cause-and-effect diagram*

Figure 2. Intervention, Pareto prioritisation of solutions

Design

In accordance with these risk factors, a highly sensitive (91%) and specific (86%) prediction model was developed and integrated into an online application that clinicians can use to implement prevention strategies for high-risk patients.

Strategy

After consultation with clinicians, the application (PowerApp) was trialled for three months in a neurosurgery ward at Sir Charles Gairdner Hospital.

The 'HAC UTI App' was checked daily during shift handover. If a patient was identified as high risk, the risk was written in the handover documentation. The patient (and family or carers if applicable) was provided education about reducing their UTI risk, including the importance of requesting assistance for toileting, maintaining personal hygiene and keeping hydrated. To supplement this education, a consumer-endorsed information leaflet was provided and posters were displayed in the patient bathrooms. To raise awareness of the risk to staff, a 'high risk' sign was placed at the patient bedside and in the patient notes. This flag served as a visual reminder to ensure adherence to existing nursing practice guidelines, focusing on timely

catheter removal, adequate hydration, the importance of peri care, and helping with and encourage toileting.

During the trial period, the transfer of information from the app to the handover documentation was deemed too resource intensive for the frontline clinical staff, so the patient's risk status was instead updated in the handover documentation by the project team.

Results

The results at the end of this phase of the improvement project were positive. The rate of UTIs per 1,000 bed days reduced by 47% during the three-month period, with an absolute reduction in the number of UTI HACs by 55%. The nursing staff were provided an opportunity to evaluate the trial. Overall, nurses reported that the resources provided (signs, posters) aided communication and raised awareness of high-risk patients. The manual transfer of information from the app to handover documentation, however, albeit a few minutes, was extra work for staff already under pressure.

Conclusion and Next Steps

The risk-prediction model can be applied to any key performance indicator; however, better integration of the risk prediction into current systems and practice, such as alerts or notifications, is necessary before future iterations of this model can be further trialled or rolled out service-wide.

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https://www.aihw.gov.au/reports/hospitals/australias-hospitals-at-a-glance-2018-19/summary

Project Team and Acknowledgements

For Your Safety, Tick the Box

Ms Helen Gill and Mrs Sara Jacob

Ms Helen Gill
Quality and Safety Manager
Primary and Public Health Care
NT Government

Mrs Sara Jacob
CQI Facilitator
Primary and Public Health Care
NT Health Central Australia Region

Problem/Aims

Several threats have caused staff providing services within remote settings to feel at risk, and these have been highlighted by an increase in the RiskMan reporting of occupational violence and aggression, security breaches and an increase in alcohol-induced violence in the communities. An audit was completed over two weeks of all after-hours call-outs in 26 communities. This showed that 7% of pre-visit risk-assessment forms were completed for the 318 records reviewed, leaving staff at risk.

The aim of this project was to increase compliance with safety guidelines to ensure 100% of pre-visit risk-assessment forms are completed before any after-hours call-out or home, community or outstation visit by December 2022.

Background

NT Health considers that staff safety is the highest priority at all times, and staff should not engage in activities that place their safety at undue risk. The staff safety procedure states that all clinicians considering a call-out (after-hours attendance in a health centre, or home, community or outstation visit during business hours or after hours) are to complete a pre-visit risk assessment before responding to the call-out.

The NT has a widely dispersed population, including over 80 communities with populations ranging from the low hundreds to the low thousands, and from remote to very remote settings. Central Australia Health Service is the principal provider of health services in the central Australia region of the NT. The majority of the primary and public health care branch of the Central Australia Health Service is provided in remote and isolated Aboriginal communities.

In 2016, the death of a remote area nurse in South Australia caused an overdue review of

the safety and security of remote area nurses within NT Health and the development of the remote area nursing safety review project. The safety review was designed to assess the effectiveness of the Remote Health Atlas on-call safety and security procedures in ensuring a safe work environment. A number of working groups were introduced to consider several issues relating to safety. The outcome of one of these working groups was the implementation of the pre-visit risk-assessment form to assist remote area nurses to be more empowered if they did not believe that they were safe to attend the call-out and to put in place contingencies.

Measurement

An audit was conducted as a baseline measurement of the compliance in completing the pre-visit risk-assessment forms.

Initial data collection focused on all visit consultations entered into the electronic medical records of clients seen within an allocated two-week period, including public holidays and weekends, within the 26 communities. After the audit, an online staff survey was conducted to identify barriers, and onsite PDSAs were completed. The rationale for choosing these methods was the remoteness and vast distances within the health centres.

Figure 1. Diagnostics, Pareto diagram
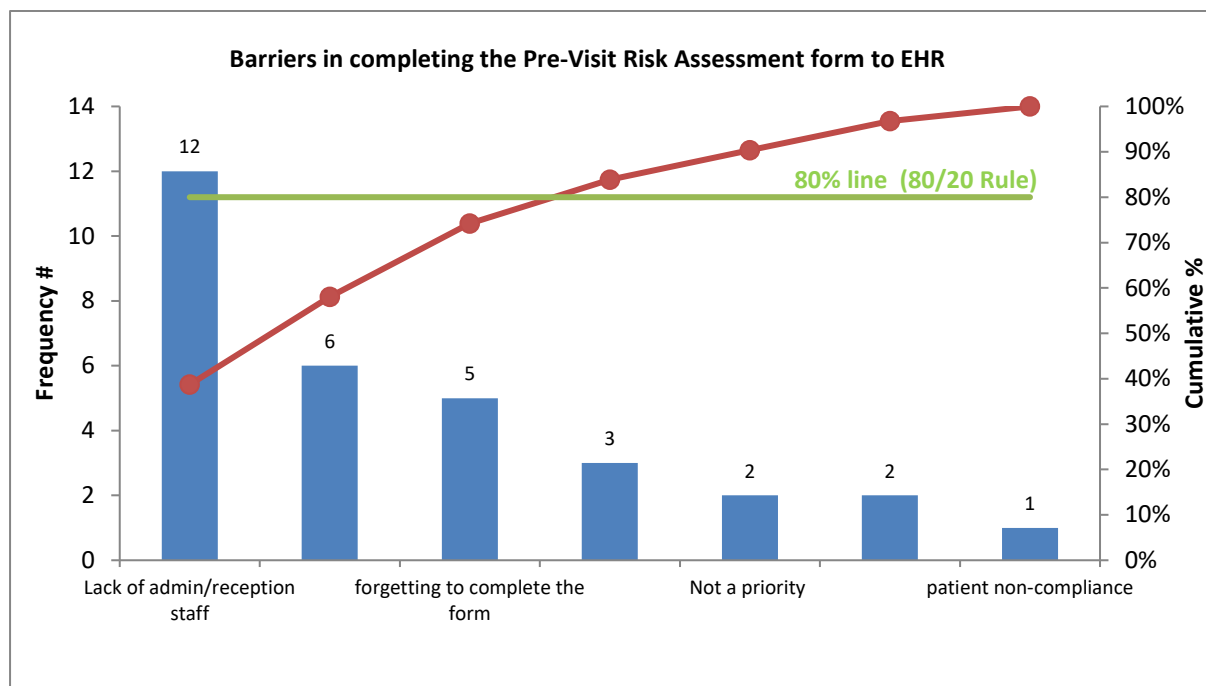
Design

The planned interventions to improve compliance in completing pre-visit risk-assessment forms are:

- holding face-to-face discussions with remote staff and reiterating the importance of completing the pre-visit risk-assessment form before an after-hours call-out

- completing PDSAs with communities

- reviewing the current staff safety—risk assessment PHC remote procedure and the current pre-visit risk-assessment CAHS PHC remote form

- holding a primary health centre manager and remote area nurse and graduate information and feedback session

- completing pre-visit risk-assessment education in orientation for all staff

- reviewing compliance with after-hours assessment and communication course on MyLearning.

Figure 2. Driver diagram

Aim	Primary Drivers	Secondary drivers - Interventions
That PPHC will increase compliance with safety guidelines to ensure 100% of Pre-Visit Risk Assessment Forms are completed prior to any after hours call-out, home, community or outstation visit by December 2022	Policy	Review current procedures and form
		Include requirement for training for all staff in Staff Safety Policy including Pre-Visit Risk Assessment
		Table procedure at local staff meetings
	Education	Pre-Visit Risk Assessment awareness and training at staff Forums Nov and Dec 2022
		Education on the completion of the online After Hours Assessment and Communication modules
		Pre-Visit Risk Assessment and Staff Safety included in Orientation program
	Monitoring	Random audits of electronic medical records
		Quarterly reporting on completion of After Hours Assessment and Communication modules

Strategy

Awareness is an important aspect to achieve the aim of this project. In line with the information gathered through staff surveys and face-to-face engagement, human factors and administration were identified as the main challenges to achieve the goal.

Our strategy is to improve awareness by:

- providing feedback and education using face-to-face and online learning modules

- conducting interactive sessions and PowerPoint presentations to raise awareness

- completing PDSA cycles and implementing ideas that are identified as working efficiently.

Results

At this early stage, we have noticed improved awareness through consumer engagement and 'starting the chat'. Official results will follow the next after-hours on-call electronic medical records audit.

Limitations

Remoteness and distance were major limitations affecting the project and access to staff for support and information. Transient staff was also another major limitation and is common in remote and rural areas.

Conclusion

The death of a remote area nurse resulted in the implementation of this safety measure. Completion of pre-visit risk assessment empowers staff to make clinical judgements fairly and deem it unsafe to attend an after-hours call-out.

Project Team

- Debbie Glover, clinical nurse coordinator, professional practice

- Belinda Ballard, clinical nurse coordinator, quality and safety

- Brenda Oakley, clinical nurse coordinator, infection prevention and management

- Peggy Sinclair, remote area nurse

- Damian Goggin, clinical nurse coordinator, continuous quality improvement

Improving Report Turnaround Time and Reducing Patient Wait Time for Radiology Department, American Mission Hospital

Mr Arun Govind

Mr Arun Govind
Project Consultant
American Mission Hospital

Problem/Aims

1. To improve the turnaround time (TAT) of Computed Tomography (CT), ultrasound (USG) and Magnetic Resonance Imaging (MRI) from 65% to above 80% within a one-year period from March 2021 to April 2022.

2. To reduce the appointment waiting time of patients for USG from four days to less than or equal to one day. (This was one of the major reasons for dissatisfaction among patients in the NPS survey.)

Background

The American College of Radiology has determined that excellent patient experience can be achieved by improving the reporting TATs of radiology reports and reducing the appointment waiting times for imaging scans. These parameters are critical in ensuring timely diagnosis and treatment, ultimately enhancing patient outcomes and satisfaction. The aim of this quality improvement project was to improve the TAT for CT, USG and MRI at American Mission Hospital, Bahrain, owing to an increased number of patient complaints in delayed reports, decreased patient satisfaction and low TAT compliance. In addition, the project focused on reducing appointment waiting time across all imaging modalities, with special focus on USG to ensure quicker access to diagnostic services.

Measurement

To address the identified issues, we conducted a comprehensive fish bone analysis to understand the multifaceted problems affecting turnaround and appointment times. This analysis helped in pinpointing various

potential areas for improvement, including workflow inefficiencies, staffing constraints and equipment availability. An action plan was then developed, targeting these areas for enhancement.

Data were collected from the HIS system of the hospital on a monthly basis, ensuring robust data reliability and validity.

Design

The plan was implemented through multiple PDSA cycles within the radiology department. Each cycle involved testing specific interventions, collecting data and analysing results. Changes were then adopted, adapted or rejected in accordance with analytical data and feedback from the improvement team, ensuring a dynamic and responsive approach to problem solving.

Strategy

1. For improvement of TAT compliance of CT/MRI/USG

PDSA 1

Our initial intervention focused on reporting the CT/MRI and USG as priority, which increased the compliance to approximately 87% keeping the same FTE for physicians. However, it had a balancing measure effect on the increased TAT of other modalities, such as X-rays. As a team, we realised that it was not sustainable and started looking for alternatives, as per the root causes identified.

PDSA 2

In the second intervention, we focused on improving technology-related issues. Dictaphone issues were resolved, and new diagnostic screens were provided in the satellite clinics in which radiologists were not able to access reporting. CT and MRI tests were outsourced to third party radiology consultants to reduce the load; however, this had a balancing measure effect of increased cost. Hence, it could not be continued. These interventions increased the TAT compliance from an average of 65% to 68%. However, the improvements were not significant, and the

team decided to focus on other factors.

PDSA 3

In the third intervention, the team focused on increasing the FTE of radiologists. This increased the TAT compliance of CT/MRI/USG significantly from 68% to 77%. The increase in TAT was evident; however, we realised that it would not be sustainable because the load on one radiologist was more than on others.

PDSA 4

In the fourth intervention, the team focused on distributing the load of CT/MRI and USG equally among other radiologists, which further increased the combined TAT of CT/MRI/USG from 77% to 88%.

With a combined improvement in technology, process optimisation and resource management, we could achieve the desired result.

2. For reducing appointment waiting time of USG

PDSA 1

In the first intervention, the team considered adding a visiting radiologist to share the load of USG cases in the evening because it was cost effective and a quick solution to address the patient load. In addition, a particular radiologist was assigned a defined time for USG scans. This achieved a decrease in the appointment waiting time from 3.64 days to 2.5 days.

PDSA 2

We hypothesised that increasing the FTE of radiologists would have a significant impact on reducing waiting time, which seemed a commonsense idea; however, the hospital administration was reluctant because it was a cost decision. In the second intervention, two female radiologists were hired considering the local social guidelines given that most of the patients were females. This intervention decreased the waiting time from 2.5 days to 1.98 days.

PDSA 3

In the final cycle, given that our FTE was adequate, we realised that our process required refinement. We set up more appointments for the USG scans, including evening appointments from 9 pm to 12 am, in addition to the emergency appointments. The female radiologists were assigned to perform most of the USG scans, providing wide coverage, especially to the female patients. This intervention further reduced the average waiting time to 1.79 days.

Results

Run charts demonstrated that because of these interventions, the mean TAT compliance within 24 hours and 48 hours increased by approximately 23%. In addition, the appointment waiting time for USG decreased from 3.64 days to 1.79 days over the PDSA cycles from March 2021 to April 2022. These improvements have been sustained and extended across all imaging modalities, leading to a more efficient radiology department.
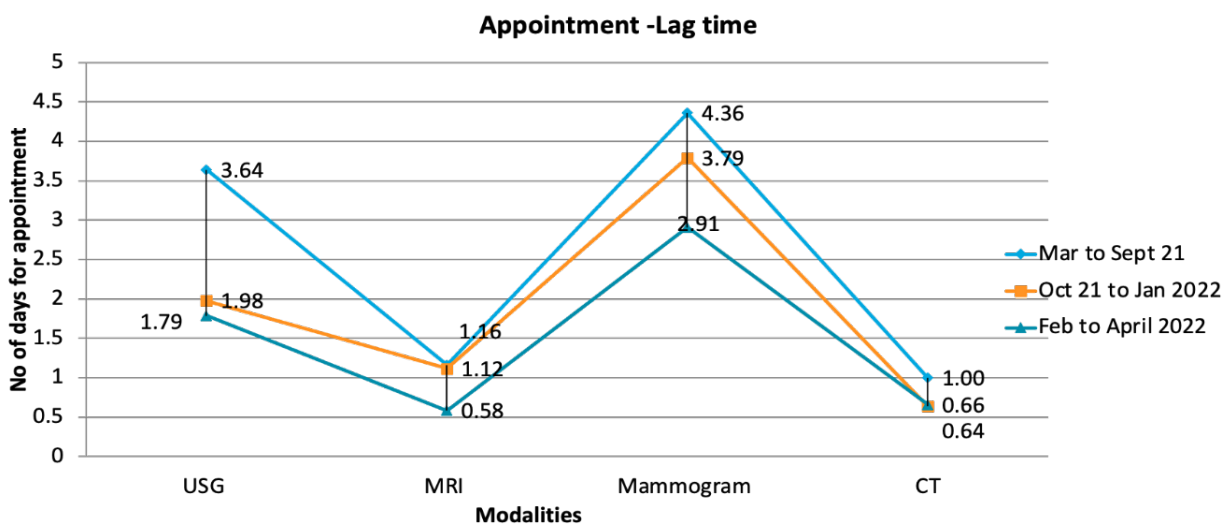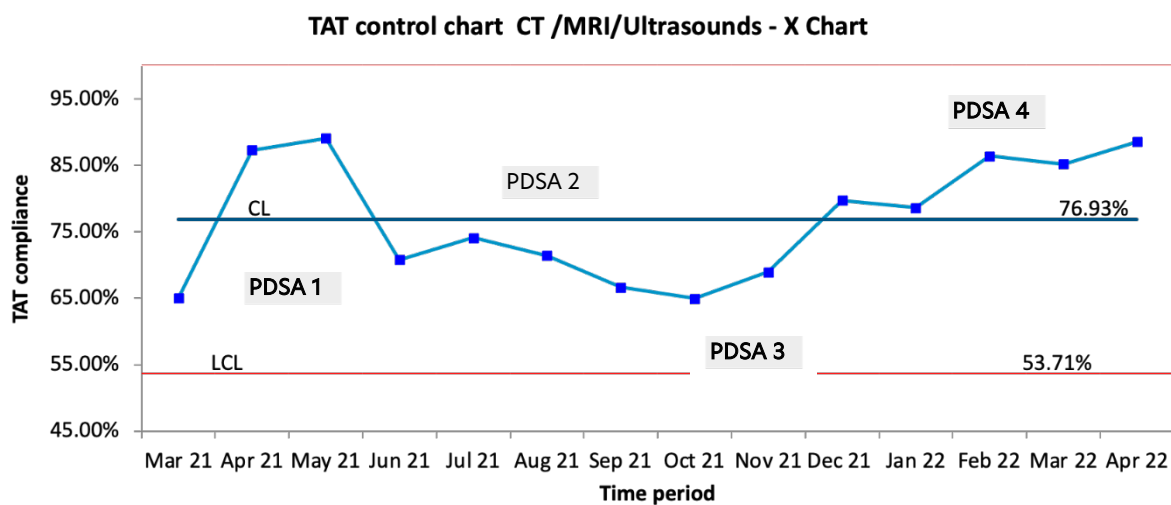
Figure 1. Appointment time for USG/MRI/CT/MAMMOGRAM

Figure 2. Turnaround time for CT/MRI/USG

Several successful interventions were adopted, leading to significant improvements in both turnaround and appointment times. Key changes included:

- hiring of female radiologists: this addressed cultural preferences and reduced the waiting time for female patients, consequently improving the overall appointment scheduling efficiency

- streamlined workflows: optimising the scheduling system and enhancing coordination among staff members reduced bottlenecks and improved the flow of patients through the radiology department

- improved equipment use: ensuring that imaging equipment was available and operational at all times minimised delays caused by equipment downtime.

Conclusion

As these improvements become more established, we anticipate further reductions in waiting times for appointments and improved compliance with TATs across all modalities. The continuous PDSA cycle approach will allow for ongoing evaluation and refinement of processes, ensuring sustained improvements and potential rollout across other radiology services. By maintaining a focus on quality improvement, we aim to set a benchmark for radiology services that prioritises patient experience and clinical excellence.

Next Steps

To sustain and further enhance these improvements, the following strategies will be implemented:

- process improvement: continuous improvement of refining the appointment slots and the assignment of modalities to radiologists according to their skills

- up-skilling radiologists: continuous professional development and training will ensure that radiologists are equipped with the latest skills and knowledge, enabling them to handle a uniform load of patients effectively

- ongoing professional practice evaluation: a mandatory annual program will be instituted to maintain high standards of reporting accuracy and TATs

- cross-training radiologists and radiographers: ensuring that all new radiologists and radiographers are proficient in multiple modalities will provide better coverage and flexibility in managing patient loads

- introducing artificial intelligence in radiology reporting: leveraging artificial intelligence to assist in radiology reporting can expedite the process, enhance accuracy and reduce the burden on radiologists.
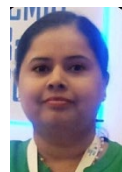
Project Team

Arun Govind, Project Director

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Prompt RiskMan Investigations and Follow-up Are Essential to Patient Safety

Mrs Renee Herbstreit

Mrs Renee Herbstreit
Clinical Care and Improvement Coordinator
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Problem/Aims

Bairnsdale Regional Health Service has a governance process in place that tracks incidents which require investigation and follow-up. A significant turnover of staff has resulted in a number of clinical incidents remain unresolved. It is essential that we consider ways to decrease these numbers and, in doing so, ensure patient safety is the main goal of Bairnsdale Regional Health Service.

The aim was to have 100% of all incident follow-up and investigations completed within five days and mitigating risks identified and corrective actions documented as outlined in the Bairnsdale Regional Health Service Quality Action Plan.

Background

Bairnsdale Regional Health Service has 52 acute beds, 19 sub-acute beds, a high-dependency oncology and dialysis unit, peri-operative services, an ED and maternity services.

Clinical incident investigations is one of the driving forces behind the introduction of mitigation strategies and improved overall patient care. The lessons learned, root causes identified and appropriate controls implemented assist in reducing potential ongoing risk. Prompt incident investigation allows for an accurate account of incident details and recollection of events.

Measurement

Retrospective data were collected from the reporting of outstanding incidents through the RiskMan analysis and reporting system. The measuring of this data assists in identifying

wards or departments in which there may be delays to investigate and close open incidents.

Staff provided feedback on the process and challenges through a staff survey, as well as a brainstorming activity, leading to the development of a cause-and-effect diagram (see Figure 1).

Design

We created a RiskMan drop-in session Zoom link, which was distributed to a small group of nurse unit managers to save to their calendars and ensure their availability to attend the sessions. The clinical care and improvement coordinator was available during the Zoom

session to answer questions about RiskMan incident review. Nurse unit managers were encouraged to stay for the duration of the session; however, as the name suggests, they could drop in and have their questions answered and leave.

Strategy

Using the clinical practice improvement methodology, including PDSA cycles, the project was developed and strategies were tested during the project, which assisted in the continued improvement of staff knowledge, as well as knowledge of what was and was not working in each test.

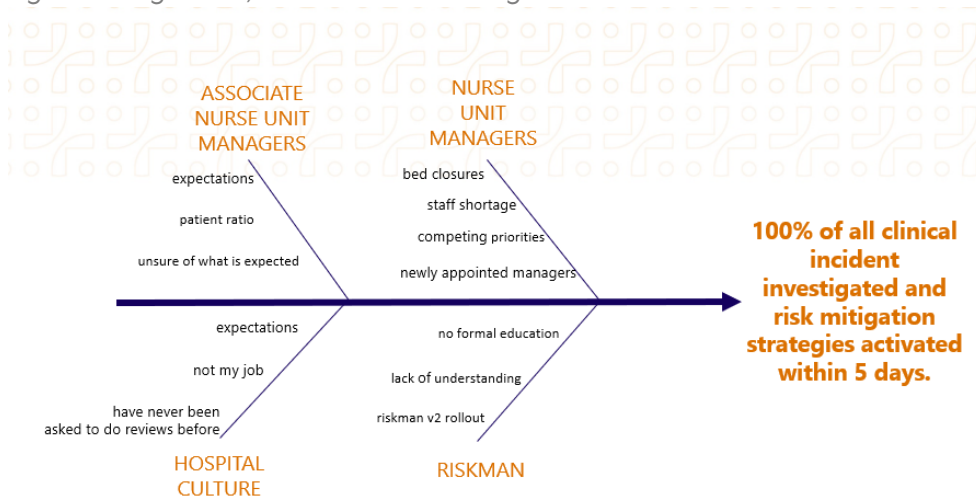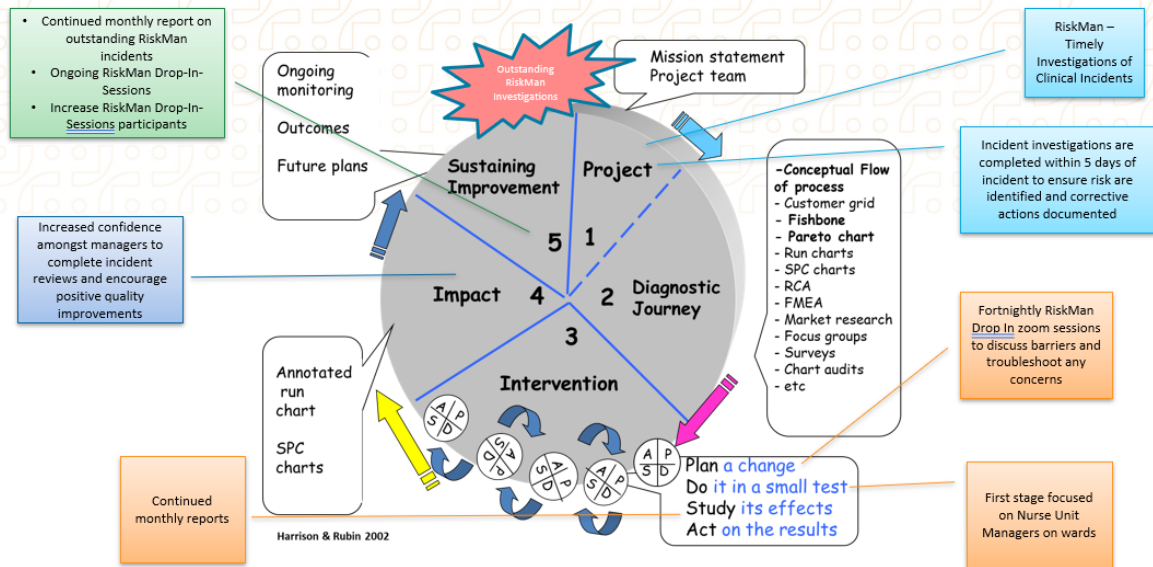*Figure 1. Diagnostics, cause-and-effect diagram*

Figure 2. Intervention, driver diagram

Figure 3. Clinical practice improvement model with project plan details

Results

Since commencing the project in September 2022, nurse unit managers have embraced the education sessions, which has resulted in improved investigation and follow-up of current incidents in RiskMan. Unfortunately, because of the ongoing burden of excessive historical outstanding incidents, the data remains stagnant. Managers are having greater difficulty completing investigations for incidents that occurred before their appointment.

Conclusion

The RiskMan drop-in-sessions have proved to be effective by giving managers tools to complete current investigations confidently and on time. Challenges were evident when new managers try to investigate and close incidents that occurred before their tenure. Participation in the RiskMan drop-in sessions by nurse unit managers and departmental managers was outstanding, and the quality unit received positive feedback on its implementation. The overall investigations and findings of incidents has led to more thorough investigations, leading to quality improvements and improved risk mitigation strategies.

Next Steps

The organisation is planning to expand the continuing education sessions, opening them to associate nurse unit managers and departments that were not part of the original rollout to build capacity. In addition, when an education session is requested by managers or staff, a drop-in session is created in all managers' calendars for staff to attend.

Project Team

- Renee Herbstriet, Project Lead
- Kathy Kinrade, Executive Quality and Education
- Amy Desmond, Executive Assistant to Executive Quality and Education
- Maree Fellows, Executive Acute Services/Chief Nurse and Midwife
- Alison Pearce, Document Systems and Audit Officer
- Jo Marshall, Clinical Operations Manager

Acknowledgement

- Alison Pearce, Document Systems and Audit Officer

"

The content of the QIL Program was relevant and interesting, and the presenter's enthusiasm and passion for their subjects meant the lectures were thoroughly engaging.

The coaching and expertise provided by expert faculty members during the project phase was incredibly helpful, and the leading change and consumer co-design modules helped me engage front-line clinical staff and consumers in my project.

I'm happy to say the project has since expanded with full support from our health service executives.

Not only did the QIL Program deliver the key outcomes promised, I left with the confidence, enthusiasm, and skills to put theory into practice. I would recommend the program to anyone interested in improving the systems in which they work.

Samantha Maybury (She/her)

BSc, GradCertAdultSSc, GradCertPRS, ACHSQIL, RPSGT, **QIL Participant**

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Thanks to all involved in our QIL Training Program, your participation and enthusiasm towards improving outcomes for healthcare organisations and patient safety is truly inspiring.

Please share these projects and initiatives with your colleagues.

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