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Author/s:

Gerdtz, M;Daniel, C;Yap, C;Knott, J;Hamilton, B

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SAFEWARDS in Three Emergency Departments

Evaluation of the adaptation and impact of the Safewards Model in
emergency departments

Gertz M; Daniel C; Yap C; Knott J; Hamilton B. University of Melbourne | February 2021
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Contact

For all enquiries regarding this report please contact Chief Investigator, Professor Marie Gerdtz, Department of Nursing, The University of Melbourne at : gerdtzmf@unimelb.edu.au

Glossary

Term	Definition
CMI	Client Management Interface
Code Grey	A hospital wide coordinated clinical and security response to actual or potential patient aggression and violence.
Coercive interventions	Mechanical restraint and administration of sedative medications.
Consumer	Consumers include all patients who attended the emergency department regardless of presenting complaint/diagnosis.
Fidelity	The extent to which delivery of an intervention adheres to the model. Fidelity score of each intervention was measured by rating if it was reported that it was implemented, there was a champion allocated, and the project leads were able to report an example of this being used in practice.
Length of Stay (LOS)	Time interval between a patient's arrival to the emergency department to the time the patient physically leaves the emergency department.
Management of Aggression and Violence Attitudes Scale (MAVAS)	Management of Aggression and Violence Attitudes Scale (MAVAS) is a validated tool that contains 13 items about causes of aggression and violence, 14 items relating to different approaches to aggression management, and 3 additional items assessing the attitudes for cultural, gender and race differences in causing aggression and violence [1, 2].
Mechanical restraint	The application of devices (including belts, harnesses, manacles, sheets and straps) to restrict a person's movement.
Mental Health Act (2014)	Victorian State Government legislation that provides overarching governance of the use of restrictive interventions, only for patients cared for under this act and are deemed involuntary.
Odd Ratio (OR)	Odd ratio (OR) is a measure of association between exposure and an outcome. $OR > 1$ indicates increased occurrence of an event; $OR < 1$ indicates decreased occurrence of an event.
PARIHS Framework	Promoting Action on Research Implementation in Health Services (PARIHS) framework is a widely cited conceptual framework that conceives of three key, interacting elements that influence successful implementation of evidence-based practices [3, 4].
Regression models	Statistical models used to investigate relationship between a dependent and independent variable(s). Proportions will be analysed using logistic regression, with adjustments for overdispersion, and results reported in terms of odds ratios and their associated confidence intervals. Continuous data will be analysed using linear regression, and results reported in mean differences.
Section 351	Section of the Mental Health Act that permits police to apprehend a person to determine if an assessment order should be made for that person.
Sedative medication	The use of medication to induce sedation in order to relieve acute agitation or contain behaviour.
Staff	Emergency department nurses, unless otherwise specified.
Vulnerable populations	Patient groups that brought to the ED by police under section 351 of the Mental Health Act (MHA) (2014) and those patients treated in the emergency department under the MHA (2014) as documented in the CMI.

Executive summary



Evaluation of the adaptation and impact of the Safewards Model in emergency departments

BACKGROUND

Safewards is a model of practice improvement that has been used to promote a **therapeutic response to minimise conflict events in mental health in-patient settings**. This pilot project (Safewards ED) evaluated the impact of nine modified Safewards interventions in three emergency departments (EDs) within 2 health services in Victoria, Australia.

A mixed method approach including: (a) **questionnaire**, (b) **focus groups**, and (c) **observational cohort studies** of conflict events (code grey) and coercive interventions (restraint and medication used to manage patient behaviour); was used to evaluate the Safewards ED interventions 12 months before and 6 months after the implementation.

The aim of the evaluation was to explore the **applicability and impact of Safewards ED interventions**.

Where?



3 EDs within
2 health services

Study design



Questionnaire



Focus groups



Observational
cohort studies

Timeline



KEY FINDINGS

CODE GREY EVENT RATES



Code Grey event rate was **reduced by approximately 30%** in the six months after implementing the Safewards ED interventions

OUTCOMES FOR VULNERABLE POPULATION/S



For patients brought to the ED by police for mental health assessment (Section 351), **significantly fewer sedative medications were administered** after implementing Safewards ED interventions



For patients treated under the Mental Health Act (2014) in the ED, the **median duration of mechanical restraint was significantly reduced** after implementing Safewards ED interventions (from 1.8 hours to 1.2 hours; difference of 36 minutes)

STAFF PERCEPTIONS ABOUT THE INTERVENTIONS



Staff reported **favourable experiences** using Safewards ED interventions, especially interventions that involved improved **communication skills** and **collaboration**

CONCLUSION

This is the first project that has evaluated Safewards model within the ED setting. This project demonstrated nine Safewards ED interventions are applicable to the ED setting with **consistent evidence of positive experiences reported by staff** using the interventions. There was evidence the Safewards ED interventions **reduced some coercive practices**.

FUTURE RECOMMENDATIONS

There was a **substantial reduction of the use of all three types of coercive interventions** among patients brought to the ED by police for a mental health assessment. However, the change was only **observed at one site**. Furthermore, there was limited evidence of change in the rate of mechanical restraint used in Code Grey events and for vulnerable populations. A larger sample size might be able to detect the true effect of the interventions.

MORE INFORMATION

For more information about the Safewards Model, please visit <https://www2.health.vic.gov.au/safewards>



Background

Management of Conflicts in the Emergency Department Setting

Emergency departments (EDs) are dynamic environments where staff assess and treat a variety of patients presenting with undifferentiated illness and injury of varying degrees of acuity, and complexity. In this setting, conflict between patients and staff may arise due to a range of stressors and different expectations of care. Aggressive and/or violent behaviours is a well-documented problem in EDs worldwide. When unmanaged, such behaviour can precipitate self-harm, absconding, or injury to staff. Existing research suggests that episodes of conflict events are more likely to occur in a patient population who have an underlying complexity of multiple conditions associated with substance intoxication and mental health conditions [5].

Situational factors that are often present in the ED setting including long waiting periods, noisy waiting areas and excessive pain, or dissatisfaction with staff decisions to admit or discharge, may also increase the risk of conflicts [6]. When such conflicts escalate, a combination of medication, physical, and/or mechanical restraints may be used [7]. A recent Victorian study found that coercive interventions in the ED mostly occur under Duty of Care [8]. Despite this, the use of coercive interventions, including the activation of clinical and security responses to contain behaviour (a 'code grey event'), are associated with negative emotional responses and physical injury to both staff and patients [9-11]. Additionally, patients also reported that trauma associated with restraint in the ED [9, 12], and suggest an increased risk of self-harm through loss of engagement [12, 13].

Emergency department staff well-being [14, 15], work productivity [16] and retention rates [17] are all adversely impacted by exposure of conflict and aggression. This exposure in turn has financial implications on healthcare systems. A report published by the Design Council United Kingdom (UK) stated that incidents of violence and aggression towards healthcare staff are estimated to cost the National Health Services at least £69 million a year in staff absence, loss of productivity and additional hospital security measures [18]. When a staff member leaves the service due to the high violence rate in the ED, the loss of the investment in their extensive training also needs to be considered. Staff absence due to adverse effects of conflicts and aggressions is not only a financial issue, but also results in a greater strain on existing ED resources.

Consumer Perspectives on Experience of Care and Conflicts Management

Your Experiences of Service (YES) and Management of Aggression and Violence Attitudes Scale (MAVAS)

In order to understand the ED consumer experience and attitudes on conflicts management in the ED, we conducted surveys using the YES (Appendix 1) and MAVAS-ED questionnaires (Appendix 2). Consumer participants aged 18 years old and above were approached in the ED, they could complete the questionnaires while waiting in the ED or returning it via a reply-paid envelope after leaving the ED.

Key Findings

71%

Using the overall experience score, **71% of the 48 consumers** who completed the YES survey reported an **excellent or very good experience**.



Across the six YES domains, the most positive experiences were reported for **Respect, Safety and Participation**. Compared to other domains, fewer people rated the impact of care and their access to information and support as excellent or very good.

90%

More than **90% of the 177** general ED consumers who completed the MAVAS-ED agreed that there are **types of patients who frequently become aggressive** towards staff and they should try to control their feelings.



Most of the general ED consumers who completed the MAVAS-ED believed that **restrictive care environments**, and **poor communication** between staff and patients are the **causes of patient aggression and violence**. They agreed that the incidence of patient aggression and violence can be reduced by improving one to one relationship between staff and patients.

91%

The general ED consumers agreed that different approaches are necessary to manage patient aggression. Of the 177 survey respondents, **91% believed the use of verbal de-escalation is effective**, 87% believed restraint is often used for the safety of the aggressive individuals, 86% agreed that calling security is one of the most effective approaches to use, and 79% agreed that medication is a valuable approach for managing aggression.



These findings highlighted the need of interventions for **improving communication** between patients and staff.



As general ED consumers indicated strong belief that **verbal de-escalation** is effective in managing conflicts, interventions that improve staff confidence, knowledge and skills required to de-escalate potential crises are paramount in the delivery of therapeutic care.

Overview of the Safewards Model

Safewards model is a set of prevention and intervention strategies (descriptions of these interventions are available online: www.safewards.net), developed to promote a therapeutic response to minimise conflict and containment, thereby optimising the safety of both staff and consumers [19, 20]. This model has been developed in the UK and evaluated in a large cluster randomised controlled trial in 31 acute psychiatric wards [21]. Promising findings indicating a positive impact of the Safewards model on conflict and containment in acute mental health inpatient units have also been reported in other countries such as in Australia [22], Denmark [23], and Germany [24].

Implementation of the Safewards Model in Victoria

In response to the reported high levels of conflict within health services, the Victorian Government launched the Victorian Safewards Trial as part of the Reducing Restrictive Interventions initiative. This trial aimed to apply the Safewards model to reduce the frequency of conflict and containment within Victorian Mental Health Services. The Victorian Safewards Trial occurred across seven services including four different ward types: adult acute, adolescent acute, aged acute, and secure extended care units. The intervention was implemented over a 12-week period and seclusion rates were measured for 12 months before and after the Safewards model was implemented [22].

In the Victorian Safewards Trial, seclusion rates were reduced by 36% in the intervention wards by the 12-month follow-up period (incidence rate ratios = 0.64)[22]. In addition to this outcome analysis, qualitative analysis data also showed that the

Safewards model decreased conflict and improved communication, optimism and relationships among consumers and staff [25, 26].

Safewards ED

The Safewards ED pilot project was proposed to support staff to develop the skills to reduce triggers that result in conflicts and containment. The adaptation of Safewards interventions is not limited to patients who require mental health assessment and care, but also to improve the overall experiences of care in the ED for all patients, regardless of clinical presentations and diagnosis.

Since there are no previous studies evaluating Safewards model in the ED setting, expert advice was sought for implementation planning. After consultation with an advisory group (including ED nurses, ED directors, union, consumer, carer, evaluation expert, Safewards educator and Safewards project manager), ten modified Safewards interventions (Table 1) were recommended to be adapted to the ED setting. It was accepted from the outset that the participating EDs may not necessarily use all ten interventions.

Table 1. Description of Safewards Interventions Adapted to the ED setting

Intervention	Description	Rationale
Know Each Other	Patients and staff share some personal interests and ideas with each other, displayed in unit common areas.	Builds rapport, connection and sense of common humanity
Clear Mutual Expectations	Patients and staff work together to create mutually agreed aspirations that apply to both groups equally.	Counters some power imbalances, creates a stronger sense of shared community
Positive Words	Staff say something positive in handover about each patient. Staff use psychological explanations to describe challenging actions.	Increases positive appreciation and helpful information for colleagues to work with patients
Senior Safety Round	Senior nurse checks in with patients and promotes the three S's: Do you feel satisfied? Do you feel Safe? Strive- what else can we do for you?	Increases and strengthens assessment of wellbeing
Perception and Awareness	Staff increase their awareness of the patient experience and perception of events.	Minimises potential aggression events and capitalises on patient self-coping and help/protection strategies
Reassurance	Staff touch base with every patient after every conflict on the unit and debrief as required. Reduces the effects of distress arising from other conflict.	Reduces a common flashpoint, increases patients' sense of safety and security
Delivering Bad News	Staff understand, proactively plan for and mitigate the effects of bad news received by patients.	Reduces impact of common flashpoints, offers extra support
Respectful limits	Staff take great care with their tone and use of collaborative language. Staff reduce the limits faced by patients, create flexible options and use respect if limit setting is unavoidable.	Reduces a common flashpoint Builds respect, choice & dignity
Calming methods	Staff support patients to draw on their strengths and use/learn coping skills before the use of PRN medication or containment.	Strengthen patient confidence & skills to cope with distress
Talking through	De-escalation process focuses on clarifying issues and finding solutions together. Staff maintain self-control, respect & empathy.	Increases respect, collaboration and mutually positive outcomes

The Evaluation

Independent evaluation of this pilot project was conducted by the Department of Nursing at the University of Melbourne. Safewards leads at the participating EDs supported local access and data collection. A mixed-methods evaluation guided by the Promoting Action on Research Implementation in Health Services (PARiHS) framework was used for the evaluation of this pilot project. This framework is widely used to understand the relationship among the perspectives on the evidence of the proposed model, the context (practice setting) for delivering and the strategy that may facilitate the implementation [3, 4, 27].

Objectives

The evaluation of the Safewards ED project was conducted to:

1. Assess the applicability and describe the uptake of the Safewards ED interventions in the participating Victorian EDs
2. Evaluate the impact of Safewards ED interventions on staff attitudes to the management and causes of conflicts
3. Evaluate the benefits of Safewards ED interventions in supporting the safety of staff and patients by reducing the use of coercive measures
4. Establish the impact of Safewards ED interventions on organisational outcomes

Phases of Evaluation

The evaluation has been conducted in three overlapping stages:

1. evaluation of Safewards ED training,
2. evaluation of Safewards ED implementation process, and
3. evaluation of the impacts of the Safewards ED interventions.

Setting

The evaluation was conducted at two health services (Bendigo Health and Peninsula Health). At the commencement of the project the model of care at all sites had been mapped based on consultations with the project implementation team, ED directors and ED Nurse Unit Managers (NUMs).

Ethical considerations

Ethical approval for this evaluation was obtained from the Melbourne Health Human Research Ethics Committee (HREC/50319/MH-2019) and from the University of Melbourne.



Evaluation of Safewards Training

Introduction

Prior to the implementation phase, descriptions of the Safewards model and the ten interventions were provided by the project lead to nursing staff, security team members, medical team members, ED volunteers, and administration staff via full day workshops or in-service sessions. Training diaries and questionnaires were used to evaluate the effectiveness of these training sessions.

Evaluation Process and Outcomes

Training diaries

Training diaries were provided to project leads at each site to record the number of staff trained and the content covered. Project leads also documented factors that might act as enablers (Table 2) or barriers (Table 3) to training.

Table 2. Enablers to the Trainings

Factors	Descriptions
Training session duration/frequency	<ul style="list-style-type: none"> adequate time allocated for each session to allow discussion provide recurrent training sessions to allow staff to gain better understanding of the model and the interventions the mode of a full day paid study day allowed for appropriate breaks and increased focus from staff
Resources and teaching materials	<ul style="list-style-type: none"> use of two trainers to facilitate discussions for each session use of training videos use of resources and equipment from calming methods intervention use of examples from mental health inpatient wards that have implemented the Safewards interventions such as staff profiles and scenarios
Staff engagement	<ul style="list-style-type: none"> presence of mixed disciplines and seniority level staff during the session facilitated positive discussion and improved staff engagement a group of around 10 to 12 staff members is optimal to promote group discussion
Previous training in aggression management	<ul style="list-style-type: none"> staff reported to be more engaged in the training session when they have background knowledge in some of the intervention techniques through previous training in aggression management

Table 3. Barriers to the Trainings

Factors	Descriptions
Time restriction	<ul style="list-style-type: none"> not all content could be covered during in-service sessions presentations were rushed limited opportunities for staff to have discussion after the presentation
Big group size	<ul style="list-style-type: none"> big groups limiting the ability to engage in discussion throughout the training session
Limited examples/resources	<ul style="list-style-type: none"> limited examples of the interventions that were applicable to the ED environment interventions that did not include any hands-on activities were found to limit staff engagement limited resources included not having an adequate space to provide the training, not having a projector to use with the power points and videos, and not having more than one educator present to assist with the teaching
Negative perceptions	<ul style="list-style-type: none"> the complexity of the model caused a general lack of understanding of the Safewards interventions some staff perceived some interventions are not applicable to the ED setting, not staff-oriented, or would increase burden to the staff

Staff training surveys

Questionnaires were used pre- and post- implementation phase to evaluate the Safewards training. The pre-, and post-implementation questionnaires (Appendix 3) measure the level of staff knowledge of the Safewards model and the ten Safewards interventions, staff confidence and motivation in implementing these ten interventions. Participants were required to indicate responses on a 5-point Likert-scale ranging from “None” to “Excellent”.

To determine a difference in knowledge, confidence and motivation level, the Wilcoxon Signed Ranks test was used to determine whether the median differences between the two related groups (the two time points) is statistically significant. In addition, effect sizes were calculated to interpret the magnitude or relevance of the observed differences in the scores pre and post training and implementation.

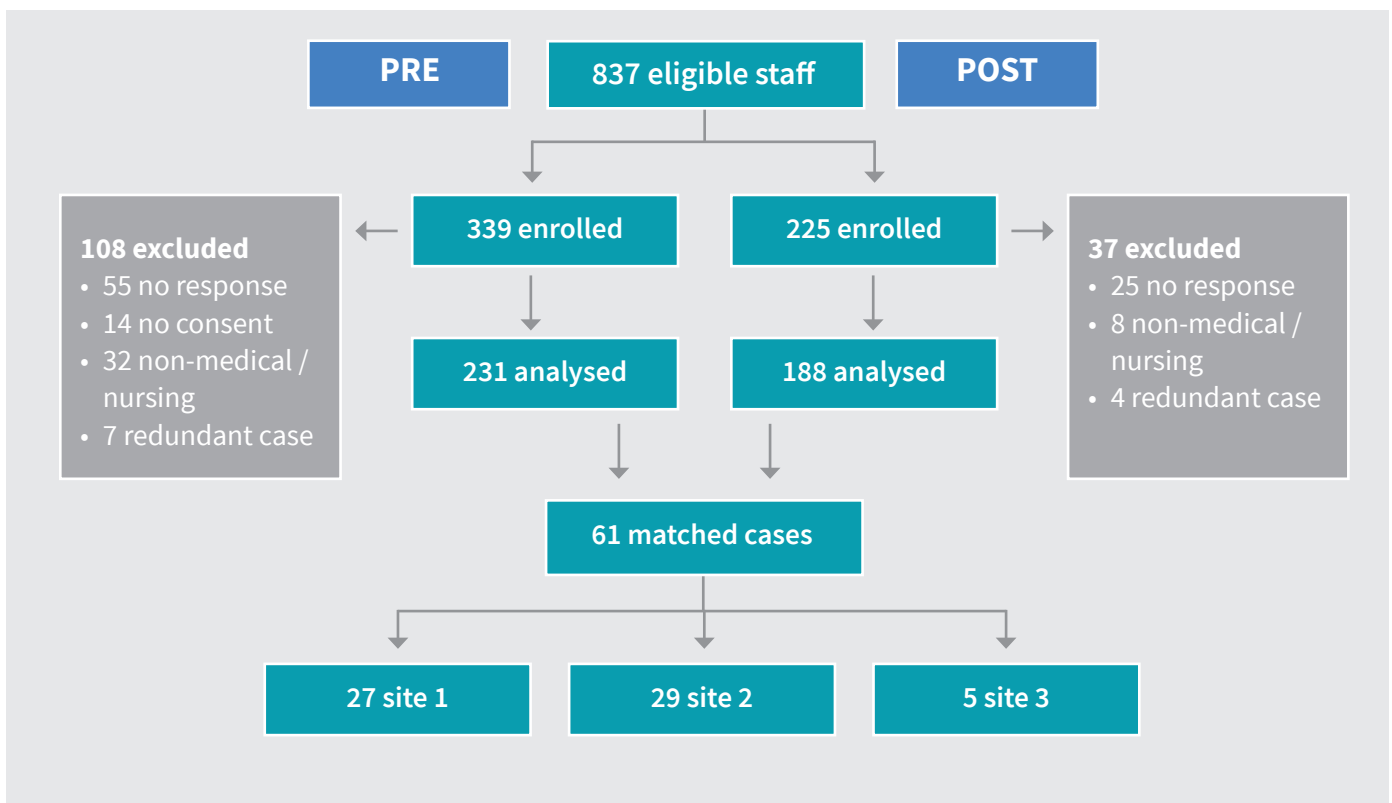


Figure 1. Recruitment Flow Chart

Prior to training, respondents reported knowledge and confidence regarding Safewards and the 10 interventions was generally between 'None' and 'Fair'. The scores had improved significantly in the post training survey. Staff motivation to incorporate the 10 interventions into their work was generally rated as 'good' initially and significantly more participants rated higher scores post training. In all three components of the questionnaire, the effect sizes were >0.5, which indicated the changes were in the range of intermediate and large effect (Table 4). Overall, the training and implementation of the Safewards model had significantly improved self-reported knowledge, confidence and motivation of staff regarding the Safewards model and the interventions.

Table 4. Analysis of difference between pre and post self-reports of Safewards Knowledge, Confidence, and Motivation using matched pairs (n=61)

Item	Pre	Post	Wilcoxon ranked sum test	Sig. (2-tailed)	Effect size
	Median (75th- 25th Percentiles)	Median (75th-25th Percentiles)	Z	p	Cohen's d
Knowledge					
Safewards Model	2 (2-1)	3 (4-3)	-5.332	0.000	2.0
Know Each Other	2 (2-1)	3 (4-3)	-5.895	0.000	2.4
Clear Mutual Expectations	2 (3-1)	3 (4-3)	-5.474	0.000	2.1
Positive Words	2 (3-1)	4 (4-3)	-5.716	0.000	2.3
Senior Safety Round	1 (2-1)	3 (4-3)	-6.282	0.000	2.8
Perception and Awareness	2 (3-1)	3 (4-3)	-5.702	0.000	2.2
Reassurance	2 (3-1)	3 (4-3)	-5.819	0.000	2.3
Delivering Bad News	2 (3-1)	3 (4-3)	-5.378	0.000	2.0
Respectful Limits	2 (3-1)	3 (4-3)	-5.343	0.000	2.0
Calming Methods	2 (3-1)	3 (4-3)	-5.758	0.000	2.3
Talk Through	2 (2-1)	3 (4-2)	-5.247	0.000	1.9
Confidence					
Know Each Other	2 (3-1)	3 (4-3)	-5.394	0.000	2.1
Clear Mutual Expectations	2 (3-1)	3 (4-3)	-4.876	0.000	1.7
Positive Words	2 (3-1)	4 (4-3)	-5.279	0.000	2.0
Senior Safety Round	2 (3-1)	3 (4-3)	-5.436	0.000	2.1
Perception and Awareness	2 (2.5-1)	3 (4-3)	-5.234	0.000	1.9
Reassurance	2 (3-1)	3(4-3)	-5.392	0.000	2.0
Delivering Bad News	2 (3-1)	3 (4-2)	-4.557	0.000	1.5
Respectful Limits	2 (3-1)	3 (4-3)	-4.742	0.000	1.6
Calming Methods	2 (3-1)	3 (4-3)	-5.051	0.000	1.8
Talk Through	2 (3-1)	3 (4-2)	-4.141	0.000	1.3

Item	Pre	Post	Wilcoxon ranked sum test	Sig. (2-tailed)	Effect size
	Median (75th-25th Percentiles)	Median (75th-25th Percentiles)	Z	p	Cohen's d
Motivation					
Know Each Other	3 (4-2)	3 (4-3)	-3.592	0.000	1.1
Clear Mutual Expectations	3 (4-2)	3 (4-3)	-2.531	0.011	0.7
Positive Words	3 (4-2)	3 (4-3)	-3.179	0.001	0.9
Senior Safety Round	3 (4-2)	3 (4-3)	-3.15	0.002	0.9
Perception and Awareness	3 (4-2)	3 (4-3)	-3.342	0.001	1.0
Reassurance	3 (4-2)	4 (4-3)	-3.316	0.001	1.0
Delivering Bad News	3 (4-2)	3 (4-3)	-3.075	0.002	0.9
Respectful Limits	3 (4-2)	3 (4-3)	-2.08	0.038	0.6
Calming Methods	3 (4-2)	3 (4-3)	-2.899	0.004	0.8
Talk Through	3 (4-2)	3 (4-3)	-2.295	0.022	0.6

Cohen's $d \geq 0.8$ = large effect; Cohen's d 0.5-0.7=intermediate effect [28]

Summary



Training significantly improved **staff knowledge, confidence and motivation** in using the Safewards ED interventions.



Factors that appear to influence the effectiveness of the training are (a) **training duration and frequency**, (b) availability of **relevant examples** of the intervention in the ED setting, (c) opportunities for **discussion and hands on activities**; and (d) **trainee-trainer** ratio.



Evaluation of Safewards Implementation Process

Introduction

Implementation diaries, fidelity checklist, and focus groups were used to assess perspectives on evidence, and context-related barriers and facilitators to implementation of the Safewards ED interventions.

Evaluation Process and Outcomes

Implementation diaries

Implementation diaries allowed project leads to report on individual intervention and specific enablers and barriers of implementing each intervention (Appendix 4).

Fidelity checklist

Measuring the fidelity of each intervention was achieved by rating if it was reported that it was implemented, there was a champion allocated, and the project leads were able to report an example of this being used in practice. This information was collated and then rated independently by two other investigators to confirm accuracy.

On average, three investigators agreed on the rating of each intervention about 93% of the time (Kappa=0.85, almost perfect agreement). ‘Clear mutual expectation’ has been removed from the list of interventions due to lack of applicability in the ED setting. Site 3 was excluded for further evaluation due to low uptake of the interventions. When combined data from both sites, interventions with fidelity score (60% and above) are (1) know each other; (2) positive words; (3) perception and awareness. “Respectful limits” (33%), by contrast, has the lowest fidelity score.

Table 5. Fidelity Score (Site 1)

Interventions	Implementation (%)	Champion (%)	Examples (%)	Total Score (%)
Know Each Other	100.0	50.0	100.0	83.3
Positive Words	100.0	50.0	100.0	83.3
Senior Safety Round	100.0	50.0	100.0	83.3
Perception and Awareness	100.0	50.0	75.0	75.0
Talk Through	91.7	75.0	58.3	75.0
Reassurance	100.0	50.0	66.7	72.2
Calming Methods	75.0	41.7	83.3	66.7
Delivering Bad News	100.0	50.0	16.7	55.6
Respectful Limits	75.0	25.0	8.3	36.1
Overall	93.5	49.1	67.6	70.1

Table 6. Fidelity Score (Site 2)

Interventions	Implementation (%)	Champion (%)	Examples (%)	Total Score (%)
Know Each Other	100.0	100.0	100.0	100.0
Positive Words	100.0	83.3	100.0	94.4
Perception and Awareness	91.7	100.0	83.3	91.7
Reassurance	75.0	100.0	91.7	88.9
Talk Through	75.0	100.0	83.3	86.1
Delivering Bad News	100.0	83.3	66.7	83.3
Calming Methods	75.0	75.0	83.3	77.8
Senior Safety Round	58.3	50.0	75.0	61.1
Respectful Limits	75.0	50.0	50.0	58.3
Overall	83.3	82.4	81.5	82.4

Table 7. Fidelity Score (Site 3)

Interventions	Implementation (%)	Champion (%)	Examples (%)	Total Score (%)
Calming Methods	66.7	0.0	66.7	44.4
Know Each Other	66.7	0.0	55.6	40.7
Talk Through	88.9	0.0	33.3	40.7
Senior Safety Round	88.9	0.0	0.0	29.6
Reassurance	66.7	0.0	22.2	29.6
Positive Words	55.6	0.0	22.2	25.9
Respectful Limits	55.6	0.0	22.2	25.9
Delivering Bad News	66.7	0.0	0.0	22.2
Perception and Awareness	22.2	0.0	0.0	7.4
Overall	64.2	0.0	24.7	29.6

Focus groups

Focus groups were conducted prior to and following the implementation of the Safewards ED interventions to identify staff perceptions and challenges of implementing these interventions. Semi-structured questions were used to elicit staff attitudes to the Safewards ED interventions and to explore barriers and enablers to implementation. All ED staff, except project leads, were eligible to be recruited for the focus group.

All interview transcripts and field notes were entered into NVivo 11 (QSR International, Victoria, Australia) qualitative data management and analysis software, and analysed using the Framework Approach [29]. Data from interviews and field notes from site visits were triangulated to help corroborate the findings.

A total of twelve focus groups were conducted (6 focus groups pre implementation and 6 focus groups post implementation). There was a shift in the way the interventions were accepted and used in practice (Table 8).

Table 8. Quotes from Focus Groups Pre and Post Implementation

Interventions	Pre-implementation (N=57)	Post-implementation (N=44)
Calming methods	<i>Sorry, you're an ED you've got 4 hours in our department, I don't think you need stuff like that.</i> (S3-1, p. 17)	<i>That calming methods box is so helpful ... a lot of the aggression can stem from boredom.</i> (S1-1, p.1)
Delivering bad news	<i>Put that back onto the doctor, because they're the decision makers ... and they have to go and actually tell the patient the reasons they're not giving them what they wanted.</i> (S3-2, p.14)	<i>I think now with Safewards people are more aware of it, doctors probably need to take a step back and go maybe I should just tell the nurse before I go in and do it.</i> (S1-1, p.3)
Senior safety round	<i>I have some concerns that are not particularly sustainable...senior safety round...that can really blow time wise ... in the main department it is incredibly labour intensive.</i> (S1-1, p.20)	<i>I found it really positive, the response you got from the patients... they were really happy that we were checking on them to see if they were happy and feeling safe. I found that they were really happy that we did it.</i> (S2-1, 10)
Perception & awareness	<i>There are a number of people that do know exactly how the emergency department works, there's an equal number of people that really have no ideas... once they get past those triage doors.</i> (S1-1, p. 8)	<i>I just think you're framing things in a positive way is probably a positive thing to do as opposed to being burnt out and cynical about some of our patients, that you can walk a mile in their shoes you know and just bring that to the forefront</i> (S2-1, p.2)
Know each other	<i>It almost makes it feel, personally, a bit artificial to kind of have to have that almost a script.</i> (S1-1, p. 4)	<i>That really has made me want to have a more active effort to get to know my patients.</i> (S2-2-p.6)
Positive words	<i>The message that gets taken home is we can't say [aggressive] and they're policing what we can say.</i> (S3-3, p.3)	<i>I enjoy using the positive words ... you can just get dragged into a bit of a culture of not using positive words.</i> <i>So, it was actually kind of nice to just have the Safewards behind it when we want to say that that's how we'd like to speak about our patients.</i> (S2-2, p.1)
Reassurance	<i>Yeah, we do that - if we have an arrest or something, absolutely.</i> (S2-1, p.16)	<i>I think staff are doing that a lot better ... especially with escalating patients that might be around or not contained.</i> (S-1-1, p.4)
Respectful limits	<i>Best way to guarantee a code grey, tell them they can't smoke.</i> (S2-1, p.3)	<i>... And thinking about what you're saying before you say it.</i> (S3-1, 2)
Talk through	<i>...it's probably something that could still be improved, you just can't stop improving with that....</i> (S2-1,2)	<i>I think if we can hit the flash points early enough, we're not going to have the escalation, which is going to make it a much less risk of assault.</i> (S2-2, p.3)

Summary



Overall, perceived enablers of implementation **including support from the senior staff** through role modelling, appointment of **champions** for each intervention, display of **colourful posters**, use of examples in local setting. Barriers including the **lack of understanding** on the interventions due to inadequate training resources, **high workload** and competing pressures, and inadequate involvement of other ED staff (e.g. medical and security).



Through this pilot project, staff were provided **opportunities and trainings** to identify the common originating domains and flashpoints of conflict and containment in their local ED setting. The interventions with high fidelity highlighted the significance of communication skills and collaboration at an individual level with all ED service users.



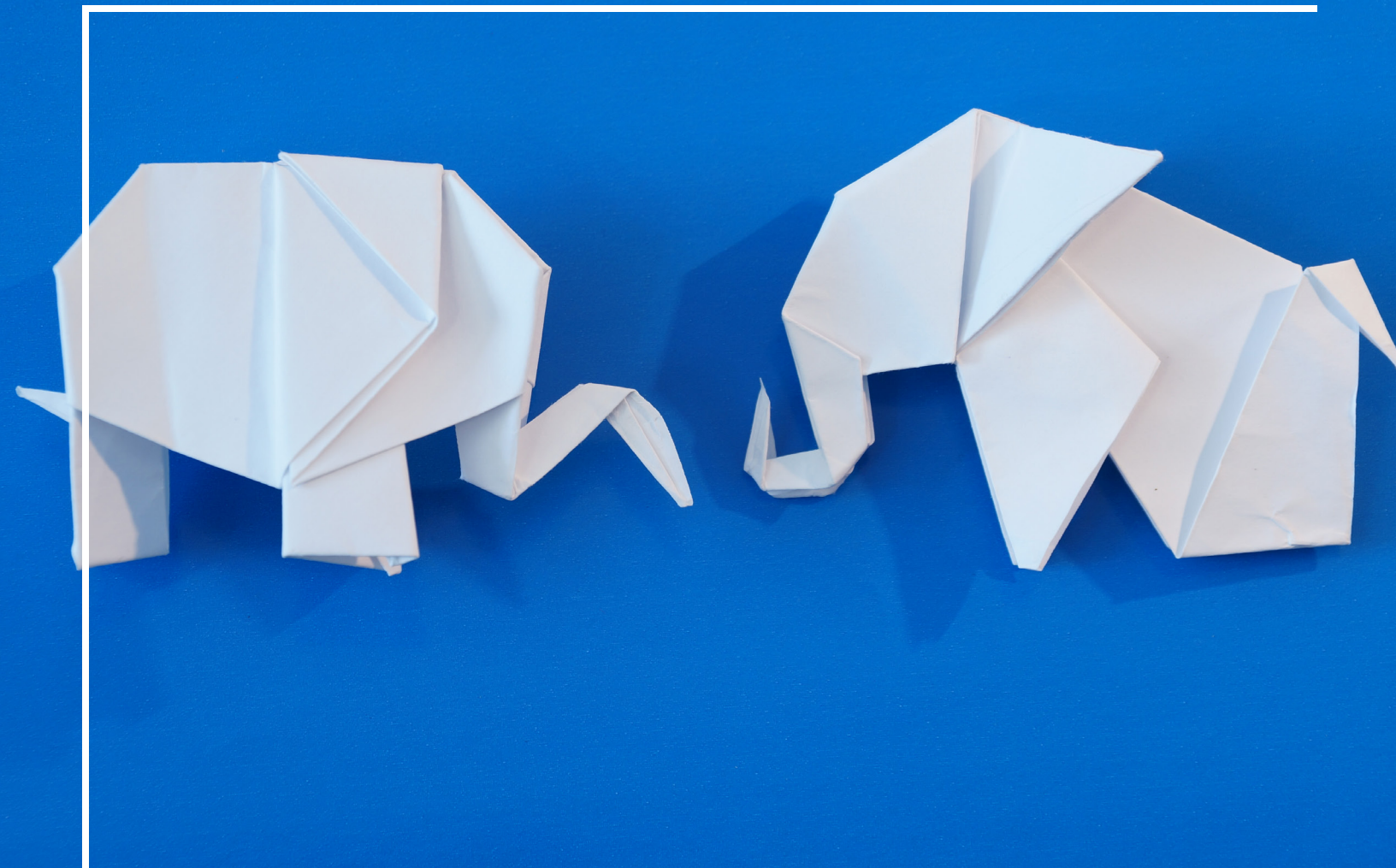
While some ED staff appeared to have negative opinions about some interventions and perceived the Safewards ED model as irrelevant and burdensome, a **positive switch of attitudes** to the Safewards ED interventions have been observed after implementation.



Staff noted that the interventions have potential to improve **staff wellbeing**, reduce the use of **negative language**, and provide a **framework for supporting** each other.



Interventions with low fidelity (e.g. 'respectful limits') may **require refinement** based on experience from this pilot project and staff suggestions.



Evaluation of Impacts of the Safewards Interventions on Staff Attitudes to the Causes and Management of Conflicts

Introduction

The response of healthcare staff to conflicts could be influenced by their attitudes and beliefs about the causes of conflicts [30, 31]. Studies in mental health settings showed that if nurses believe that patient factors (i.e. illness or personality) were the main causes of conflicts, they were more inclined to manage the conflicts using coercive interventions [2].

The Safewards model identifies staff actions can impact the likelihood of the occurrence of conflicts and containment. Hence, some interventions have been developed (e.g. positive words, know each other) with the intention to influence positively on staff attitudes to the causes of conflicts which may subsequently lead to reduction in containment.

Evaluation Process and Outcomes

In order to measure the impact of these interventions, the Management of Aggression and Violence Attitudes Scale (MAVAS) was used to identify staff perceptions about the causes of aggression and their views about using medication, restraint, seclusion and interpersonal measures to manage such aggression [1, 32]. In this evaluation, we used the 30-item MAVAS with a 4-point Likert scale (4 = Strongly agree; 1 = Strongly disagree). To ensure the MAVAS is applicable in the ED setting, we had replaced the word 'seclusion' with 'security' in three items of the MAVAS. Hence, the version used in this evaluation is referred to as MAVAS-ED (Appendix 2).

To evaluate the interventions against each of the items separately, each of the 30 items was individually tested before and after the implementation. Initial exploration of data characteristics showed that the assumption of normality cannot be met. Hence, Wilcoxon Signed Ranks Test was used to detect changes before and after the intervention. We used IBM SPSS Statistics (version 26.0; IBM Corp, Armonk, New York) for all data analysis.

A total of 61 participants provided staff ID which we could match their data for the analysis of the significance of change before and after the training and implementation. For the 30-item MAVAS-ED questionnaire, only 3 items showed statistically significant differences. Post training, significantly more staff disagreed that

1. Violence is difficult to prevent
2. Their ED can handle patient aggression more effectively
3. Calling security is one of the most effective approaches to manage a violent patient

Summary



After training and implementation of the Safewards ED interventions, staff **were more hopeful they could prevent violence**, were satisfied that their **ED was handling aggression** in the best way possible and acknowledged that calling security is not always the best option. This may be due to staff having **additional skills, interventions, and awareness** generated through implementation of the Safewards ED interventions.



The findings of this survey about were corroborated by the evidence of overall **reduction of code grey** events post Safewards ED implementation.



Evaluation of Clinical and Organisational Impacts of Safewards ED Interventions

Evaluation process and outcomes

Data including the frequency of clinical and security responses (Code Grey), use of coercive interventions (i.e. mechanical restraint, sedative medication) at code grey events, ED patients length of stay, number of patients who did not wait for treatment was collected for 12 months before and 6 months after the intervention implemented. Shorter evaluation period post intervention was caused by COVID-19 pandemic. In addition, a retrospective audit of all admissions that involved police assistance for transport were also identified through the hospital patient registration system.

Descriptive analysis was used to measure frequency and duration of coercive interventions at each Code Grey response. Categorical variables were compared using the chi-square test or Fisher's exact test, as appropriate.

The Statistical Consulting Centre (SCC) at The University of Melbourne were engaged to undertake analysis of the impact of the Safewards ED interventions on conflict events and coercive interventions over time. Statistical significance and effect size were calculated by segmented regression analysis of interrupted time series of code grey event rates, mechanical restraint used in the code grey events, ED length of stay and did not wait rates; and results were presented in scatter plots of the time series, where black points show the 12 months before the Safewards ED implementation, and green points show the 6 months after. Trend lines are shown for before and after, with a line connecting the two.

Coercion Rates

All patients attending the ED

Code Grey Event Rates

Overall, this evaluation provides solid evidence that the Safewards ED implementation reduces the code grey rate. Although neither health service showed a statistically significant effect on its own (Figure 2 and Figure 3), the results were in the same direction, and the increased sample size resulting from combining the services gave more precision, which enabled a stronger conclusion.

When data from both health service were combined, there is a strong evidence of a reduction in code grey event rate following implementation of Safewards ED interventions, with a **decrease of approximately 30%** in the odds of a presentation requiring a code grey (OR=0.71; 95% CI 0.52 to 0.98; $p=0.035$), as illustrated in Figure 4.

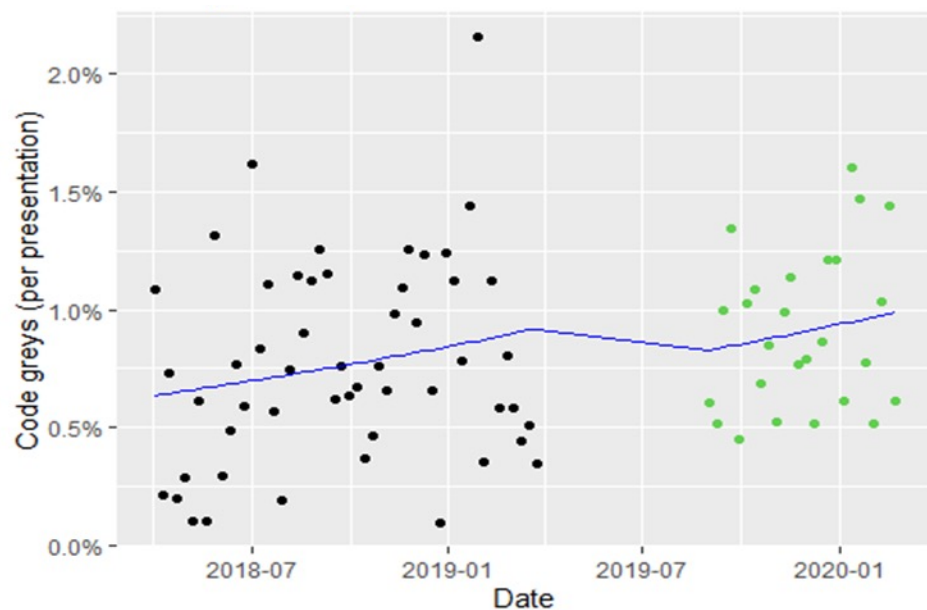


Figure 2. Weekly Code Grey Event Rate for Site 1 (OR = 0.76; 95% CI 0.44, 1.33; P = 0.34) [Before (black points) and After (green points) the Safewards ED Implementation]

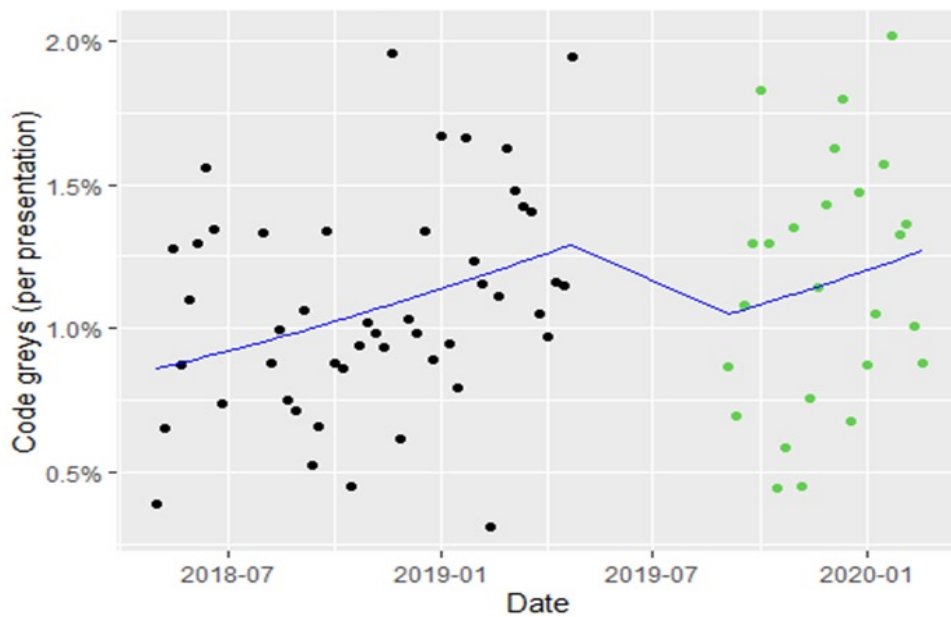


Figure 3. Weekly Code Grey Event Rate for Site 2 (OR = 0.69; 95% CI 0.47, 1.02; P = 0.063) [Before (black points) and After (green points) the Safewards ED Implementation]

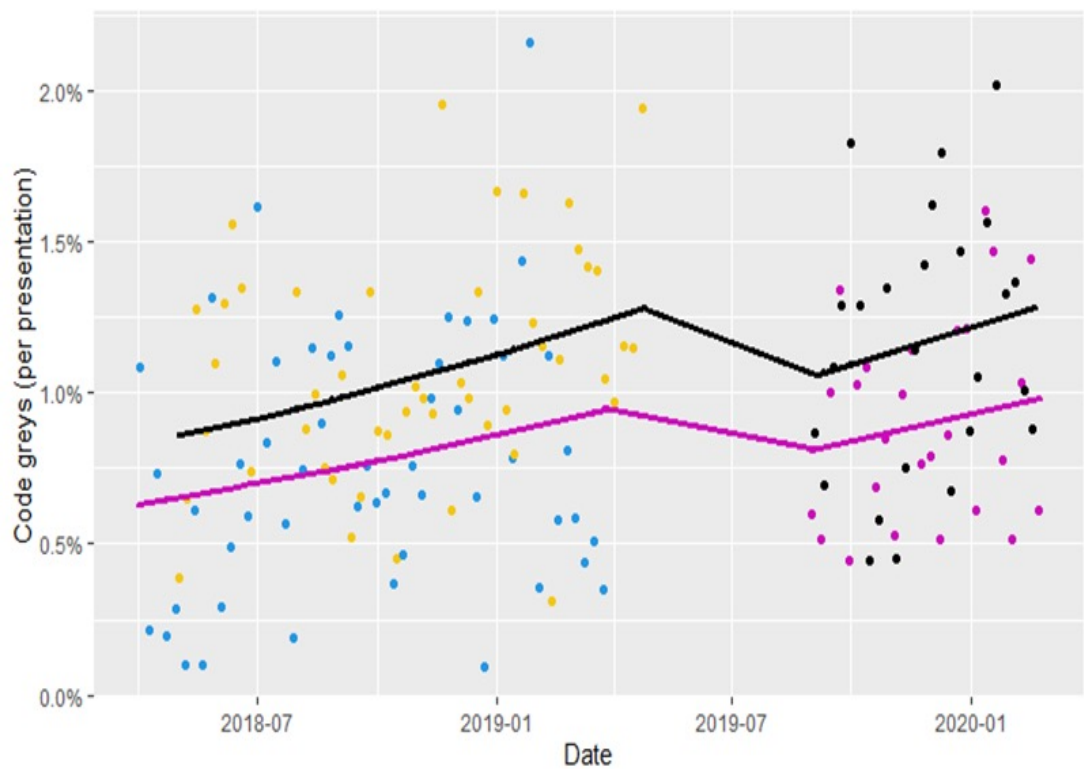


Figure 4. Weekly Code Grey Event Rate for Combined Data (OR=0.71; 95% CI 0.52-0.98; p=0.035) [Site 1 (blue and pink points, pink trend line); Site 2 (yellow and black points, black trend line)]

Mechanical Restraint used in Code Grey Events

Overall, there is limited evidence that the Safewards implementation affected the mechanical restraint rate (per code grey).

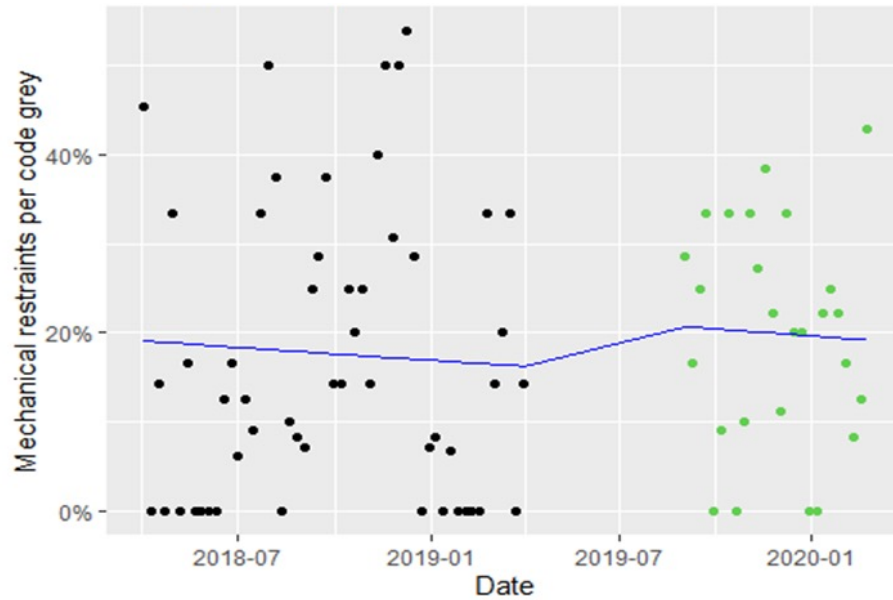


Figure 5. Weekly mechanical restraint rate (per code grey) for Site 1 (OR = 1.46; 95% CI 0.52, 4.11; P = 0.47) [Before (black points) and After (green points) the Safewards ED Implementation]

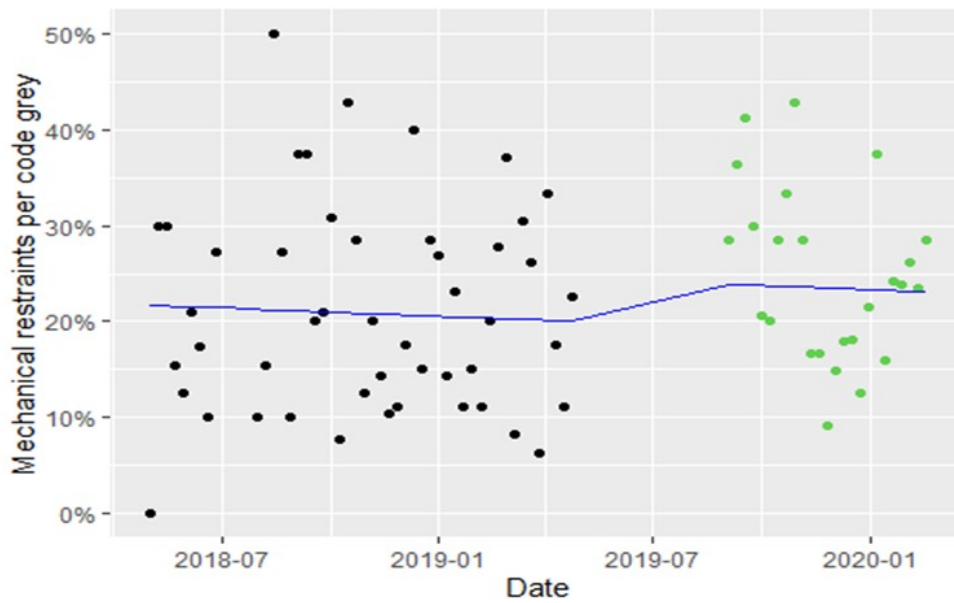


Figure 6. Weekly mechanical restraint rate (per code grey) for Site 2 (OR = 1.30; 95% CI 0.69, 2.46; P = 0.42) [Before (black points) and After (green points) the Safewards ED Implementation]

Patients brought to the ED by police under MHA (2014) Section 351

For this group of patients, the Safewards ED interventions appeared to have positive effects in reducing the use of sedative medications for the management of aggressive or violent behaviours. Furthermore, there is a substantial reduction of the use of all three types of coercive interventions (i.e. physical restraint, mechanical restraint and use of sedative medications) to manage the aggression after Safewards ED implementation.

Table 9. Frequencies of Coercive Interventions Use

Patient variable	Site 1			Site 2		
	Pre (n=335)	Post (n=227)	p value	Pre (n=871)	Post (n=543)	p value
Code grey, n (%)	17 (5.1)	9 (4.0)	0.592	111 (12.7)	69 (12.7)	0.984
Need for mechanical restraint, n (%)	18 (5.4)	12 (5.3)	0.977	76 (8.7)	40 (7.4)	0.365
Need for physical restraint, n (%)	22 (6.6)	9 (4.0)	0.202	52 (6.0)	25 (4.6)	0.271
Need for sedative medication#, n (%)	115 (34.4)	54 (23.8)	0.016	120 (13.8)	53 (9.8)	0.025
Number of coercive interventions used*, n (%)			0.001			0.341
No coercive interventions used	165 (72.7)	215 (64.2)		726 (83.4)	470 (86.6)	
One type	100 (29.9)	50 (22.0)		69 (7.9)	39 (7.2)	
Two types	5 (1.5)	11 (4.8)		49 (5.6)	23 (4.2)	
Three types	15 (4.5)	1 (0.4)		27 (3.1)	11 (2.0)	

#need for sedative medication=sedative medications given within the first hour of the presentation

*Coercive interventions used=mechanical restraint, physical restraint, and/or use of sedative medication.

Patients treated in the ED under the MHA (2014) as documented in the CMI

Data regarding the use of mechanical restraints for those patients detained under the MHA (2014) in the ED and documented in CMI was only provided by site 2. The need for mechanical restraint in this group of patients has reduced slightly after implementation of Safewards ED interventions, however, the change is not statistically significant. A larger sample size might be able to detect the true effect of the interventions. Nevertheless, duration of mechanical restraint has been reduced significantly after implementation of Safewards ED interventions.

Table 10. Frequencies of Coercive Interventions Use (Site 2)

Patient variable	Pre (n=350)	Post (n=305)	p value
Need for mechanical restraint, n (%)	72 (23.6)	65 (18.6)	0.114
Duration of mechanical restraint, hours, median, IQR	1.8 (0.9-2.9)	1.2 (0.6-2.0)	0.019
Need for physical restraint, n (%)	285 (81.4)	233 (76.4)	0.114
Duration of physical restraint, minutes, median, IQR	2.0 (1.0-5.0)	2.0 (1.0-5.0)	0.589
Rationale of restraint used*, n (%)			0.627
Prevent imminent and serious harm to the person	51 (14.6)	49 (16.1)	
Prevent imminent and serious harm to another person	119 (34.0)	105 (34.4)	
Administer treatment to the person	128 (36.6)	116 (38.0)	
Administer medical treatment to the person	52 (14.9)	35 (11.5)	

*Any forms of restraint

Organisational Outcomes

ED Length of Stay

The average ED length of stay at both Site 1 and Site 2 significantly increased from the period before the Safewards implementation to the period after it, by an estimated 19 and 48 minutes, respectively. However, it is noteworthy that in the six months after Safewards implementation, the number of presentations to the ED in site 1 and site 2 has increased by 6.7% and 5.5%, respectively, compared to the 12 months before implementation, which may likely influence the overall ED length of stay.

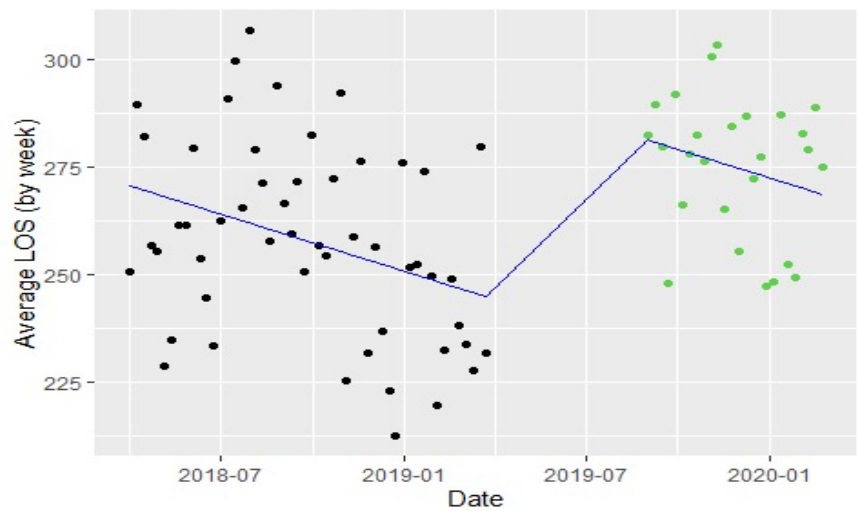


Figure 7. Average Weekly ED Length of Stay for Site 1 (mean difference = 19 minutes; 95% CI 0.5, 37.6 minutes; $P = 0.044$) [Before (black points) and After (green points) the Safewards ED Implementation]

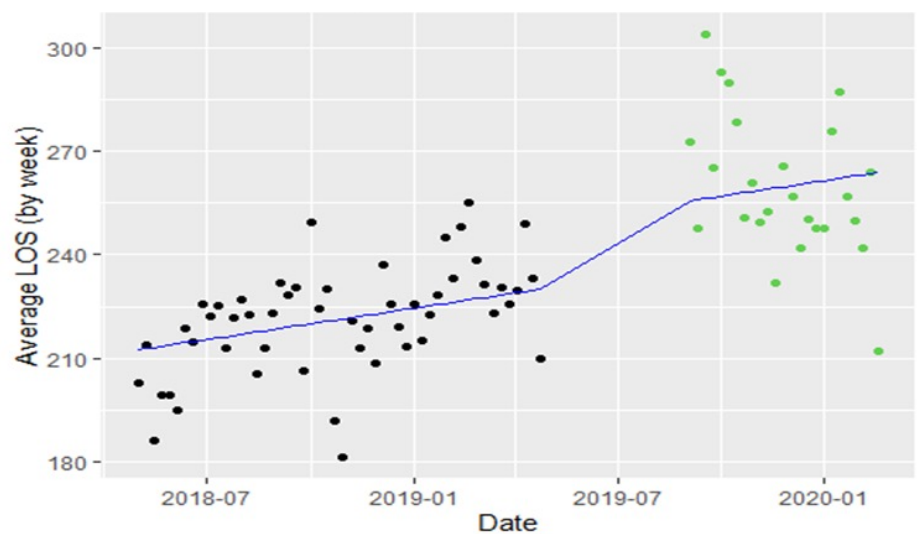


Figure 8. Average Weekly ED Length of Stay for Site 2 (mean difference = 48 minutes; 95% CI 25.3, 70.9 minutes; $P < 0.001$) [Before (black points) and After (green points) the Safewards ED Implementation]

Did Not Wait Rate

Overall, there is no evidence that the Safewards ED interventions affected the did not wait rate.

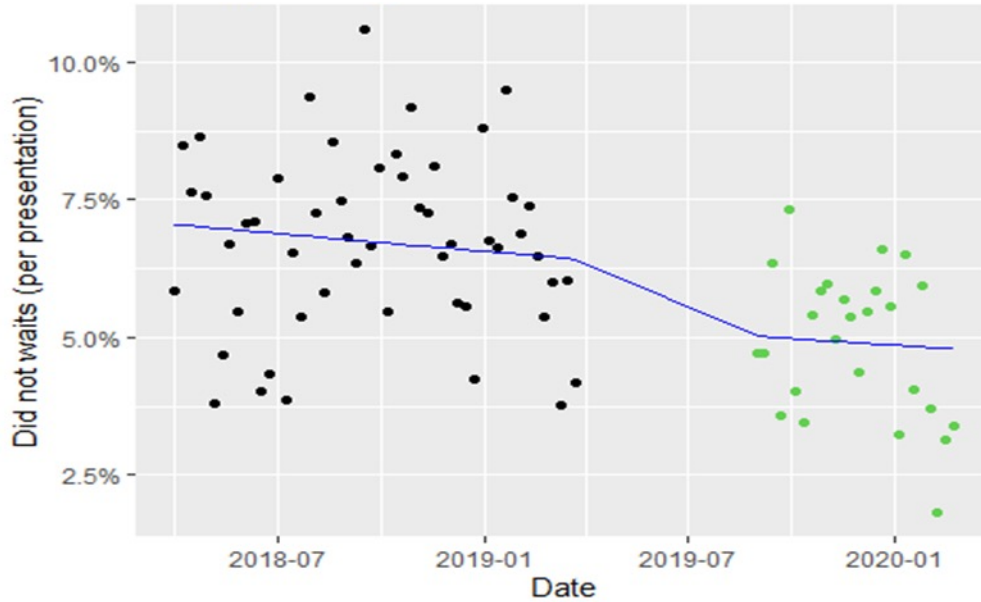


Figure 9. Weekly did not wait rate (per ED presentation) for Site 1 (OR = 0.81; 95% CI 0.60, 1.08; P = 0.15) [Before (black points) and After (green points) the Safewards ED Implementation]

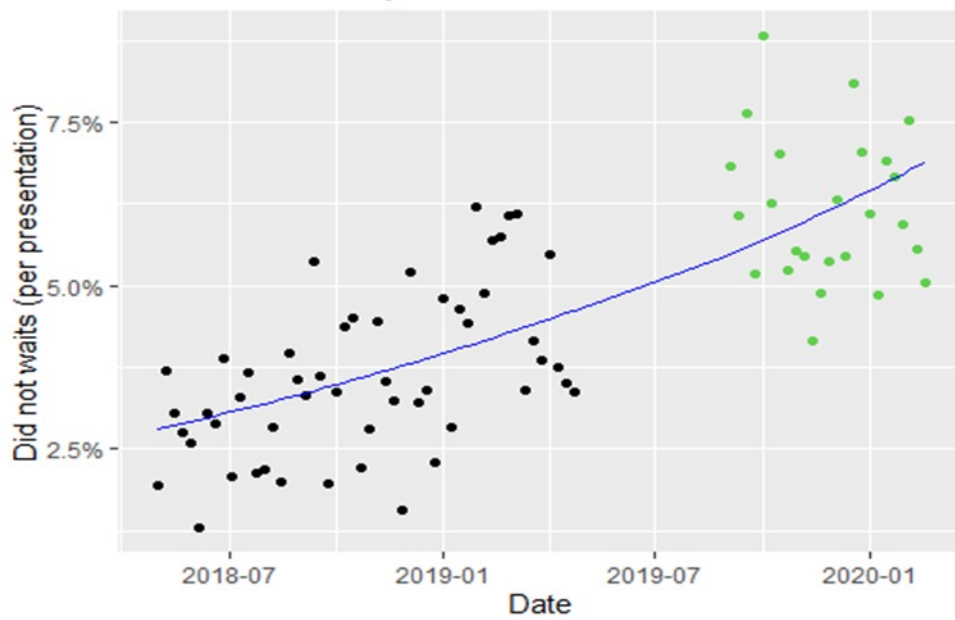


Figure 10. Weekly did not wait rate (per ED presentation) for Site 2 (OR = 0.99; 95% CI 0.74, 1.32; P = 0.93) [Before (black points) and After (green points) the Safewards ED Implementation]

Summary



Implementation of Safewards ED interventions appeared to have **positive effect in reducing the code grey event rates**. This positive preliminary finding indicated that there are potential benefits for other EDs to adopt Safewards ED into their practice.



The positive impact of Safewards ED interventions was **prominent in vulnerable patient groups**, for example

- Patients brought to the ED by police under MHA (2014) S351, there is a reduction in the proportion of patients being contained using sedative medications or all three types of coercive interventions.
 - Patients treated in the ED under the MHA (2014) as documented in the CMI, there is a reduction in the duration of mechanical restraint.
-



Despite the results indicated increased ED length of stay after implementing the interventions, it is noteworthy that other factors such as number of ED presentations, number of ward admissions may also influence the length of stay. Hence, this evaluation **could not provide conclusive evidence that the Safewards ED interventions affected ED length of stay** and did not wait rates.



This evaluation may not have enough sample size to detect true differences before and after the implementation of Safewards ED intervention due to overall low incidence of coercive interventions used relative to the number of code grey events, and shorter evaluation period post intervention. A **larger scale evaluation is required** to support findings from this pilot study.



Future Recommendations



Training

Effective training may be achieved through

- a standardised training syllabus that includes
 - a review of training content to incorporate feedback from this pilot project
 - multiple sessions to cover the model of care and each intervention in details
 - examples of each intervention's application in the ED setting
 - hands-on activities (e.g. role play sessions)
 - allocated time for group discussion
 - consumer experience/testimonies
 - learning outcomes that address skill acquisition, application of knowledge and staff attitudes to the use of least restrictive care in the ED.
- optimal trainer-trainee ratio (e.g. 2 trainers to 10-12 trainees) to encourage staff engagement during the training sessions
- training conducted in pairs to manage group learning complexity and optimise reflexivity
- availability of interactive online learning resources and discussion forums to enhance learning of theory and reflective practice
- active participation of nurses, security officers, medical staff, administrative personnel, and mental health team.



Implementation and sustainability

- Champions are critical to the success of implementation. However, it may not be sustainable to ED to have one champion to promote each of the nine interventions. Staff had suggested it is crucial for sustainability to train and appoint a group of champions from different disciplines (i.e. nursing, medical, security, administrative). Having a group of champions would allow these champions to support each other, form collaboration with other groups of champions, and provide a structured opportunity of training for new staff.
- When time commitment and resources are limited, high fidelity interventions (e.g. know each other, positive words, perception and awareness) should be prioritised to sustain staff engagement.
- Establishment of a quality improvement framework that includes valid, reliable and feasible measures of quality and safety and includes perspectives of staff and consumers.



Evaluation

- Availability of reliable and valid records of conflict and containment events are the key to credible evaluation results; therefore, we recommend evaluation should only include Incidents that are reported more rigorously and consistently (e.g. code grey event rates, use of sedative medications, frequency and duration of mechanical restraint).
- An evaluation design that includes control groups to do a separate interrupted time series analysis for the intervention and control groups; and compare the frequency of coercive measures and organisational outcomes would have been ideal to strengthen the findings of this pilot study.
- In addition to before and after implementation focus groups interviews, regular collection of staff feedback through online form/discussion forums may provide powerful account of Safewards interventions in practice and actions can be taken quickly to resolve any causes for concerns.
- Length of stay and did not wait rate could be influenced by external factors that are challenging to be accounted for during the evaluation, hence, these indicators may not be sensitive to the implementation of Safewards interventions. Measurement of safety climate from the perspective of ED staff could potentially be used as a sensitive indicator for organisational impacts measurement.
- Consumers should be informed about the Safewards ED interventions (e.g. through posters, pamphlets) and their experience should be further explored through focus groups or phone interviews.
- Refinement of structured fidelity measures to support robust evaluation of Safewards interventions.

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Appendix 1

PARTICIPANT INFORMATION SHEET Your Experience of Service (YES) Questionnaire

1. What is the Your Experience of Service Questionnaire?

The Your Experience of Service (YES) questionnaire is designed to gather information from consumers about their experiences of care. It aims to help mental health services and consumers to work together to build better services. We are now using this questionnaire to gain the views of all people who use the Emergency Department.

The YES questionnaire was developed in consultation with mental health consumers and carers throughout Australia. It is based on the recovery principles of the 2010 National Standards for Mental Health Services. The project to develop YES was funded by the Commonwealth Department of Health and was led by the Victorian Department of Health. A national trial of the questionnaire occurred in 2012 and 2013.

More information about the development of the YES questionnaire tool can be found at www.health.gov.au, searching for “experience of care”.

2. Are my answers confidential?

The YES questionnaire does not record your full name, date of birth or any other personal identifiers such as your medical record number. Your answers will not be used to identify you. Services will receive combined feedback based on groups of people. They will also receive a list of all comments made. However other details such as your age, sex or cultural background will not be attached to those comments. We will be contacting a small number of people who choose to provide their first name and phone number to explore their feedback in more detail, if you wish to be contacted, please complete the last page which will be removed from the answers you provide.

3. Where can I get help to complete the questionnaire?

Feel free to ask a friend, family member, carer or staff including a Consumer Worker to help you complete the YES questionnaire.

4. What do I do with my YES questionnaire when I have finished?

Put it in the reply paid envelope, then

- Post it, or
- Put it in a Your Experiences of Service Survey return box located near administration.

5. What will happen to my feedback?

Services across Australia are using the same survey which will help us develop better services regardless of where you live. Your feedback will be combined with other consumers' feedback in a report that helps services to identify what it is they do well and what they could do better. Services will then use these reports to identify areas where they can improve their service.

6. Are there other ways I can provide my feedback about services?

The YES questionnaire provides anonymous feedback to services. If you need to lodge a complaint or raise a specific allegation you should consider requesting information on how to provide this feedback formally.

Your Experience of Service

SERVICE NAME

Service code stamped here

Your feedback is important. This questionnaire was developed with mental health consumers. It is based on the Recovery Principles of the Australian National Standards for Mental Health Services. It aims to help mental health services and consumers to work together to build better services. We are now using this questionnaire to gain the views of all people who use the Emergency Department. If you would like to know more about the survey, please read the information sheet attached.

Completion of the survey is voluntary. All information collected in this questionnaire is anonymous. None of the information collected will be used to identify you. It would be helpful if you could answer all questions, but please leave any question blank if you don't want to answer it.

Please put a cross in just one box for each question, just like this...

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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These questions ask how often we did the following things ...

Thinking about the care you have received from this service during this visit, what was your experience in the following areas:

	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Usually</i>	<i>Always</i>	<i>Not applicable</i>
1. You felt welcome at this service						
2. Staff showed respect for how you were feeling						
3. You felt safe using this service						
4. Your privacy was respected						

5. Staff showed hopefulness for your future						
	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Usually</i>	<i>Always</i>	<i>Not applicable</i>
6. Your individuality and values were respected (such as your culture, faith or gender identity, etc.)						
7. Staff made an effort to see you when you wanted						
8. You had access to your treating doctor when you needed						
9. You believe that you would receive fair treatment if you made a complaint						
10. Your opinions about the involvement of family or friends in your care were respected						
11. The facilities and environment met your needs (such as cleanliness, private space, reception area, furniture, common areas, etc.)						

These questions ask how **often** we did the following things ...

Thinking about the care you received from this service during this visit, what was your experience in the following areas:

	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Usually</i>	<i>Always</i>	<i>Not applicable</i>
12. You were listened to in all aspects of your care and treatment						
	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Usually</i>	<i>Always</i>	<i>Not applicable</i>
13. Staff worked as a team in your care and treatment (for example, you got consistent information and didn't have to repeat yourself to different staff)						
14. Staff discussed the effects of your medication and other treatments with you						
15. You had opportunities to discuss your progress with the staff caring for you						
16. There were activities you could do that suited you						
17. You had opportunities for your family and carers to be involved in your treatment and care if you wanted						

These questions ask how **well** we did the following things ...

Thinking about the care you received from this service during this visit, what was your experience in the following areas:

	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Very Good</i>	<i>Excellent</i>	<i>Not applicable</i>
18. Information given to you about this service (such as how the service works, which staff will be working with you, how to make a complaint, etc.)						

19. Explanation of your rights and responsibilities						
20. Access to peer support (such as information about peer workers, referral to consumer programs, advocates, etc.)						
	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Very Good</i>	<i>Excellent</i>	<i>Not applicable</i>
21. Development of a care plan with you that considered all of your needs (such as health, living situation, age, etc.)						
22. Convenience of the location for you (such as close to family and friends, transport, parking, community services you use, etc.)						

As a result of your experience with the service during this visit, please rate the following:

	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Very Good</i>	<i>Excellent</i>
23. The effect the service had on your hopefulness for the future					
24. The effect the service had on your ability to manage your day to day life					
25. The effect the service had on your overall well-being					
26. Overall, how would you rate your experience of care with this service during this visit?					

Please provide any extra comments

My experience would have been better if...

others. Knowing this helps us focus our efforts to improve services. No information collected in this section will be used to identify you.

What is your gender?

- Male
- Female
- Other

What is the main language you speak at home?

- English
- Other Please specify _____

Are you of Aboriginal or Torres Strait Island origin?

- No
- Yes- Aboriginal
- Yes- Torres Strait Islander
- Yes- Aboriginal and Torres Strait Islander

What is your age?

- 18 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 years and over

How long have you been receiving care from this Emergency Department?

- Less than 24 hours
- 1 day to 2 weeks
- 3 to 4 weeks
- 1 to 3 months
- 4 to 6 months
- More than 6 months

At any point during the last 3 months were you receiving involuntary treatment (such as an involuntary patient or on a community treatment order) under Mental Health legislation?

- Yes - involuntary patient/ on a community treatment order
- No -I was always a voluntary patient
- Not sure

Did someone help you complete this survey?

- No
- Yes - family or friend
- Yes - language or cultural interpreter
- Yes – consumer worker, peer worker or hospital volunteer
- Yes – another staff member from the service
- Yes - someone else

Thank you for completing this survey.

We will be contacting a small number of people who choose to provide their first name and phone number to explore their feedback in more detail, participation in a phone interview is voluntary. If you wish to be contacted, please complete the last page which will be removed from the answers that you provide.

Completed questionnaires can be placed in a box near administration or returned in the replied paid envelope provided.

If you would like any further information regarding this questionnaire, please contact:

Dr Cathy Daniel
University of Melbourne School of Health Sciences
Department of Nursing
Level 6, Alan Gilbert Building
The University of Melbourne
Victoria 3010 Australia
T: + 61 3 8344 4233
E: Daniel.c@unimelb.edu.au

Appendix 2

The Management of Aggression and Violence Attitude Scale-ED

(MAVAS-ED)

		<u>Strongl y Agree</u>	<u>Agree</u>	<u>Disagre e</u>	<u>Strongly Disagre e</u>
1	Patients are aggressive because of the environment they are in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Other people make patients aggressive or violent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Patients commonly become aggressive because staff do not listen to them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Gender mix on the wards is important in the management of aggression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	It is difficult to prevent patients from becoming violent or aggressive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Patients from particular cultural groups are more prone to aggression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Patients are aggressive because they are ill.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Poor communication between staff and patients leads to patient aggression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	There appear to be types of patients who frequently become aggressive towards staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Cultural misunderstandings between patients and staff can lead to aggression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Different approaches are used in this ED to manage patient aggression and violence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Patients who are aggressive towards staff should try to control their feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	When a patient is violent, callings security is one of the most effective approaches to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Patients who are violent are often restrained for their own safety.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- | | | | | | |
|----|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 15 | The practice of calling security staff should be discontinued. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16 | Medication is a valuable approach for treating aggressive and violent behaviour. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17 | Aggressive patients will calm down automatically if left alone. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18 | The use of negotiation could be used more effectively when managing aggression and violence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19 | Restrictive care environments can contribute towards patient aggression and violence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20 | Expressions of aggression do not always require staff intervention. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21 | Physical restraint is sometimes used more than necessary. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22 | Alternatives to the use of containment and sedation to manage patient violence could be used more frequently. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23 | Improved one to one relationship between staff and patients can reduce the incidence of patient aggression and violence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24 | Patient aggression could be handled more effectively on this ward. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25 | Prescribed medication can in some instances lead to patient aggression and violence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26 | It is largely situations that contribute towards the expression of aggression by patients. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27 | Security is sometimes used more than necessary. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28 | Prescribed medication should be used more frequently to help patients who are aggressive and violent. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29 | The use of de-escalation is successful in preventing violence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30 | If the physical environment were different, patients would be less aggressive. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Appendix 3

Training Survey

The purpose of this survey is to describe staff level of understanding and motivations for using the Safewards interventions in the Emergency Department. We will do this by administering a quick survey at two different time points, at the beginning of the project and again once the model has been implemented. You do not have to take part in the survey if you do not want to.

Privacy and confidentiality

The only person who will see the raw data from your survey will be the Evaluation Team from the University of Melbourne. To link survey responses at the two time points we need to collect data from you in a re-identifiable form using your employee number. In the early phase of analysis, the evaluation team will match all the surveys using your employee number. Once this matching procedure has occurred your employee number will be deleted from the data file so that your survey responses will then be analysed in a non-identifiable form.

The questionnaire takes about 10 minutes to complete.

The following questions relate to your **knowledge** of the Safewards Model and the 10 Interventions that were implemented.

How would you rate your knowledge of the model and interventions?

	None	Fair	Good	Very Good	Excellent
Safewards Model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Know Each Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Mutual Expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive Words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Senior Safety Round	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perception and Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reassurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering Bad News	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respectful Limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calming Methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Talk Through

The following questions relate to your **confidence** using the 10 Safewards Interventions that were implemented.

How would you rate your confidence of using the interventions?

	None	Fair	Good	Very Good	Excellent
Know Each Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Mutual Expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive Words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Senior Safety Round	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perception and Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reassurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering Bad News	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respectful Limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calming Methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk Through	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions relate to your **motivation** using the 10 Safewards Interventions that were implemented.

How would you rate your motivation of using the interventions?

	None	Fair	Good	Very Good	Excellent
Know Each Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Mutual Expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive Words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Senior Safety Round	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perception and Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reassurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering Bad News	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respectful Limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calming Methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk Through	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 4

Implementation Diaries

Factors/strategies that Facilitated the Implementation

Interventions	Site 1	Site 2 & 3
Know Each Other	Staff were more comfortable to share non-controversial information (e.g. hobbies, favourite food etc.) than to have their personal profile displayed in the poster.	Involving the management team (such as senior staff, project champions and the communication team) in discussion and implementation of the intervention created teamwork and increased staff moral in the department.
Positive Words	Focused on the handover of patient information between staff and encouraged staff to be aware of using respectful and positive language whilst still communicating any risks that need to be identified.	Incorporation of the worn-out words activity into training was seen to generate discussion between staff, further developing different ways of describing patient behaviours in the ED. It was also reported that the Positive Words intervention initially had some negative feedback by staff, after a period of time after the training, there was evidence of positive words being used on the clinical floor by staff, in particular, staff in leadership positions were seen to be role modelling the intervention during staff huddles.
Senior Safety Round	Engagement and role-modelled of senior staff was important, for example a few of nursing managers commenced the senior safety round intervention immediately after receiving the training.	This intervention was reported by the project leads to be mostly well received. The leadership team in the ED were extremely onboard with the concept of Senior Safety Round and role modelled the intervention. Many staff were reported to see benefits to the intervention and a helpful template for staff to guide their round was developed to assist staff. The project leads also reported that it was important to highlight positive feedback from patients to the staff which furthermore encouraged additional staff become involved with the intervention.
Perception and Awareness	Display a colourful poster outlining the six strategies to remind staff about the intervention.	Include real life examples during the training and remind staff about the intervention during staff huddles before the shift.

Interventions	Site 1	Site 2 & 3
Talk Through	It was reported that many ED staff had previously completed 'Creating Workplace Safety' training, therefore the concept of de-escalation skills was not new to the staff. This, along with use of education material via email, huddle board and posters, enabled training and implementation of the talk through intervention.	Training video was well received by staff for this intervention. Staff were engaged as they were aware of the three steps due to previous aggression training (which is based on the Safewards Model). A further enabler for this intervention was reported to be the use of posters throughout the department providing a visual aid to staff on the clinical floor.
Reassurance	The use of Brene Browns video on empathy was reported to be a strong enabler towards the implementation of the reassurance intervention. The video was reported to be very well received and provoked discussion within the session. In addition to the video, the project leads reported that they attended all codes (i.e.: code grey and code blue) to role model providing reassurance to patients and families.	The project leads reported that volunteers were also provided with this training as it was identified that often incidents occur in the waiting room area where some volunteers are stationed. The video was reported to be well received by staff with staff identifying what incidents would require the intervention to be used. Project leads also reported that this intervention was driven by the project leads themselves, who often encouraged staff to provide reassurance after an event had taken place.
Calming Methods	Proper storage with laminated signage and instructions for use of the sensory equipment was reported to be useful. Calming Methods was also advertised emails, huddles and display boards which further encouraged the use of the intervention.	No data from sites.
Delivering Bad News	The use of the five-step training video in addition to displaying the delivering bad news steps on communal wall spaces had reminded staff of the steps to consider when delivering bad news to their patients.	Training video, examples given by medical staff who attended the training and having posters placed around the department were reported to be helpful for training and implementation.
Respectful Limits	Use of ED examples in training as well as displaying the eight printed posters outlining examples of soft words, flexibility, awareness and respectful limits had facilitated the implementation.	Use multiple examples during training generated discussion during the training sessions and staff were able to provide different examples on how to set limits in the department.
Overall	The implementation of the Safewards Model was reported by the project leads to be enabled by allowing adequate time for training, as well as including activity where staff were asked to consider and discuss what influences conflict and containment in the ED. Having the nursing	

Interventions	Site 1	Site 2 & 3
	managers attend the first Safewards training day was also an enabler towards implementation as it was then recognized the role of the leaders being aware and supportive of Safewards.	

Barriers to the Implementation

Interventions	Site 1	Site 2 & 3
Know Each Other	Staff were cautious or concerned about sharing information about themselves to patients.	Although many staff chose to participate in the development of staff profiles to display in the ED, some staff were reported to disagree with the sharing of their photos and other information with the patients and visitors, voicing concerns regarding staff privacy. These staff were able to refuse to take part in the display of staff profiles. It was also reported that some staff felt that the activity mainly focused on the staff and did not give staff any ideas regarding how to get to know their patients in return.
Positive Words	Staff expressing concerns that using the positive words to describe the patient situation (especially aggression) may lead to downplaying the risk and not being communicated adequately to their colleagues. Furthermore, saying something positive about every patient was found to be a challenge for the staff as patients are not very well known or stay for very long, compared to that of an inpatient unit.	staff having attended the Positive Words training in-service which had not previously attended the Safewards Overview training, resulting in some confusion regarding the intervention. It was reported that there was a misconception amongst staff that felt that certain terms such as ‘aggressive’ were not allowed to be used on the clinical floor, this was corrected by the project leads in later sessions. Staff were also reported to be concerned that using positive words during handover may impact staff as risks may not be communicated adequately. In addition, a ‘worn out words’ activity was made available in the communal lunchroom but was not used by staff.
Senior Safety Round	The concerns that staff reported to the project leads included that the nurse in charge would not have sufficient time to see all the patients on the shift. In order to address these concerns, the project lead suggested that staff are	As this was a brand-new intervention, it was required to be adjusted for the ED environment. Staff voiced concerns that they were unable to complete the Senior Safety Round on every patient in the department due to the nature

Interventions	Site 1	Site 2 & 3
	regularly reminded that if there are high numbers of patients in the department, they can further delegate section of their area to another senior nurse to complete the Senior Safety Round intervention.	of the busy ED. Some staff were reported to feel ‘micromanaged’ due to the intervention and felt that there wasn’t enough time in the ED to go around to every patient. It was also reported that some patients could not be included in the round due to a variety of reasons.
Perception and Awareness	Suboptimal understanding of the concept among staff due to absence of activities, videos, or previous examples to refer to during training had hampered the implementation.	This was a new intervention and no past experiences were able to be drawn on for training by the project leads. Staff also reporting that the intervention focuses on things that they “already do” in their everyday practice.
Talk Through	Project leads reported that the training video provided only examples relevant to the mental health inpatient ward setting which led to some staff voicing that they feel it is the role of security and the code grey team to provide the de-escalation techniques to mental health patients.	Some staff voiced to the project leads that this intervention was repetitive due to previous aggression management training. It was also stated by project leads that this intervention requires staff to practice in order to consolidate their skills.
Reassurance	The project leads reported that some staff expressed concerns regarding the time it takes to reassure patients and families after an incident has occurred. Staff stated that it can be difficult to have staff members available to provide the intervention when several additional staff are often already required to manage an incident. It was suggested by the project leads that this is an area that the department volunteers’ workers may be able to assist.	Some staff felt that the intervention was very similar to Senior Safety Round, with others reporting that they already used this intervention often during their practice.
Calming Methods	Staff occasionally expressed concerns regarding the sustainability of the sensory items including the ongoing cost and replacement of items. Staff also reported that they believe patients may steal the more expensive sensory items, such as the iPad. The project leads reported that there was no ideal location available to store the sensory items along with boxes of replacement items for staff.	No data from sites.
Delivering Bad News	Lack of participation from medical staff.	Factors that were reported to be a barrier to implementation included that nursing staff felt that the delivery

Interventions	Site 1	Site 2 & 3
Respectful Limits	Time restriction was reported as an important barrier to implement this intervention. Staff reported to the project leads that they are often very busy within the ED with care being focused on immediate needs of the patients with little time left to be flexible to consider other options when discussing respectful limits with the patients.	of bad news was mostly performed by the medical staff rather than the nursing staff. However, not all medical staff could attend the training. It was reported that some staff felt that intervention was all about the patient and that the quotations that were used were not relevant to the Respectful Limits intervention. Posters were utilized in the department, but project leads found it difficult to rotate the posters everyday as suggested.
Overall	The barriers to implementation included reduced staff involvement and discussion regarding the model with the project leads reporting that a group of around 10 to 12 staff members promotes group discussion. It was also suggested that in future training of the model, use of the whiteboard to brainstorm the 6 originating domains before introducing them can be beneficial to training as well as covering both the simple and technical models as different staff can relate to different models and visual representations.	

Recommendations for Future Implementation

Interventions	Site 1	Site 2
Know Each Other	This intervention should be the first to be trained to staff, in an all-day training session, as it is a great way to start the study day with getting to know each other as colleagues.	Future trainings should always start with the get to know each other activity, with the trainers also being involved in the activity. It was also suggested that additional activities should be developed which also engage the patient in the intervention.
Positive Words	Activities such as using the whiteboard to explore the negative words that were frequently used in the ED allowed staff to reflect upon their word choice. Staff were then encouraged to provide suggestions how to reword them using positive language. The YouTube video	This intervention should be taught by two facilitators where possible to allow discussion. Facilitators should focus on describing the physiological reason that individuals may behave in a certain way to develop staff understanding. A focus on the reason behind using the intervention, and not

	'positive words' was also reported to be helpful and well received.	just the words that are sometimes used. The project leads also suggested to focus on the oncoming shift, with the aim to set the oncoming staff up with a positive start to their shift.
Senior Safety Round	Implementation has been more successful in the Short Stay Units of the department, where there are lesser bed numbers and less frequent change of patients compared to that of the main cubicle area.	The project leads reported that initially there was much discussion around the word 'safe' and how this would potentially make patients feel uncomfortable. They further developed other examples on how to appropriately ask patients if they are feeling safe such as "Do you feel safe within your surroundings?". It was suggested that for implementation that initially start with a small group of patients then increase this group and frequency as the intervention develops.
Perception and Awareness	Display a colourful poster outlining the six strategies may help staff to be aware of the intervention.	It was suggested by the project leads that multiple examples of using the intervention in the ED should be used in future training to assist staff levels of personal awareness as the content can be otherwise 'dry' at times.
Talk Through	Suggestions from the project lead to apply to the Talk Through intervention in the future were to provide a video for training containing an example of using escalation skills within in the ED. This in turn will increase knowledge of de-escalation techniques within staff rather than rely on the code grey team. It is suggested that this may create a sense of continued care to assist in de-escalating the patient or allowing staff to assist the code grey team with knowledge and report of their patient. Furthermore, it was further suggested by the project leads that the ED creates a review team who regularly reviews examples of de-escalation and restrictive interventions to learn from experience and improve practice.	Considering the need for training at individual sites in order to avoid repetition, to provide examples and role play scenarios with staff, and to reduce the amount of text on the training slides.
Reassurance	The project leads recommended that sharing examples and stories regarding providing reassurance in a variety of	Use the 'ripple effect' photo during training as it provides a background and aim of this intervention.

scenarios, including some with unexpected outcomes, may assist implementation in the future. It was also suggested that staff be reminded of the time it can save in the future if conflict is avoided, and further asking staff 'who provided reassurance?' after an incident has occurred to remind the staff present that the intervention is just as important as managing the incident itself.

Calming Methods	It was suggested by the project leads to remind staff to consider other sensory options beyond the purchased items available to them. The project leads also proposed that staff involve volunteers to assist in the maintenance and storage of equipment.	No data from sites.
Delivering Bad News	Encourage staff to share their experience to further consolidate the training; and encourage nursing and medical staff to plan the delivery of bad news together so that nursing staff can be present to provide support to the patient and family during and after the delivery.	Provide examples of what is bad news in the ED and expose all staff to training to ensure a team approach to the intervention.
Respectful Limits	Suggestions from the project leads that can be incorporated into the implementation of respectful Limits in the future is to remind staff that an extra moment taken to consider how a limit is enforced, other options offered, and flexibility, may all reduce further conflict and save a very time consuming flashpoint later on. It was reported by the project lead that they observed that ED staff are very pressured with multiple competing demands of their time and attention, it was found to be a challenge to encourage staff to think beyond simply making a request and expecting it to be followed.	It was suggested by the project leads that the intervention involves a discussion with all staff to come up with their own quotes regarding the Respectful Limits intervention (i.e.: reminding staff that its sometimes not what you say, but how you say it).

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