EVALUATION OF SAFEWARDS IN FORENSIC MENTAL HEALTH

Analysis of a multicomponent intervention intended to reduce levels of conflict and containment in inpatient mental health settings

Abstract

**Background** Safewards is a multicomponent, evidence-based conflict and containment reduction intervention that has demonstrated effectiveness in general acute mental health settings.

**Aim** To evaluate the effect of Safewards in six wards of a regional medium secure forensic unit.

**Methods** A service evaluation was adopted incorporating a non-randomised controlled design to analyse the effects of Safewards on conflict and containment between and within wards. Adherence to the interventions was measured and informal feedback sessions with staff were conducted to explore views on the acceptability of the interventions.

**Results** Both between and within-ward analysis found no statistically significant benefit of Safewards. However, adherence to the interventions was poor due to prevailing operational priorities, including heightened acuity in the research sites, demands on staffing resources, criticism of the process of implementation and staff attitudinal barriers.

**Conclusion** The effect of Safewards in this setting cannot be determined without greater staff acceptance and adherence to the interventions. The success of Safewards will be sensitive to prevailing operational and environmental conditions. On reflection, staff should have been prepared more extensively to ensure they understood the rationale for the interventions more clearly.

**Keywords** aggression, conflict, containment, forensic mental health, safewards, violence

SAFEWARDS IS a multicomponent intervention that aims to reduce conflict and containment in inpatient mental health settings (Bowers et al 2014). For the purpose of this article, conflict is defined as events that threaten staff or patient safety, such as verbal abuse, physical aggression to others, self-harm, suicide, absconding, and containment as measures taken to reduce the likelihood of these events occurring, such as as-required medication, physical restraint, constant or intermittent observations, seclusion and rapid tranquillisation.

There is evidence of the effectiveness of the Safewards intervention in a large randomised controlled trial of general acute mental health wards, reporting about 15% reduction in conflict and 25% reduction in containment (Bowers et al 2015). In February 2014, staff at a medium secure service announced their intention to implement Safewards, which provided an opportunity to evaluate the interventions in a forensic setting. This article presents the results of that evaluation.

**Aims**
The aim of this article is to explore the effect of the Safewards intervention on rates of conflict and containment in six wards of a forensic medium...
Life is about to begin again

Keep smiling and everything will be alright

Going home - stay positive

Onwards and upwards - you can do it

Always look forwards
secure mental health service. It will explore the views of staff on the applicability and acceptability of the interventions, and provide a critique of the process of implementation.

Method

Design A service evaluation was used incorporating a non-randomised controlled design. Six wards were selected on the basis of service need and allocated to the intervention or control group on the basis of equivalence of size, gender served and function. Intervention wards consisted of a 16-bed male acute ward, a nine-bed female acute ward and a four-bed female acute ward. Control wards consisted of two ten-bed male acute wards and one 12-bed female acute ward.

The project began with a two-week baseline period where all six wards completed the outcome measures without implementing Safewards. This period was used to train intervention wards, familiarise staff with the outcome measure, and assess baseline levels of conflict and containment. Ideally, the baseline period would have been longer but, as a service evaluation of an intervention the service planned to implement, a longer period before implementation could not be ethically justified. This was followed by a ten-week period of the intervention wards implementing Safewards compared with usual care in the control wards.

There was then another ten-week period of data collection in which all six wards implemented Safewards. This design enabled between and within-ward analysis over a total data collection period of 22 weeks. An application to conduct the service evaluation, including intention to publish, was submitted to the trust’s research and development department, and approval to proceed as a service evaluation was received in April 2014.

Interventions Safewards consists of ten evidence-based interventions aimed at reducing conflict and associated containment (Table 1).

Training method A train-the-trainer model was adopted as recommended by the Safewards team, which consisted of an afternoon’s training for the ward managers and team leaders in all six wards. The training consisted of:

- An in-depth discussion of the Safewards model, including originating domains of conflict in inpatient settings, and the patient and staff-level modifiers of conflict.
- The process through which this evidence was used to develop ten evidence-based conflict reduction interventions.
- In-depth training in the use of the ten interventions.
- Implementation factors increasing the likelihood of successful adoption, such as the importance of appointing ‘intervention champions’ to promote and take ownership of intervention implementation on each ward.

Staff on intervention wards were trained in the week before the first ten-week period of Safewards implementation, and control ward staff were trained during the final week of the first ten-week period. All wards were provided with a folder with the intervention descriptions, and web links to the intervention training videos were emailed to every staff member. The physical materials required to implement the interventions were also provided in the training session. These methods were supplemented by follow-up visits to the wards by the project team for further discussion of the interventions and to train staff in the completion of the outcome measure. The senior clinical manager in the project team visited each ward on a weekly basis to provide support and supervision of the clinical leads for each of the project wards.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Intervention descriptions</th>
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<tbody>
<tr>
<td><strong>Intervention</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Mutual expectations</td>
<td>Mutual expectations of staff and patient conduct, collaboratively developed and presented in poster form in visible ward areas</td>
</tr>
<tr>
<td>Soft words</td>
<td>Posters and postcards displayed in ward areas providing tips for communication with patients</td>
</tr>
<tr>
<td>Talk down</td>
<td>Identification of de-escalation techniques, role model and evidence-based de-escalation poster to guide mentoring between role model and ward colleagues</td>
</tr>
<tr>
<td>Positive words</td>
<td>Staff to say something positive about each patient during handover</td>
</tr>
<tr>
<td>Bad news mitigation</td>
<td>Vigilance and proactive planning for events with the potential to cause increased distress during each shift</td>
</tr>
<tr>
<td>Know each other</td>
<td>A folder containing non-intrusive information about staff and patients designed to stimulate conversation and improved therapeutic engagement between staff and patients</td>
</tr>
<tr>
<td>Mutual help meetings</td>
<td>Patient meetings held each morning to proactively identify, discuss and resolve conflict in the patient group</td>
</tr>
<tr>
<td>Calm box</td>
<td>A box full of comforting items for use during periods of distress and/or agitation</td>
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<tr>
<td>Reassurance</td>
<td>Promotion of increased staff openness with patients following incidents on the wards to reduce fear and suspicion that can lead to contagion of conflict</td>
</tr>
<tr>
<td>Discharge messages</td>
<td>Messages from patients who have been discharged displayed on the ward designed to reduce conflict arising from hopelessness</td>
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</table>
Outcomes Conflict and containment rates were measured using the Patient-Staff Conflict Checklist – Shift Report (PCC-SR), a validated tool that measures the frequency of 22 conflict items and eight containment items (Bowers 2008). The tool is completed once at the end of each shift by the nurse in charge. Adherence to the interventions was also measured on a weekly basis using the Safewards Researcher Visit Fidelity Checklist (Safewards 2016).

Individual and group meetings to collect staff feedback on the interventions were conducted with staff from all six participating wards, and extensive notes were collected during these for analysis. These meetings asked for staff feedback on the process of implementation and each individual Safewards intervention.

Data analysis Data were analysed using multi-level modelling (MLM) carried out with STATA version 11. MLM is a variant of regression. It is used to analyse hierarchical data due to the associated confounds of between and within-subjects measures. MLM produces a coefficient which indicates the relationship between an outcome variable and a predictor variable. The coefficient indicates how much the outcome variable changes for a unit change in the predictor variable.

The primary outcome variables were counts of conflict and containment by shift – am, pm, night shift – thus a Poisson model was used for the analysis. A Poisson model, in this case regression, is a form of analysis based on the Poisson distribution. It is used to model count/frequency data, such as that collected in this study. It models the log of the expected count as a function of the predictor variables.

The Poisson MLM was used to test whether the intervention was related to conflict or containment. For the initial analysis of all wards, the following were inputted as random factors: combined patient gender, ward, diagnosis week of data collection and shift. Notes from staff feedback meetings were collated into a coherent narrative record.

Results

Between-ward analysis The between-ward analysis showed no significant benefit of Safewards in the intervention wards compared with the control wards. Although conflict and containment were reduced in the intervention wards, these failed to reach significance (conflict = p .91, containment = p .39). There was, however, a significant relationship between ward and conflict and containment (p<.001) (Table 2).

Within-ward analysis Due to the significant relationship between ward and conflict and containment, the data from each ward were analysed separately to determine whether there was a relationship between timing of intervention and conflict or containment (Table 3). This analysis suggested that the timing of the intervention did not have a consistent effect on conflict or containment across wards, with some wards showing increases in conflict and containment, some showing decreases and some showing no change at all.

Missing data The overall return of PCC-SRs was 2,064/2,904 (71.07%), which is a good rate of return for studies using this outcome measure. Generally only wards returning below 40% are excluded from analyses (Bowers et al 2008, Bowers et al 2015). Data returns by ward are shown in Table 4.

Adherence The total mean adherence to the interventions was 27.28% across the six wards throughout the duration of the study, according to the Safewards Researcher Visit Fidelity Checklist.
A full breakdown of adherence to the interventions by ward and each intervention is provided in Table 5. The most adhered to interventions were ‘talk down’, ‘soft words’ and ‘reassurance’ - the remaining interventions were used infrequently.

Staff views

General views Overall views of the interventions were mixed, although they were generally perceived to have more value in the female wards than in the male wards. The dominant view was that, although the interventions included many good ideas, staff were sceptical about their capacity to have an effect on conflict and containment rates on the male wards. This was because staff tended to attribute conflict behaviours to patients’ chronically dysfunctional ways of relating to those around them, rather than, for example, staff communication skills deficits, or the extent to which meaningful staff-patient collaborative working occurs.

It was evident speaking to staff that implementation in some areas was patchy; sometimes staff were unaware of interventions, suggesting that the process of implementation was inadequate to prepare staff to use the interventions. The belief that ‘it’s stuff we do already’ and that no practice changes were required, recurred across all participating wards. The view that the interventions were of use only to junior or inexperienced staff was also commonly expressed.

The most positive views of the interventions were found on the female wards and on one ward in particular. Here staff reported increased confidence in their role, increased psychological understanding of patient behaviour and reduced fear of patients. On the male wards there was a perception that the interventions were only of use for patients who were receptive to care and that many of their patients were resistant to engagement with nursing staff at any level beyond having their basic needs met.

A number of criticisms of the process of implementation were expressed by staff. It was felt that, in general, the process of implementation was too rushed, especially at a time of extraordinarily high operational and clinical demands. Implementing ten new interventions, all at once, was overwhelming for staff, and staff expressed that a staggered implementation would have helped.

The training was well received by the attending clinical leaders, but it was felt that formally training only these staff members had not adequately engaged front line staff who, in many cases, were not well informed about how they should implement the interventions. This resulted in instances of the interventions being ignored or abandoned, especially where competing priorities were clearly evident.

Where interventions had been successfully implemented, this was attributed to the designation of ‘intervention champions’, although this, again, had happened rarely and inconsistently across the participating wards. There was a general feeling that the training should have been more intensive and that patients should have had much greater involvement in the implementation process. Completing the PCC-SR outcome measure at the end of each shift was considered a burden by some of the qualified staff, and this had caused some mild alienation from the project and was therefore another potential barrier to staff engagement.

Feedback on the ten interventions There was the perception from staff that low staffing levels made interventions that required engagement with patients, such as the calm box and mutual help meetings, unfeasible. Staff said that the handover-based interventions, such as positive words and bad news mitigation, would have benefited from role modelling by members of the project team to ensure staff understood what was expected of them. These interventions should also have been supplemented by a handover template to ensure they were completed at each handover. The ‘reassurance’ intervention was one of the most well-received, and a number of staff recommended adding a tick box to the hospitals incident forms to ensure it took place as routine practice.

There was evidence of only superficial understanding of a number of the interventions. A number of staff on the male wards felt the ‘positive words’ intervention was ‘just saying positive things for the sake of it.’ However, the same intervention was perceived to have improved team

<table>
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<tr>
<th>Ward</th>
<th>% return</th>
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<tr>
<td>1</td>
<td>65.70</td>
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<tr>
<td>2</td>
<td>88.02</td>
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<tr>
<td>3</td>
<td>59.50</td>
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<td>4</td>
<td>74.38</td>
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<td>5</td>
<td>54.13</td>
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<td>6</td>
<td>84.71</td>
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cohesion on one of the female wards and enabled staff to better deal with attempts of one particular patient to create splits in the staff team.

The poster-based interventions – ‘soft words’, ‘talk down’, ‘mutual expectations’ – had been displayed but, generally, implemented only tokenistically, without the designation of ‘intervention champions’ or any real understanding of the intervention’s purpose. Although ‘mutual expectations’ were displayed on all the wards, with the exception of one of the female wards, there was no evidence of meaningful patient involvement – this meant that they looked more like a list of ward rules.

Again, to a greater extent than on the male wards, the ‘calm box’ was reported to be of value in helping to reduce anxiety and agitation and, importantly, it communicated to patients that staff cared about them. Acuity within the group, disruptiveness and hostility to staff were perceived to render ‘mutual expectations’ and ‘mutual help’ meetings, in particular, unfeasible on the male wards. For ‘mutual help’ meetings, it was felt that patients on all wards lacked confidence to engage meaningfully and were often frightened of each other. It was suggested that these interventions may be more suited to the treatment, rather than the acute wards.

There were a number of concerns expressed by staff regarding potentially paradoxical effects of the interventions, including increases in aggression caused by staff where activities in the ‘know each other’ folders are unavailable to patients, and the potential for patient confidentiality to be compromised through ‘reassurance’. Some staff perceived that, regardless of how benign the information provided for the ‘know each other’ folders, it could be used against them by patients with a history of victimising others. Concerns in relation to ‘discharge messages’ included patients rarely moving wards for positive reasons, patients returning to acute wards from treatment wards, where messages could reinforce a sense of interrupted progress and increase hopelessness or agitation, and messages exacerbating feelings of rejection or abandonment when peers moved on. It should be noted that there was no evidence that any of these paradoxical effects had actually occurred, but staff concern may have, in part, explained some of the inconsistent implementation.

Discussion

This evaluation investigated the effect of the Safewards interventions on rates of conflict and containment in a forensic mental health service, as well as the acceptability of the interventions to service staff. No statistically significant benefits of reduced conflict or containment were observed in the intervention wards compared with the control wards. The statistical model did suggest a significant effect of Safewards at ward level, but when within-ward effects were studied, these were not consistent enough to draw even tentative conclusions. Both the adherence checklist and the informal feedback provided by staff suggested poor uptake of the interventions, which is likely to explain the null result.

Owing to limited resources, there were also a relatively small number of wards included in the study. This may have resulted in insufficient

<table>
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<th>Table 5</th>
<th>Intervention adherence</th>
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<tr>
<td>Intervention</td>
<td>Ward 1</td>
</tr>
<tr>
<td>Mutual expectations</td>
<td>13.33</td>
</tr>
<tr>
<td>Talk down</td>
<td>53.33</td>
</tr>
<tr>
<td>Soft words</td>
<td>46.67</td>
</tr>
<tr>
<td>Discharge messages</td>
<td>0</td>
</tr>
<tr>
<td>Know each other</td>
<td>0</td>
</tr>
<tr>
<td>Calm down</td>
<td>0</td>
</tr>
<tr>
<td>Reassurance</td>
<td>33.33</td>
</tr>
<tr>
<td>Mutual help</td>
<td>0</td>
</tr>
<tr>
<td>Positive words</td>
<td>6.6</td>
</tr>
<tr>
<td>Bad news mitigation</td>
<td>6.6</td>
</tr>
<tr>
<td>Total mean %</td>
<td>15.97</td>
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statistical power to detect significant differences in conflict and containment between intervention and control wards.

Research into evidence-based practice has historically assumed that adoption of innovations in practice operates through a simple algorithm where research is conducted and peer reviewed, findings are published and revealed to professionals, and then the innovation is adopted (Greenhalgh et al 2005). This model makes two assumptions: first, that the evidence will be uncontested by adopters and, second, that it will require no adaption of existing systems within the adoption site (Greenhalgh et al 2005).

This project made allowances for these potential barriers to adoption through the provision of in-depth training to team leaders and ward managers that included the evidence behind the Safewards model (Bowers 2014). The training also emphasised the importance of appointing ‘intervention champions’ for each intervention and, where possible, integration of the interventions into existing ward processes, such as clinical handovers. A senior nurse was also made available to ward staff to provide support, supervision and role modelling during the implementation of the interventions. Despite these provisions and prior consultation with the Safewards team, the train-the-trainer model appeared insufficient to adequately disseminate the interventions throughout the six wards.

This may be explained a number of ways. First, that the training had not adequately equipped the clinical leaders to pass on the training to their staff, or they simply had not had the time to plan and implement the interventions with their staff. Second, the positive feedback the training received may have been a product of social desirability bias when, in fact, the clinical leads harboured doubts about the utility of the interventions in forensic settings. To overcome these difficulties, services may need to invest significantly more resources in providing training for front line staff, including formal training to introduce the interventions and back-filling of a senior manager’s time to engage, motivate and educate front line staff in the clinical areas.

A number of possible attitudinal barriers to intervention uptake were also identified among staff. Many staff were pessimistic about the potential effect of efforts to reduce aggression and violence, particularly through the modification of elements of either staff communication or the environment. Staff tended to attribute violence and aggression either to mental illness or other deeply ingrained aspects of patients’ personalities. This is consistent with the literature on forensic mental health nurse perceptions of the modifiability of patient aggression (Dickens et al 2013) and the broader literature that suggests mental health nurses generally tend to attribute patient aggression to internal factors, such as patient psychopathology, more readily than environmental or situational factors (Duxbury and Whittington 2005). Where future efforts to implement Safewards in forensic settings occur, it may be beneficial for training to place added emphasis on the environmental and situational contributors to conflict and containment rates in this setting (Bowers 2014).

A further attitudinal barrier that was consistently expressed across all participating wards was the belief that the interventions described already existed in practice and there was, therefore, no requirement for practice changes. The Safewards interventions represent the systematisation of good mental health nursing practice; it is unsurprising that the nurses involved with this evaluation were familiar with some of the suggested practices. However, evidence from other disciplines has demonstrated dramatic performance improvements as a result of the rigorous systematisation of existing practice.

A useful example of this is the introduction of World Health Organization surgery safety checklists to systematise simple pre-operative safety procedures; for example, the checking in and out of surgical tools, which dramatically reduced surgical mortality and post-operative complications (van Klei et al 2012). This suggests that well-meaning clinicians can be inadvertently harming patients through lack of adequate systems to support their practice. This may be a useful message to convey during future implementation of Safewards in forensic settings.

**Limitations**
The failure to include service users in the process of implementation is an acknowledged limitation and may, in part, also explain the limited uptake. This should be a prerequisite for future efforts to implement Safewards in this setting. The wards that participated in the study faced many operational and clinical demands during the period of the study. This had a significant effect on implementation and confirms that the success of Safewards is sensitive to prevailing circumstances in research sites. It would be difficult to control for this without facilitating an unrealistic artificial setting, where the effect on routine real-time practice could not be evaluated.
Conclusion
The effect of Safewards in a forensic mental health setting cannot be determined without greater staff acceptance and adherence to the interventions. Reported reasons for the poor adherence included heightened acuity within research sites, demands on staffing resources, criticism of the process of implementation and staff attitudinal barriers. On reflection, the preparation of staff should have been more extensive and provided a better understanding of the rationale for the interventions. This paper provides an insight into the barriers to implementation that may be useful for forensic services to consider before implementing Safewards.

Implications for practice
- The effect of Safewards in forensic settings cannot be determined without greater staff adherence to the interventions
- When implementing Safewards in a forensic setting, the environmental and situational contributors to conflict and containment rates should be emphasised
- Implementation efforts require significant engagement of front line staff and service users
- Identification of ‘intervention champions’ for each of the ten interventions seems key to successful adoption

References
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