Applying an ergonomics approach to the reduction of seclusion in a rural mental health inpatient unit

Christine Waring
Latrobe Regional Hospital, Traralgon, Victoria, Australia

Abstract

Background: Mental health inpatient units provide care to patients experiencing acute mental health episodes. Some patients present with behaviours that place themselves, staff and others at risk. An accepted practice for dealing with this behaviour has been to place the patient in solitary confinement known as seclusion, which is a coercive practice. Internationally, reducing the use of seclusion has gained interest. In Australia, the Government is leading widespread changes in mental health including emphasis on the reduction of seclusion. The Victorian Department of Health has supported several projects to reduce seclusion in public inpatient mental health units; this project was undertaken in a rural unit. Aims: The aims of the project were to minimise the number of seclusion events and the adverse effects of seclusion. Method: Key factors contributing to seclusion episodes were identified through an in-depth analysis of each seclusion event. Features of the patient journey leading to the seclusion were investigated using an information gathering tool. This information was collated into factors related to people, systems and environment. Results and conclusions: While some of the identified factors were common to other projects, others were specifically relevant to this rural mental health service. The outcomes from the interventions commenced were a significant reduction in the incidence of seclusion and a reduction of the duration of patient time in seclusion. In conclusion, applying an ergonomic approach provided a rich source of information and evidence for addressing issues specific to this service. Other mental health services may find different factors relevant to their situation.

Background

In Victoria, a patient who experiences an acute episode of mental ill health may be placed in a mental health inpatient unit where they are provided care and treatment until the acute episode is resolved. In some circumstances the patient may present with behaviours that place themselves, staff and other patients at risk. These behaviours include aggression, absconding and self-harm.

Nationally and internationally, one of the accepted practices for dealing with these behaviours has been to place the patient in seclusion, if there is an imminent risk. Mental health in Victoria is regulated through the Mental Health Act 1986 (the Act) which defines seclusion as “the sole confinement of a person at any hour of the day or night in a room of which the doors and windows are locked from the outside”[1]. The Chief Psychiatrist has responsibility under the Act for the medical care and welfare of those receiving treatment or care for a mental illness. Seclusion is subject to statutory requirements; management guidelines and strict reporting processes are administered by the Chief Psychiatrist [2]. The National safety priorities in mental health: a national plan for reducing harm endorsed by the Australian Health Ministers’ Advisory Council and the Australian Council for Safety and Quality in Health Care was released in October 2005. Reducing the use of, and where possible eliminating, restraint and seclusion is one of the four priorities [3].

The Victorian Department of Health has funded several projects aimed at reducing the use of seclusion and restraint as a means of managing aggressive behaviours in inpatient mental health units. The Office of the Chief Psychiatrist, the Victorian Quality Council and the Quality Assurance Committee endorsed the Creating Safety: Addressing Restraint and Seclusion Practices project 2007-2009. The project report [4] identified that in Victoria in 2007-08, 14.5% of admitted patients were secluded at some time during their inpatient stay.

In 2007, the Victorian Department of Health (formerly a component of the Department of Human Services) funded a change management consultant to undertake a review (2007 review) of the seclusion experience at the hospital which resulted in a reduction of the number of episodes of seclusion. In order to continue addressing the findings of the 2007 review, a fortnightly meeting attended by senior management, continued to be held within Mental Health Services which assisted in maintaining the reduction. Following on from the 2007 review, a new project was initiated by the health service. This project offered the opportunity to improve performance and to build a more sustainable approach. It was undertaken from November 2009 to June 2010. Information was available from work already completed in national and state seclusion reduction projects through the relevant Government departments, project officers and websites. The project built on the structure, knowledge and findings...
of the 2007 review and the national and state projects by forming a project position to undertake a review of current circumstances and an analysis of seclusion events.

Although initiated as a change management project, it was clear that an ergonomics approach would be beneficial. Considering the issue of seclusion from an ergonomics perspective led to examining the system. It was important to identify what actually contributed to seclusion events within the service delivery system to enable relevant issues to be addressed, thereby reducing the need to place a patient into seclusion. While this project was a combination of project management techniques, change management processes and an ergonomics approach, this paper highlights the ergonomics approach taken. Although the project was established to reduce restraint and seclusion, this paper focuses solely on seclusion. The aim was to reduce the incidence of seclusion and its adverse effects.

Method
The main methods used in this project were observation, involvement of staff and gathering information, to enable the analysis of seclusion episodes and the identification of the key contributing factors. There was an ongoing process of identifying issues and implementing changes. In some instances the events leading to a seclusion episode were observed, however this was not possible for all episodes. Interactions and processes before, during and after seclusion episodes were also observed, where possible. Staff were often able to provide further information about the issues related to the seclusion episode.

Analysis of seclusion episodes was assisted by an information gathering tool developed for the project. The tool was developed to ensure there was consistent enquiry into factors within the system such as when and where aggressive behaviour began; medication administration timeliness in relation to aggressive behaviour; mode of transport from referral sources such as feeder emergency departments or locations within the community; management in the destination emergency department; reasons for seclusion and identified triggers. The tool allowed for multiple sequential seclusions of a patient, but in some cases another tool form was completed where there was some further information available.

The analysis involved investigating factors from when the patient entered the service immediately prior to the seclusion or factors that occurred on the ward at least the day prior to the seclusion episode. As this was undertaken to identify what contributed to the seclusion there was no standard timeframe examined. This process identified multiple factors contributing to each seclusion episode and provided information about systems issues and direction for reduction strategies. Generally, these factors were known to staff, however the analysis verified their experience and empowered action. Interventions for improvement to reduce the number and duration of seclusion episodes were implemented throughout the project.

Additionally, staff were extensively involved in the project through interviews, team meeting presentations, handover and spontaneous discussions. More formally, staff were provided with seclusion data, findings from the analysis of seclusion episodes, information and feedback about specific seclusion events and Steering Committee meeting minutes. Staff representatives also attended Steering Committee meetings.

Results
The initial results were positive with a reduction in the number of episodes of seclusion from 23 per 1,000 bed days in November 2009 to seven seclusion episodes per 1,000 bed days in June 2010. Although not in the reporting period, for comparison, there were five seclusion episodes recorded for November 2010. The highest monthly count of seclusion episodes, per 1,000 bed days, from November 2009 to June 2010 was 23 in November 2009.

Table 1. Comparison of number of seclusion episodes, total hours and episodes greater than four hours for 2008-09 and 2009-10

<table>
<thead>
<tr>
<th>Financial year</th>
<th>Episode numbers per 1000 bed days</th>
<th>Total hours</th>
<th>Total episodes greater than 4 hours duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>287</td>
<td>1,709 hours</td>
<td>113</td>
</tr>
<tr>
<td>2009-10</td>
<td>121</td>
<td>420 hours</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 1 shows that compared to 2008-09, the number of seclusion episodes, total hours of seclusion and the number of episodes in which a patient was secluded for more than four hours in the one episode were greatly reduced in 2009-10. A further result was the development of a Transition Plan for implementation by the Leadership Group which included senior nursing and medical staff within the mental health inpatient service. This was for sustainability and to enable the continued progress of interventions that required longer term implementation such as:

- Education about the journey including alternative ways of managing patients.
- An education plan to be developed for staff information and discussion at staff meetings.
- Better preparation for admission.
- Feedback to community staff about issues related to admission.
- Formal training on sensory modulation.

Discussion and conclusion
Throughout the project there was an ongoing process of investigation, analysis and application of improvements. The main issues identified through the analysis of seclusion events are listed in three categories:

People
- Limited knowledge of de-escalation techniques and management of triggers.
- Lack of attempts at alternatives to seclusion.
- Oncoming staff accessing information on file later in the shift.
Patients in HDU being very limited in what they were able to do, which was appropriate for most patients, but caused frustration for some.

Environment

- Limited opportunity to separate patients in the High Dependency Unit (HDU), if necessary. This was a low stimulus area for patients, such as those causing conflict, who needed to be separated from the general patient area.
- Patients in HDU being very limited in what they were able to do, which was appropriate for most patients, but caused frustration for some.

Systems

- Inconsistent adherence to the aggression algorithm by emergency departments which resulted in medication not being given early enough when a patient was being transported to the inpatient unit.
- Established behaviour patterns in the use of seclusion following administration of intramuscular injection and emergency calls.
- Lack of prescription or use of appropriate intermittent and/or regular medication to prevent aggressive episodes (treatment not chemical restraint).
- Circumstances, method and duration of transport (medication/restraints/police).
- Lessons and knowledge from previous admissions not captured adequately and used to improve care and reduce/manage aggression in subsequent admissions.

Success from other projects also informed this project, particularly in regard to interventions. There were a combination of interventions: those developed from the 2007 review; learning from state and national projects; and specific interventions developed and implemented to meet the needs of staff and patients in this inpatient unit as a result of the analysis of seclusion events. Some issues identified could not be addressed during this project timeframe. In particular, changes to the environment required longer term planning and management.

Key interventions implemented during the project were:
- Training, trial and compliance audit of a risk assessment tool.
- Focus on care plans for patients who resided in the HDU.
- Specific care plans for patients at risk or who had a history of multiple seclusions using previous admission information where available.
- Refresher training in safe physical restraint practices for staff.
- De-escalation training as a key component of refresher training in safe physical restraint practices.
- Challenging staff concepts and approaches to aggression and seclusion.
- Review meetings with staff after seclusion events including discussion about alternate strategies.
- Staff identifying specific needs of selected patients in HDU and providing appropriate activities.
- Post seclusion counselling for patients who had been secluded.

Even though previous projects had gained results using a change management approach alone, the major focus of this project was the investigation of specific factors that contributed to seclusion episodes for this mental health service. In doing so, specific issues relevant to this rural service were identified. Information from previous projects indicated that the focus was predominantly on addressing issues such as organisational culture, the provision of sensory modulation, workforce development, leadership, consumer involvement and debriefing. This project demonstrated that while these are important, investigation of issues within and peculiar to the health service are also necessary to provide a full understanding of the factors contributing to seclusion episodes. Factors that impacted on the conduct of this project included:

Organisational factors

Nursing staff beliefs and experience can impact on the use of seclusion. Happell and Harrow [5] found that belief that seclusion is a necessary intervention, workplace culture, staff composition and experience, conflict, ethical considerations and consumer characteristics were some of the factors that impact on nurses' attitudes to seclusion. Some of the focus for this project, inspired by previous projects and learning were: leadership; using data to lead change; post seclusion counselling/debriefing and staff representatives on the Steering Committee.

Recruitment and staffing

There were several changes in treating psychiatrists during the project which limited their direct involvement through the governance structure. Alternate means were used to involve them such as discussions held individually, during ward rounds and about specific seclusion events. Most nursing staff worked part-time and on rotating shifts which caused difficulties in following up staff after a seclusion event. Other factors relevant in this case were the use of overtime and double shifts to manage staffing levels and absenteeism. These factors were being addressed outside of the parameters of this project.

Physical environment

In this case, changes to the physical environment, within the HDU and seclusion rooms, were restricted by budget. The purpose of the seclusion rooms also limited any changes. The seclusion rooms were built to ensure that there was very limited stimulus, that patients were safe from physical harm and could not use strength to escape from the room. This necessitated a bare interior, strong, bolted doors with viewing windows and the rooms being located in a quiet area of the inpatient unit. Because of the purpose of these rooms it was difficult to improve the patient experience in the room.
While the initial results may have been influenced by the presence and focus of a project officer, the results were sustained after that influence was removed. Further work was managed by the Leadership Group to maintain progress and improve the areas identified through the project.

Applying an ergonomic approach provided a rich source of information and evidence for addressing issues within the system. It identified factors both within the unit and before the patient arrived on the unit that contributed to aggressive events and provided information to enable them to be addressed.

This project demonstrated that consideration should be given, not only to how aggression is managed in the inpatient unit, but also to the identification of all of the factors that have contributed to the seclusion episode. By extending this outside the ward environment, problems within the patient journey can be identified and managed appropriately.

Other mental health services may find different factors relevant to their situation. Therefore, it is recommended that they review their system to identify the specific factors relevant to their situation when considering how to reduce seclusion.

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References


