

Evaluation of the effectiveness of the 'Minimising Risk of Falls and Fall-related Injuries: Guidelines for Acute, Sub-acute and Residential Care Settings'


Final report

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Foreword

The Victorian Quality Council (VQC) was established in 2001 as an expert, strategic, ministerial advisory group to lead the safety and quality agenda for Victorian health care services. A number of areas of harm were identified as priority areas for work to be conducted by the VQC, including falls minimisation. Falls are a common problem in hospitals and residential care settings. The magnitude of the problem, the range of consequences that impact negatively on independence, function, quality of life, and the costs associated with the management of falls led to minimisation of falls being one of the first areas to be considered by the VQC.

The VQC developed '**Minimising the risk of falls and falls injuries: Guidelines for acute, sub-acute and residential care settings**' (the guidelines) to provide a framework and supporting resources to assist falls minimisation activity in these settings. The guidelines include the following documents:

 [Minimising the risk of falls and fall-related injuries - Guidelines for acute, sub-acute and residential care settings \(685kb, pdf\)](#)

 [Minimising the risk of falls and fall-related injuries - Quick Reference Guide \(256kb, pdf\)](#)

 [Minimising the risk of falls and fall-related injuries - Research Supplement \(559kb, pdf\)](#)

 [Minimising the risk of falls and fall-related injuries - Education Supplement \(511kb, pdf\)](#)

 [Minimising the risk of falls and fall-related injuries - Tools Supplement \(1460kb, pdf\)](#)

Falls posters

 [Falls Don't Just Happen \(558kb, pdf\)](#)

 [Identifying Falls Risk Factors \(467kb, pdf\)](#)

 [Process Model for minimising the risk of falls and fall related injuries \(212kb, pdf\)](#)

 [Falls Analysis - Demonstration \(56kb, MS Excel\)](#)

The Quick Reference Guide and the Guidelines contain information specifically aimed at the care of the individual patient and are designed for use on the ward. The research, education and tools supplements are aimed at the person with the responsibility for falls minimisation in each hospital. These tools can be incorporated into the

organisation's falls minimisation strategy. The guidelines were circulated to all Victorian health services in August 2004.

A decision was made to evaluate the effectiveness of the guidelines and Expressions of Interest were sought from metropolitan health services. Two health services were selected and funded to participate in a 12-month project. The following report highlights key learnings from the evaluation and may be useful for health services wishing to establish a falls minimisation strategy or for those wishing to review their current strategy.

Project methodology

Project aim: To implement and evaluate the VQC falls guidelines in a metropolitan health service to ascertain if they are effective in reducing inpatient falls and fall-related injuries.

Two metropolitan health services were selected to participate in the project to evaluate the effectiveness of the guidelines via an Expression of Interest process. Organisations with the following characteristics were sought:

- an interest in, and capacity to, review or further develop their organisation's falls risk minimisation activities and to put in place a comprehensive evidence-based falls risk minimisation program
- having not implemented an organisation-wide falls prevention approach in the previous 12 months or only be in the initial stages of work in this area
- able to demonstrate awareness and understanding of the problem of inpatient falls and fall-related injuries
- able to demonstrate commitment, at all levels of the organisation, to reducing the risk of harm from falls
- acknowledgement that falls are a preventable form of harm in health services and all staff have a role and a responsibility in reducing risk
- falls data having been reported to the health service Board as part of a quality dataset.

Health services were provided with details of project tasks and timelines and examples of evaluation performance measures and tools. The two health services selected were provided with funding to assist in the implementation of the guidelines and the collection of data on four wards. A falls project officer was appointed for two days per week in each health service for the duration of the project. The project commenced in September 2005 and was completed in August 2006.

There were three phases of the project: planning, implementation and maintenance, with data collection required during each phase (see Appendix 1). Implementing the guidelines involved following the process model for minimising the risk of falls and fall-related injuries:

1. conduct falls risk screen (may be omitted in high risk areas)
2. conduct falls risk assessment
3. develop and implement an action list (falls minimisation strategies)
4. respond to a falls incident (care for the patient, report the incident, repeat steps two and three).

Instructions to participating health services about how to use the guidelines were limited. There was no requirement to use tools from the guidelines and indeed each

health service used tools that had been developed internally and were modified during the course of the project. Selection of wards to implement the guidelines varied:

Health service A

- Ward 1 – acute general medicine
- Ward 2 – acute general medicine
- Ward 3 – sub-acute geriatric evaluation and management
- Ward 4 – residential care

Health service A implemented the guidelines on wards across four campuses.

Health service B

- Ward 1 – acute general medicine
- Ward 2 – surgical
- Ward 3 – surgical
- Ward 4 – sub-acute rehabilitation

Health service B implemented the guidelines on wards across two campuses.

Project outcomes

A significant amount of data was requested from the participating health services. In analysing the data, it is important to acknowledge some limiting factors:

- small numbers involved in some sections of the data collection
- a number of changes to the falls minimisation strategy were introduced throughout the project in both health services, including alterations to the falls risk screening and assessment tools
- data would need to be collected for a longer period in order to accurately assess the impact of introducing a falls minimisation strategy.

Falls per 1,000 bed days

Results:

- Most wards demonstrated an increase in reported falls in the implementation phase of the project. It is thought that the increased awareness of falls and the need for reporting contributed to this result.
- Most wards had a decrease in the number of reported falls from the baseline results to the final results.

Comments:

- Timely access to relevant data is essential when establishing a falls minimisation strategy in order to provide feedback to participating areas and to commence monitoring of change occurring as a result of the strategy:
 - Bed days
 - Incident reports
- The guidelines state that in the acute hospital setting, falls rates have been reported as between two to seven falls per 1,000 bed days. Falls rates for sub-acute and residential care are not stated in the guidelines.
- It may assist areas to establish target levels based on the patient mix in the ward. This may increase the relevance of the data to staff.

Injury from falls

Results:

- The number of serious injuries resulting from falls was low throughout the project. The majority of falls resulted in no physical harm to patients.

Documentation

A number of aspects of documentation were assessed:

- falls risk screening (FRS) within 48 hours of admission
- falls risk assessment (FRA) within 48 hours of admission
- review by allied health within 48 hours of identified need
- risk reduction plan documented
- ongoing documentation of falls minimisation strategies being implemented.

Results:

- Participating health services used FRS and FRA tools that had been developed within their own organisations. A number of changes were made to the documents throughout the course of the project. Tools were not validated.
- Baseline data demonstrated low rates of compliance with documentation requirements, in particular documentation of the risk reduction plan and ongoing implementation of strategies.
- Compliance with documentation requirements increased greatly throughout the project. This was particularly evident in health service B, who built documentation of ongoing strategies into the nursing care plan. A number of wards in this health service achieved 80-100 per cent compliance with all documentation requirements.
- There is some evidence in health service A that risk reduction plans and evidence of ongoing implementation of strategies were better addressed in the sub-acute and residential settings than the acute setting.
- Sub-acute and residential care areas did not use a FRS, choosing to conduct a FRA with all patients/clients.

Comments:

- There was some indication that there is less compliance with documentation in the acute setting than in sub-acute and residential in one health service. Although it is difficult to interpret accurately from such small numbers, this may indicate the impact of greater throughput in the acute setting. All risk assessment tools need to be appropriate for the environment in which they are being used.
- There is benefit in connecting falls documentation to existing processes.

Documentation of a fall

Health services were asked to conduct an audit reviewing the documentation related to an actual fall (documented via an incident report).

Results:

- Falls were documented in the health record between 80-100 per cent of the time.

- The process model for falls minimisation in the guidelines indicates that a patient must have a repeat FRA following a fall. Review of the medical records of patients involved in a fall showed that 75 per cent of wards did not document a repeat falls risk assessment in the baseline phase. At the end of the project only 50 per cent of wards were documenting repeat FRA following a patient's fall, and this was not done on a consistent basis.

Comments:

- Results demonstrated that compliance with reassessment of falls risk factors following a fall was low.
- The fall may have occurred as a result of a change in the patient's condition, hence differing risk factors may need to be addressed.
- There appears to be limited recognition of the need to conduct a FRA following a fall in order to identify appropriate falls prevention strategies at this point in time.
- Recognition of the need to implement specific falls minimisation strategies to address the individual's particular risk factors is not apparent from these results. There may not be an awareness of the potentially changing status of risk as a patient's condition alters.
- Education may need to be designed specifically to address the link between risk factors and the selection of falls minimisation strategies. Scenario-based examples may be necessary.

Spot environmental audit

A 'spot environmental audit' was designed to assess individual environmental risk factors. Individual environmental risk factors interact continuously with personal falls risk factors to affect the patient or resident's falls risk at any given time. The spot environmental audit was developed from the list of factors outlined in the research supplement of the guidelines. The following factors were assessed:

- use of restraints
- position of call bell in relation to patient
- position of brakes
- position of gait aid in relation to patient
- access to personal items.

Results:

- Use of restraints has been shown to be associated with increased fall-related injuries. Restraints are used in a small number of cases only, however their use does continue in the acute setting.
- Call bells being out of reach decreased over the course of the project in seven of the eight areas involved.
- Brakes not on were a very rare occurrence at baseline and throughout the project.

- Gait aids out of reach had mixed results, with a reduction occurring throughout the project in five areas, a slight increase in one ward and substantial increases in two wards, with one ward having all gait aids placed out of reach of the patient.
- Access to personal items was unobstructed in nearly all data collection periods.

Comments:

- Access to gait aids is the most problematic areas of the spot environmental audit.
- Whilst access to call bells improved overall, it is a concern that this continues to occur, albeit in a small percentage of circumstances.
- The reason for gait aids being placed out of reach was not investigated, however it may be that the design of ward areas means gait aids actually contribute to clutter.
- Checking of brakes is clearly an activity that is carried out routinely. The challenge lies in the checking of other individual environmental risk factors also becoming an automatic process. All staff need to ensure that, prior to leaving a patient area, they have completed a safety check.
- Use of restraints continued in a small number of cases on acute wards. This highlights the need for a falls minimisation strategy to be complemented by other organisational policies.
- The spot environmental audit could be conducted quickly and provided feedback to staff about factors they were able to control. Whilst a falls implementation strategy relies on organisational support, there is also personal accountability for clinicians, which is highlighted by this audit.

Patient safety culture survey

A patient safety culture survey was conducted at baseline and repeated at the end of the project. The following areas were addressed in the survey:

- staff attitudes
- systems or procedures supporting falls minimisation
- patient or relative involvement
- organisational support
- frequency of falls reported.

Results

- At the commencement of the project approximately 55 per cent of staff believed that many falls are preventable. This increased slightly during the project to an average of 63 per cent of staff believing that many falls are preventable.
- A high percentage of staff felt procedures related to falls minimisation were followed. This remained essentially unchanged throughout the project.
- Staff believe patients and their carers are involved in minimising the occurrence of falls. This belief was unchanged during the project.

- Resources are of concern to staff. There was a reduction in the percentage of staff who believed the organisation provided adequate resources to reduce the incidence of falls.

Comments:

- It is a concern that a relatively low percentage of clinicians believe many falls can be prevented. This may relate to the fact that a large percentage of staff believe there are insufficient resources to prevent falls. However, this highlights the need for cultural change to occur in an organisation if a falls minimisation strategy is to be successful.
- Establishing a peer incident review process may assist in increasing the belief amongst staff that many falls can be prevented. Support from colleagues and discussion regarding alternative strategies could assist in this area.
- Availability of resources remains a difficulty for organisations. Identification of existing resources (personnel and equipment) within the organisation and the ability to share between areas may assist. An analysis of what is available and what ideally should be available would provide assistance to staff in developing a business case for consideration by the organisation.

Other data collected

Focus groups were conducted in each area at the commencement of the implementation phase and at the end of the project. Staff reported:

- an increased awareness of falls risk and minimisation strategies as a result of participating in the project
- increased awareness of the limited equipment to support a falls minimisation strategy
- some frustration about the increase in work as a result of the falls minimisation strategy.

The project officers found the focus groups useful in gaining an understanding of staff perceptions of the falls minimisation strategy.

An environmental audit was conducted but appeared to add little to a short-term project conducted in a limited number of areas. Staff felt they were unable to address any deficiencies highlighted by the audit. This may be a more useful tool when the organisation as a whole is implementing or assessing its falls minimisation strategy.

Key considerations for organisations implementing or reviewing a falls minimisation strategy

- A falls minimisation strategy is not a stand alone strategy and needs to be supported by, and be in agreement with, other policies such as:
 - restraints
 - management of the confused patient
 - manual handling.
- A falls minimisation strategy needs to be supported by other factors in the system such as:
 - equipment
 - education
 - resources
 - use of observers.
- Leadership is essential to the success of a falls minimisation strategy. Leadership needs to be considered at several levels:
 - executive sponsor
 - falls coordinator
 - nurse unit manager
 - local falls champions or patient safety champions.
- Multidisciplinary approach is crucial.
- Need for cultural change to ensure the falls minimisation strategy is seen as an integral part of patient care, rather than increased work:
 - leadership
 - reporting results to Board level
 - executive responsibility for strategy
 - resources to support the falls minimisation strategy must be addressed, such as sharing of equipment, plans to upgrade equipment
 - feedback regarding local results
 - local supports – falls champions
 - multidisciplinary approach
 - assessment tools and documentation processes must be streamlined
 - risk scanning of patient area must include falls minimisation factors

- recognition of personal accountability for falls minimisation as well as organisational support and processes
- education and awareness of aims.
- Falls risk screening and assessment tools:
 - consider the use of validated tools, provides a rationale for use
 - locally developed tools may require ongoing modification, leading to staff frustration
 - compliance with documentation of ongoing falls minimisation strategy implementation may be assisted by a link to existing documentation.
- Data collection can provide useful feedback to local areas as well as allowing the health service to track their progress with falls minimisation. Falls data should be part of the organisation's core Key Performance Indicators. The following data was seen as useful in the project:
 - falls per 1,000 bed days, with consideration being given to setting target levels based on the patient mix
 - multiple fallers – case analysis proved a useful tool for involving staff
 - injuries resulting from fall
 - percentage of patients receiving a falls risk screen and risk assessment where appropriate
 - percentage of patients risk-assessed following a fall
 - spot audit, provided information about environmental factors that were within the control of staff.
- Promotional activities to launch the falls minimisation strategy or to reinvigorate the program:
 - falls awareness week
 - equipment expo
 - posters
 - education package – part of annual credentialing process
 - trial of support mechanisms such as observers
 - visible executive support, presence on ward, falls committee meetings.

Key project learnings

- Ensure data that is required for the project evaluation will be readily accessible.
- Ensure there is a purpose to all aspects of data being collected.
- Recognise that different data will be relevant for different areas of the organisation:
 - falls per 1,000 bed days may not have much relevance at the ward level, but is essential for organisational reporting

- analysis of a fall may be more relevant at a ward level.
- A data collection template will assist in ensuring data is collected in a consistent format from all areas.
- When implementing a project with limited project officer support, it may be more time efficient to concentrate on one campus during the development phase.
- Local leadership is crucial to the success of the project, it is important to be aware of this when selecting areas in which to trial a strategy.

Project limitations

The aim of the project was to implement and evaluate the guidelines in metropolitan health services to ascertain their effectiveness in reducing inpatient falls and fall-related injuries. A number of limitations to the project were recognised:

- there was an initial lack of clarity regarding data collection and the need for a reporting template in future projects was identified
- whilst the data collection was onerous for the health services involved, there was no measure of the extent to which the guidelines were used within each health service. Health services followed the process outlined in the guidelines but health services were not asked to provide information about use of the individual tools
- the period over which the project was run was insufficient to comment on whether ongoing change had occurred. Sustainability was not a focus of the project
- the project was conducted in metropolitan health services. The impact on different health settings was not measured.

Conclusion

A project to evaluate the effectiveness of the '**Minimising the risk of falls and falls injuries: Guidelines for acute, sub-acute and residential care settings**' was conducted in two health services for a 12-month period from September 2005 until August 2006. The guidelines establish a process model to be followed in a falls minimisation program; falls risk screening, falls risk assessment, development of an action plan and post falls management. A requirement of the participating health services was that they not have a fully implemented falls minimisation program and that they would implement the guidelines in four wards. A range of wards was selected, acute (medical and surgical), subacute and residential. There were three phases to the project: planning, implementation and management. Health services were provided with funding to support project activities. Both health services appointed a project officer for two days per week for the duration of the project. Meetings were held with the project officers and the VQC at the commencement of the project and the completion of each phase of the project.

Analysis of the data indicated that there were gains made over the 12-month period. There was a reduction in falls per 1,000 bed days in the majority of the wards and increased compliance with the falls minimisation strategy. It is important to acknowledge the limited numbers involved in the project and the short period of time over which monitoring of the impact of the guidelines occurred. Work is needed to address the culture surrounding falls; to address staff belief that many falls cannot be prevented, for organisations to demonstrate their commitment to the program in a manner that is recognised by staff. Further work is necessary to address the gap that exists in the understanding of the link between individual risk factors and the selected falls minimisation strategies.

Falls minimisation programs are important in improving patient safety. Falls minimisation programs should not be viewed in isolation from other factors impacting on patient care. The success of the falls minimisation programs relates in part to supporting policies and resources such as equipment, management of restraints, management of the confused patient and manual handling. Ideally falls minimisation becomes an integral component of a clinician's role, routinely scanning the patient area prior to leaving, checking environmental factors such as the position of the gait aid or call bell will indicate that a shift in thinking has occurred.

Leadership is essential to the success of a falls minimisation program. Leadership occurs at many levels of an organisation and the impact of local leadership should not be underestimated.