

Forensic Medicine

EXPERIENCE WITH PRACTICE GUIDELINES FOR MEDICO-LEGAL DEATH INVESTIGATIONS: THE CASE OF FALLS-RELATED DEATHS IN HOSPITAL

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Abstract: Western philosophical and political thought has focussed on the significance of individual relativism. The legal system's approach to the investigation and regulation of medical practice is generally ad-hoc and based on case law. In contrast, medical knowledge and understanding is progressively shifting towards a system of taxonomies and norms. Clinical guidelines and evidence-based medical practice are now commonplace in clinical practice. Due to the polarity of professional frameworks underpinning medicine and law, there has been an on-going struggle for the successful use of medical law that benefits both the quality of medical practice as well as its practitioners.

This paper discusses the principles in developing and implementing a standard investigation tool for the coronial sector using the *Falls Investigation Standard* as an example, which has been in use for 12 months in the state of Victoria, Australia. It is hoped that using a standardised tool can balance the often conflicting tensions between medical and legal sectors by enabling an in-depth review of each issue while also strengthening the health system's capacity for self-regulation.

Keywords: Medico-legal investigation; clinical guidelines; coronial investigation; iatrogenic injury; death, falls

INTRODUCTION

Internationally, there is a growing awareness of the significant human, social and economic costs associated with potentially preventable adverse events in

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healthcare settings.^{1, 2} There has been considerable debate in Australia and internationally around negotiating the legal regulation of these incidents without compromising the healthcare system's ability to internally monitor and improve patient safety.^{3, 4}

Within the coronial jurisdiction, investigation into healthcare-related deaths is often delayed because investigators need to negotiate the complexities of the healthcare system for relevant and current information. Health professionals have often expressed the perception that coronial investigations are drawn out and may lead to inconsistent outcomes.

Health professionals are becoming accustomed to standardised methods for clinical practice, which are increasingly being applied in medicine through the use of clinical practice guidelines.⁵ Clinical practice guidelines are often used in evaluating standards of care in medico-legal settings. It seems logical to apply this concept towards the development of guidelines for the conduct of a medico-legal investigation.

The legal profession might presume a standardised tool would oversimplify matters under investigation. However, our experience is that it can engender a more analytical examination of death in a complex setting without limiting the independence of healthcare practitioners. This paper discusses the principles in developing and implementing a standard investigation tool using the Coroner's *Falls Investigation Standard* as an example, which has been in use for 12 months in Victoria, Australia.

1. Kohn L., Corrigan J. and Donaldson M, (Eds.) 1999. *To Err is Human: Building a Safer Health System*, National Academy Press, Washington DC.

2. Brennan T, Leape L, Laird N, Hebert L, Localio A, Lawthers A, *et al.* Incidence of Adverse Events and Negligence in Hospitalized Patients. *New England Journal of Medicine* 1991;324(6):370-376.

3. Wilson LL, Fulton M. Risk management: how doctors, hospitals and MDOs can limit the costs of malpractice litigation. *Medical Journal of Australia*. 2000 Jan 17;172(2):77-80.

4. Ignagni K. Moving beyond the blame game. *Frontiers of Health Services Management*. 2003 Fall;20(1):3-14.

5. Timmermans S, Mauck A. The promises and pitfalls of evidence-based medicine. *Health Affairs (Millwood)*. 2005 Jan-Feb;24(1):18-28.

The aim of this paper is to describe the *Falls Investigation Standard*⁶ as a way to work within the current coronial system to review the quality of healthcare in a timely manner while balancing the tensions which arise in a medico-legal investigation.

Background – Tensions in Medico-Legal Investigation

In recent times, western philosophical and political thought has focussed on the significance of individual relativism. Consequently, the Australian legal system holds high regard for individual rights and autonomy, which are central to our modern understanding of ethics and justice. The Australian legal system's approach to the investigation and regulation of medical practice is generally ad-hoc and based on case law. This allows the judicial system the independence to review individual circumstances before making a final judgement on clinical matters.

In contrast, medical knowledge and understanding is progressively shifting towards a system of taxonomies and norms. Medical researchers revere randomised clinical trials as the “gold standard” of clinical proof, as these studies are subject to the least amount of bias and are generalisable to a wide variety of patient populations. Consistent and inclusive results are testimony to a new treatment or technology's efficacy and reliability. Consequently, clinical guidelines and evidence-based medical practice have been widely accepted to ensure patients are receiving care that is both timely and effective. Clinical decision-making is now often divided into a series of clinical to-do lists, making medical practice part deductive reasoning and part clinical art.⁷ While every patient is bound to deviate from textbook examples in some way, medicine can base its broader practices on general experience and common guidelines.

Due to the polarity of professional frameworks underpinning medicine and law, there has been an on-going struggle for the successful use of medical law that benefits both the quality of medical practice as well as its practitioners.

6. Coroner's Investigation Standard: Fall-related deaths in hospital, 2003. Clinical Liaison Service, State Coroner's Office, Victoria, Australia: see <http://www.vifm.org/inclsfalls1.html>. (accessed 25 January 2005).

7. Harrington JA. Regulating Clinical Practice: Epistemological and Cognitive Perspectives. *Journal of Medicine and Law* (2003) 22:221-32.

On the one hand, healthcare practitioners wish to maintain their professional autonomy to trial novel and innovative treatments, whilst managers and patients want them to be held accountable to reasonable standards of practice. For now, lawyers apply case law to medical proceedings resulting in haphazard and protracted litigation, which fails to detect many instances of medical error.⁸

As iatrogenic injury resulting in death is an area of great interest in medico-legal circles, the State Coroner decided to develop “practice guidelines” for investigation into one sub-set of these incidents for the coronial jurisdiction. Clearly, injury prevention is preferable to punitive or prohibitive measures. Hence, it is far more valuable if coronial cases under investigation can be used as cautionary tales for others at risk of repeating similar mistakes. With this logic, the Clinical Liaison Service* has endeavoured to use an established source of injury surveillance data to review work practices and identify areas for prevention recommendations. It is anticipated that this will enhance the patient safety mechanisms in place for one area of healthcare-related injury and, at the same time, increase the efficiency and timeliness for this category of routine investigations in the coronial jurisdiction.

Developing an investigation standard

The first investigation standard was created for fall-related deaths from hospitals and residential care facilities and was modelled on the principles used in clinical practice guidelines.⁹ The *Falls Investigation Standard* was developed over a six-month period in 2003 and is applicable to all hospital fall-related deaths that are reported to the coroner. The key stages in the development of the investigation standard included:

- Identifying and defining a key area

* The Clinical Liaison Service is a joint initiative of the Victorian Institute of Forensic Medicine (VIFM) and the State Coroner’s Office to improve patient safety. The need to establish this service is supported by an expanding body of research evidence indicating that addressing the contributing underlying system factors may prevent a significant proportion of adverse events.

8. Localio AR, Lawthers AG, Brennan TA, Laird NM, Hebert LE, Peterson LM, Newhouse JP, Weiler PC, Hiatt HH. Relation between malpractice claims and adverse events due to negligence. Results of the Harvard Medical Practice Study III. *New England Journal of Medicine*. 1991 Jul 25;325(4):245-51.

9. National Health and Medical Research Council. Guidelines for the development and implementation of clinical practice guidelines. Canberra: AGPS, 1995.

- Involvement of an interdisciplinary group to identify essential information
- Dissemination and implementation of the guidelines
- Evaluation and revision

Identifying and defining a key area of interest

It is vital that the coronial jurisdiction considers the issue of fall-related deaths in a proficient and effective manner for a number of reasons. Fall-related deaths form a major part of the State Coroner's Office workload, and it was thought a standard may reduce unnecessary duplication as well as assist with preventive recommendations. There is variation and uncertainty in healthcare organisations' management practices of patient falls, which has led coronial investigations to reach inconsistent findings in the past. Patient falls are currently a major public health issue and potentially preventable. The healthcare community's attention has been drawn to fall-related deaths by a number of recent initiatives making this a key time to concentrate on the issue.

Deaths related to a fall in a healthcare organisation represent a considerable share of Victorian coronial cases, resulting in an onerous workload for coronial staff. In 2001-2002 in Victoria, 514 fall-related injuries resulting in death occurred in health service areas and residential aged care facilities.¹⁰

Fall-related deaths are a major concern in healthcare organisations, and it is estimated that falls represent the leading cause of injury-related death in individuals 65 years and older.¹¹ The cost is estimated as being around \$406 million in Australia during 1993-1994.¹²

Medical practitioners are required to report all fall-related deaths that occur while a patient is under their care to the State Coroner's Office in Victoria for investigation. Fall-related deaths are also identified through the Victorian Registry of Births, Deaths and Marriages. When a fall-related death or fall-related injury leading to death is listed with the Registry, it is reported to the

10. Victorian Admission Episode Data, 2003.

11. Center for Injury Prevention and Control: see <http://www.cdc.gov/ncipc/factsheets/falls.htm> (accessed 30 December 2004)

12. Mathers C and Penm R, Health System Costs of Injury, Poisoning and Musculoskeletal Disorders in Australia 1993-4, Health and Welfare Expenditure Series No 6 (Australian Institute of Health and Welfare, Canberra, 1999).

State Coroner's Office, which is not the case with other healthcare-related deaths. Both of these factors have resulted in a large number of fall-related deaths being reported within the coronial system.

Police are the main entity responsible for gathering factual information related to events surrounding a death within the coronial sector. Once all the relevant factual information has been collected, the Coroner may hold a formal inquest or deliver a Chamber's finding. The Coroner will then write a formal finding detailing the events leading up to the death and make recommendations for preventing the incident from re-occurring in the future.

Despite the high volume of falls being reported and similarity between incidents, the investigation practices were being unnecessarily repeated. The previous system required the investigation process to be conducted a number of times and was often led by different investigators making it virtually impossible to tease out common themes involving organisational policies or practice. The case-by-case approach has restricted the opportunity for injury surveillance and policy recommendations within this area preventing the health sector from learning from other organisations.

Moreover, many complications resulting from a patient fall, such as an infection resulting from a patient's immobility, may appear unrelated to the initial fall to a non-clinically trained investigator, who would be less well acquainted with an elderly patient's clinical course. Because of this, many of these incidents were prematurely closed as deaths resulting from natural causes.

The coronial sector also experienced a great deal of uncertainty about what constitutes an appropriate level of care for these patients due to the conflicting information about fall prevention strategies and best practice. The range of falls' management practices which would be considered appropriate between each type of institution can vary greatly. For instance, the majority of staff at supported residential aged care services are not clinically trained and would not be expected to assess each resident's level of risk for falling. However, within a tertiary hospital, it would be usual for elderly patients to receive a falls risk assessment upon admission.

Collecting standardised information sets from each organisation can allow for the development of a classification system for each level of healthcare service. Once this has been established, each individual review is no more complex than comparing each response to an accepted model for that classification of service.

Fall-related deaths are potentially preventable, and there are many programmes and strategies available for reducing falls and reducing harm from falls.¹³

Most falls-prevention initiatives can be implemented easily without excessive cost to organisations. Strategies that have been shown to reduce harm from falls include the implementation of screening tools to highlight patients at risk of experiencing a fall; fall prevention equipment (hip protectors, floor-line beds, night sensor lights, non-slip surfaces and bed alarms); and proactive medical, nursing and allied health interventions, such as the review of medication requirements, regular toileting and mobility training.^{14, 15} All of these are continually being reviewed to ensure that they are producing desired results.

Another major factor in addressing fall-related deaths is the enormous interest in the health care sector in the area of patient safety. In the past five years, there has been a range of health policy initiatives and practice changes in healthcare organisations throughout Victoria to improve the safety of elderly patients by reducing falls. Both the Victorian Quality Council and Queensland Department of Health have recently released comprehensive practice guidelines for falls management to provide a framework and resources for falls prevention activities within hospitals and residential care settings.^{16, 17}

As part of the effort to reduce harm from fall-related deaths, falls are increasingly being reported to the quality and risk management offices of healthcare organisations for investigation and remedial action in Australia. The healthcare community's attention to patient falls at present makes it an opportune time to consider the issue.

13. Tinetti ME. Clinical practice. Preventing falls in elderly persons. *New England Journal of Medicine*. 2003 Jan 2;348(1):42-9.

14. Agonstini, J. V., Baker, D. I. and S.T. Bogardus, 2001. Prevention of falls in hospitalized and institutionalised older people, In: *Making Health Care Safer: A Critical Analysis of Patient Safety Practices.*, Evidence Report/Technology Assessment No. 43 (AHRQ 01-E058), Agency for Healthcare Research and Quality.

15. Ranson D and Emmett S, Falls and fall-related injuries: far-reaching implications. *Journal of Law and Medicine*. 2003 Aug; 11(1)16-7.

16. Victorian Quality Council: see http://www.health.vic.gov.au/qualitycouncil/plans/falls_5d.htm (accessed 25 January 2005).

17. Queensland Health, Falls Prevention Best Practice Guidelines (2001): see http://www.health.qld.gov.au/fallsprevention/best_practice/default.asp (accessed 25 January 2005).

Recruitment of an interdisciplinary group to identify essential information

Having identified the key area of interest, the next stage in developing the investigation standard was recruiting an interdisciplinary group and identifying the essential information required to create the standard. Practice guidelines are generally set out to identify the essential information and processes required to manage a condition.¹⁸ To facilitate the identification of the scope and purpose of the Coroner's guidelines, a forum was convened at the Victorian State Coroner's Office to bring together identified stakeholders, who were asked to review the role of the coronial investigation process into fall-related deaths.¹⁹

The 'Falls Working Party' comprised representatives from the coroners' office, health policy makers, police, clinical researchers, health service providers (medical practitioners, nurses, hospital safety and quality managers) and consumer representatives. The main objective of the forum was to establish a standardised process for the investigation of fall-related deaths. The investigation standard was to be designed to create a consistent mechanism for the Coroner's office to investigate deaths that occur in relation to patient falls.

The participants of the Falls Working Party identified the information needed for a comprehensive investigation and then framed the questions in the *Falls Investigation Standard*. The questions were designed to ensure a broad investigation in each case. Consideration was also given to gathering information about different factors that may have contributed to a death: (a) patient clinical history, (b) events leading up to the fall, (c) the hospital's system for falls management, and (d) relevant equipment and work practices (see Annex 1).

The formulation of the *Falls Investigation Standard* involved a brainstorming session for specific questions that are needed to be addressed by healthcare organisations to accurately meet the requirements of a coronial investigation. Delegates prepared a short presentation outlining their perspectives on the current environment with regard to falls prevention and/or management in

18. AGREE Collaboration. Development and validation of an international appraisal instrument for assessing the quality of clinical practice guidelines: the AGREE project. *Quality & Safety in Health Care*. 2003 Feb;12(1):18-23.

19. Emmett SL, Ibrahim, JE. The Coronial Process in Investigating Fall-Related Deaths: A practical approach towards achieving optimal health care. *The Journal of the Australasian Association for Quality in Health Care*. 2003;13(2).

their area of expertise, and provided a general overview of current research findings, practice changes and administrative systems that are used for the prevention and management of patient falls in hospital.

Dissemination and Implementation

The *Falls Investigation Standard* was implemented throughout the state of Victoria, Australia for all of fall-related deaths.

It is commonly acknowledged that the implementation of clinical guidelines can be a clumsy undertaking, as timelines can be unclear, there are multiple stakeholders with conflicting priorities, the division of responsibilities can be uncertain and the results are often difficult to track.²⁰ Most of these barriers were encountered within the medico-legal setting, due to the variety of professionals involved and competing professional frameworks. These barriers were generally overcome by encouraging open communication between groups to accommodate the various work practices considered and professional viewpoints.

All hospitals in Victoria were notified by the State Coroner that the *Falls Investigation Standard* would be introduced and used in the investigation of all fall-related deaths. The Clinical Liaison Service notified hospital risk management staff and publicised details about the *Falls Investigation Standard* in its quarterly newsletter and at local conferences. The challenge has remained in ensuring the police throughout the state are informed. Engaging and communicating with each sector has proven to be a difficult task, as there is not an established communication network that encompasses all sectors involved. The *Falls Investigation Standard* has been made available to local police members on the Internet (available at <http://www.vifm.org/inclsfalls1.html>) as well as the Victoria Police Department intranet site.

There were several advantages to implementing the investigation standard within the medico-legal sector. The coronial workforce in Victoria is a defined population of staff, enabling the *Falls Investigation Standard* to be easily circulated and discussed among the staff involved. The timelines of each coronial investigation has also allowed for iterative evaluation, which is often not possible in a healthcare setting. Also, as healthcare organisations are

20. Field MJ, Lohr KN (Eds). 1992. Guidelines for Clinical Practice: From Development to Use. National Academy Press, Washington DC.

required to provide the coroner's office with any information that may help the investigation,²¹ compliance with the investigation standard is enforceable.

Evaluation and Revision

The evaluation of a *Falls Investigation Standard* is challenging because there are a broader range of participants involved and the outcome is less clear when compared to patient outcomes based on treatment guidelines. Within a clinical setting, most timelines for implementation and evaluation of clinical care occurs within a matter of months. However, the average coronial investigation can take anywhere from 12 to 18 months. Given the extended timeline, it is difficult to provide rapid feedback to stakeholders, which can be a drawback for stakeholder motivation. However, the longer timeline does allow for more careful monitoring of adherence to the standard. Where statements are returned that do not comply with the *Falls Investigation Standard*, the Coroner is able to repeatedly request information until it is consistent with the required format.

Outcomes of the Coronial Investigation Standard

Participants of the Falls Forum and Working Party indicated that the project was successful in achieving their aims and fostering collaboration between their respective organisations and the State Coroner's Office, which traditionally work in isolation from other government departments and injury prevention organisations.

Initial impressions of coronial staff regarding the *Falls Investigation Standard* are positive. Most healthcare organisations have adequately responded to the *Investigation Standard* enabling the coronial investigation to be completed following the first response. Further investigation by way of supplementary statements or inquest was rarely required.

Individual healthcare organisations have responded to the *Falls Investigation Standard* by reviewing their falls prevention policies and procedures to ensure that they comply with questions that are raised in *Falls Investigation Standard*. For example, some organisations have redeveloped their incident reports and falls prevention guidelines. (see Annex 2)

It is felt that the work processes that were developed and implemented for the

21. Coroner's Act, 1985, Act No. 10257/1985, Version No. 041, Section 3-15: pp 4-14

initiative will be useful to apply in other areas of coronial investigations. The Clinical Liaison Service of the State Coroner's Office has held a similar forum to explore the issues associated with the mis-communication of abnormal radiology results that may be a contributing factor to deaths.

Revision of the Investigation Standard

A formal evaluation examining a convenience sample of statements received from Victorian hospitals and residential care organisations in response to the *Falls Investigation Standard* was conducted one year after its initial implementation. A descriptive assessment of each of the four sections was provided to determine specific areas of the pro-forma in which improvements are needed.²²

Following the evaluation, several questions within the *Falls Investigation Standard* required revision to make the intention of the question clearer. It was also noted that documents referred to within the statements, such as the incident report, the risk screening protocol documents, falls prevention policy and falls management policy documents were not always included with the returned statements. The falls investigation standard will be modified to specifically request each of these items from the organisation in the future.

Discussion

The Clinical Liaison Service demonstrated that it is possible to successfully convene a Working Party, consisting of delegates from various disciplines, to develop the *Falls Investigation Standard* for all fall-related deaths that are reported from hospital to the Victorian State Coroner's Office.

The resulting standard was organised into four main sections, which represent the general topic areas required for the Coroner to evaluate whether a patient has received an appropriate level of care. This format may also be a valuable template for other jurisdictions and common areas of investigation.

The standard was not intended to create a prescriptive regulation dictating how healthcare practitioners should manage their patients. However, it was

22. Emmett SL, Ibrahim JE, O'Brien AJ, Bohensky M, Ranson DL, 2004, The Coroner's Investigation Standard for Fall-Related Deaths: Initial Impressions [Poster Presentation]. Inaugural Australian Falls Prevention Conference, Sydney, Australia

anticipated that the standard might prompt institutions to implement or improve their own falls policies and encourage their continued evaluation and improvement. It is hoped that this will balance the often polarising tensions between medical and legal sectors by enabling an in-depth review of each concern while strengthening each organisation's capacity for self-regulation.

The case-by-case review of fall-related deaths is potentially a less effective method to investigate cases that occur in healthcare settings, which operate according to clinical guidelines and similar organisational policies. The judicial system can take advantage of the structured work practices within the health sector to enhance the efficiency and depth of their investigations.

Moreover, the consistent collection of information may enable insight into factors within the health system, which contribute to preventable deaths. Coronial data has been used in the past for research into road safety, suicide and workplace injury.^{23,24} Likewise, an aggregated dataset for healthcare-related deaths may provide a unique perspective that will allow for the identification of contributing system factors and facilitate preventative recommendations.²⁵

CONCLUSION

Healthcare injury and deaths related to healthcare system errors are complex matters requiring specialist training and knowledge. Although the judicial system has traditionally considered these events in isolation, there may be a benefit to using a method of investigation that is more amenable to the healthcare sector's framework. As healthcare practitioners approach different patients with similar conditions in a standardised format, it may enhance efficiency to manage the review of each judicial incident in an equally uniform way.

Using a standardised method for the coronial investigation of deaths in

23. McDermott FT. Bicyclist head injury prevention by helmets and mandatory wearing legislation in Victoria, Australia. *Annals of the Royal College of Surgeons England* 1995 Jan;77(1):38-44.

24. Dudley M, Kelk N, Florio T, Waters B, Howard J, Taylor D. Coroners' records of rural and non-rural cases of youth suicide in New South Wales. *Australian and New Zealand Journal of Psychiatry*. 1998 Apr;32(2):242-51.

25. Johnstone, G. An Avenue for Death and Injury Prevention, In *Aftermath of Death*, Selby, H(ed) 1992: The Federation Press, Annandale, NSW, Chapter 10: pp 140 - 184.

healthcare settings has facilitated the review of fall-related deaths. Twelve months after its initial implementation, the *Falls Investigation Standard* has helped coronial staff become acquainted with unfamiliar work processes in healthcare organisations, increase the efficiency of investigations, broaden their understanding of complex areas and draw out key issues that may be improved through coronial recommendations for preventive measures.

Further review will be required to determine whether responding to a standardised set of investigation questions has influenced healthcare organisations' practices for managing and reviewing falls and fall-related deaths within their institutions. It is anticipated that the *Falls Investigation Standard* will help to encourage healthcare organisations to evaluate relevant incidents and improve upon organisational policies and work practices. It is hoped in the long run this process will strengthen the preventative measures in place within the health system to improve future health outcomes for patients at risk of falling.

Annex 1: Structure for Investigation Standard

1. Patient History
2. Event and events leading up to the Incident
3. Facility's System for Falls Management
4. Relevant Equipment or Work Practices

Coroner's Falls Forum

We initially invited eleven delegates to attend the Coroner's Falls Forum. Twelve attended the Forum on the 9th May, which included:

- 5 full time Coroners (from the State Coroner's Office, Melbourne, Victoria)
- 2 State Coroner's Assistant (Police Officer from the State Coroner's Office, Melbourne, Victoria)
- 2 representatives from the Aged Care Branch of the Department of Health
- 1 representative from the Victorian Quality Council (a body under the Department of Health designated to develop tools and strategies to improve health service safety and quality.)
- 1 Researcher from the National Ageing Research Institute
- 1 Senior Conciliator from the Office of the Health Service Commissioner (independent statutory Ombudsman)
- 1 Project Officer from a metropolitan Melbourne falls prevention program (The Bayside Health Falls Prevention Project)

A total of 15 delegates attended the Falls Forum, which included a Forensic Physician from the Clinical liaison Service (chair) and a Research Officer, also from the Clinical Liaison Service.

Annex 2 - Case Study of Coroner's Falls Investigation Standard**Patient History**

Patient C was a 78 year old man undergoing treatment for pulmonary tuberculosis. He had an extensive past medical history including chronic obstructive airways disease, emphysema, bronchitis, hyperthyroidism, and fractures from previous falls. At approximately 1 pm, Mr C was attempting to go to the bathroom within his hospital room. He was found a while later by a member of the cleaning staff lying on the floor having sustained a fracture to his left neck of femur. He underwent surgical treatment of the fracture including the insertion of a pin the following day. Over the next three days, Mr C continued to decline and finally died four days after his initial fall.

Falls Management System in Place at the time of the incident

Mr C did not have a thorough risk screening for falls upon his admission to hospital. A falls prevention project was being evaluated within the hospital at this time. However, the ward staff in which Mr C was in had not yet been educated in falls' risk assessment or prevention under the current programme.

Changes to Practice Following the Falls Investigation

Following this coronial investigation of this incident, the falls prevention strategy that was being trialed has been fully rolled out within the hospital. Policies and procedures for assessing falls' risk and managing patients at risk of falling have been developed and are in place. Staff are now required to notify management of all falls incidents via the incident reporting system, as well as documenting the incident within the patient record. Equipment has also been supplied including bed/chair alarms, low- line beds and non-slip mats.

Comments from other Victorian Hospitals following the Coroner's Investigation Standard

The initial document was reviewed in early December 2003 and changes made to comply with documented "Investigation Standards" received from the State Coroner, Victoria.

[The Coroner's Investigation Standard has] "Given them guidance and a framework to work"

Further reading

Buchner, D. M., Hornbrook, M. C., Kutner, N. G., Tinetti, M. E., Ory, M. G., Mulrow, C. D., Schechtman, K. B., Gerety, M. B., Fiatarone, M. A. and S.A. Wolf, 1993. Development of the common data base for the FICSIT trials, *Journal of American Geriatric Society*. 41, 297-308.

Gagnon, N. and A.J. Flint, 2003. Fear of falling in the elderly, *Geriatrics & Ageing*. 6, 15-17.

Grenier-Sennelier, C., Lombard, I., Jeny-Loeper, C., Maillet-Gouret, M. C. and E. Minvielle, 2002. Designing adverse event prevention programs using quality management methods: the case of falls in hospital, *International Journal for Quality in Health Care*. 14, 419-426.

Mathers, C. and R. Penm, (Eds.) 1999. Health system cost of injury, poisoning and musculoskeletal disorders in Australia 1993-1994 (Health and Welfare Series No. 6), Australian Institute of Health and Welfare, Canberra.

Salkeld, G., Cameron, I. D., Cumming, R. G., Easter, S., Seymour, J., Kurrle, S. E., Quine, S., Ameratunga, S. N. and P.M Brown, 2000. Quality of life related to fear of falling and hip fracture in older women: a time trade off study, *British Medical Journal*. 320, 341-346.

Tinetti, M. E. and M. Speechley, 1989. Prevention of falls among the elderly, *New England Journal of Medicine*. 320, 1055-9.

Vassallo, M., Amersey, R. A., Sharma, J. C. and S.C. Allen, 2000. Falls on integrated medical wards, *Gerontology*. 46, 158-62.