Reviewer's report

Title: Falls and consequent injuries in hospitalized patients: Effects of an interdisciplinary fall prevention program.

Version: 1 Date: 11 April 2006

Reviewer: Keith D Hill

Reviewer's report:

General
Falls in hospitals remains the neglected area in falls prevention research, so papers reporting good data, combined with evaluation of effectiveness of an intervention, are likely to provide useful information for practitioners and researchers in this area. This paper reports serial data from a 4 year period in a large teaching hospital providing acute care in internal medicine, surgery and geriatrics, before and after introduction of an interdisciplinary falls prevention program. Although the paper is limited to a serial data collection design methodology, the results provide a useful framework for others undertaking work in this area. In particular, bringing together data relating to falls and falls injury trends over time, with data regarding hospital length of stay, amount of nursing care time, and prevalence of some common falls risk factors over time, provides a different perspective to that reported previously. The intervention approach reported incorporates a number of key elements that relate to best practice, including:

- Using a standardised definition of a fall
- Using a standard incident report form
- Staff training, including orientation processes for new staff
- Falls risk screening
- Medical review of patients considered at risk of falls
- Use of general safety measures and other falls prevention actions, based on the screening and medical review.

A limitation of the study is that the intervention was not introduced using a randomisation procedure. Although there may be some difficulties in this process in a hospital setting, there are now two studies which have used a randomisation approach (one by individuals – Haines et al, 2004; and one by ward – Healey et al, 2004) that have demonstrated significant reductions in falls. Clearly, the observed changes in falls rates over time cannot be fully explained by the introduction of the intervention, using this methodology, as other confounding can occur. The data from this study itself highlights changes in patient populations that can occur in the same wards over a relatively short (4 year) period. This issue warrants brief review in the discussion section.

The paper is generally well written, with a small number of typographical errors. In addition, data in the tables relating to thousands (x,000) is incorrectly shown in a number of places as (x’000). There are generalisations made in a small number of instances that do not seem supported by the data, for example, the abstract concludes “Potential effects of the program may have been neutralised by inconsistent adherence to the intervention protocol...” although no data on adherence to protocols is reported in the results section. This statement appears to be a hypothesis for the lack of significant effect, and needs to be clearly stated as such (although my recommendation is that this statement is not a conclusion from the study, and should be removed from the abstract conclusion – see below). This point is made in the discussion. It is also repeated again in the conclusion of the paper, and again should be removed from the conclusion section, so that the conclusion simply summarises the key study findings, rather than hypotheses to explain the findings.
The results provides an interesting set of data, combining trends in falls with trends over time in patient characteristics and falls risk factor prevalence. The results would be strengthened by reporting the main mix of interventions applied (for example, xx% of patients had their medications changed, xx% were referred to physiotherapy for balance and gait training etc). This would enable the reader to have a clear understanding of the “black box” of the falls prevention intervention program as it was applied to this patient population.

The discussion could be reduced in length in terms of the main areas discussed. In addition, it needs to more strongly highlight the evidence from the two randomised trials that have effectively reduced falls in hospital settings, relative to other study with other designs, as these should clearly be seen as the strongest evidence available to date. The discussion should also question whether some elements of the intervention could have been done differently to achieve better outcomes, for example, was the falls risk screen effective in identifying all high risk patients, were findings from the assessments acted upon (recommended interventions implemented), was the approach to staff training effective, and could other interventions have been added to the intervention program?

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. page 2, conclusion of abstract – only the first sentence is a conclusion from the study. The remainder of the abstract should be omitted, with a possible replacement with text to the effect of “Future studies need to incorporate strategies to maximise and evaluate ongoing adherence to interventions in hospital falls prevention programs”.
2. Include in the discussion a section discussing whether there are limitations in the type of interventions applied within the falls prevention program in this study. Include reference / comparison to the intervention mix in the two successful previously published RCTs (Haines et al, 2004; Healey et al, 2004).
3. page 7, conclusion – again, only the first sentence relates to a conclusion from the study, the rest is discussion, and belongs in the discussion section. It is also inappropriate to introduce points not considered elsewhere in the results and discussion in the conclusion, for example, statements about vitamin D and hip protectors.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. Page 2, second last line – typo – change “successful” to “successfully”
2. page 3, methods section, paragraph 1, line 1 – typo – change “observation” to “observational”
3. page 4, results section, paragraph 1, line 7 – improve readability by changing “The majority of the patient’s primary ...” to “The most common of the patient’s primary ...”
4. Results: if data is available, provide information about the proportion of patients receiving specific types of falls prevention interventions.
5. page 7, acknowledgements – line 4 – typo – change “advises” to “advice”
6. page 12 (Table 1) general safety section, middle column, line 2 – typo – delete double commas after / - ?? should be “....”
7. page 13, Table 2 – where there is reference to numbers in the thousands, these are incorrectly shown as xx’000, instead of xx,000. Please correct these typos.

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Discretionary Revisions (which the author can choose to ignore)

nil
Which journal?: Not appropriate for BMC Medicine: an article whose findings are important to those with closely related interests and more suited to BMC Health Services Research

What next?: Offer publication in BMC Health Services Research after minor essential revisions

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests