The Short Stay Unit as a new option for hospitals: a review of the scientific literature

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CRD summary
The authors concluded that the use of short stay units in hospital settings could reduce patient length of stay, which represented an alternative to the ordinary ward for selected patients. The authors’ conclusions reflect the evidence presented but the methodological weaknesses in the review process and small number of studies for some outcomes should be considered.

Authors’ objectives
To evaluate the use of short stay units in hospital settings in terms of length of hospital stay, mortality and readmission rate.

Searching
PubMed, EMBASE, The Cochrane Library, SUMsearch and Scirus were searched without language restriction to April 2009; search terms were reported. Reference lists of relevant articles were scanned and experts in the field contacted for further articles. The Internet and Google Scholar were searched for unpublished studies.

Study selection
Studies that compared short stay units with ordinary wards in hospital settings for a clinical and post-operative stay for patients who required brief hospitalisation (less than three days) and were ready to be discharged within a maximum of five days, were eligible for inclusion. Studies had to measure at least one of the following outcomes: length of stay, mortality or rate of readmission. Studies that compared emergency short stay units were excluded.

Type of wards in the studies included post-operative patients, or those with acute illness, asthma, pneumonia, suspected lung cancer or diabetes. Comparison groups included ordinary wards, or the period before short stay unit implementation. Studies were conducted in Spain, Sweden, England and Germany. Publication dates ranged from 1995 to 2008.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality
Quality was assessed using methods, devised by Hunt et al. and review authors, which considered: method of allocation to group; data analysis and reporting of results; comparability of groups at baseline; blinding of outcome assessment; and completeness of follow-up. The maximum possible score was 10 points. Only studies scoring six or more points were included in the review.

Two reviewers independently assessed quality. Disagreements were resolved by a third reviewer, who was an epidemiologist, or by consensus.

Data extraction
Data were extracted to enable calculation of mean differences and corresponding 95% confidence intervals (CIs) for length of stay, plus absolute numbers of re-admissions and deaths in each group, where available. The authors did not state how many reviewers conducted the data extraction.

Methods of synthesis
Data were pooled in a meta-analysis using a random-effects model. Statistical heterogeneity was assessed using $X^2$ and $I^2$.

Results of the review
Six studies (21,264 patients) were included in the review. One study scored a maximum of 10 points for quality, three studies scored 8, one study scored 7 and one study scored 6 points.
Patients in short stay units had a shorter length of stay compared to comparison groups (MD -3.06 days, 95% CI -4.82 to -1.29; six studies). However, there was evidence of high statistical heterogeneity ($I^2=99\%$).

There were no significant differences between short stay units and ordinary wards for mortality (two studies) and readmission rates (three studies).

**Authors’ conclusions**

Use of short stay units could reduce patient length of stay in hospital, which represented an alternative to the ordinary ward for selected patients.

**CRD commentary**

The review question was clear with broadly defined inclusion criteria. Several relevant sources were searched. Appropriate methods were used to reduce the potential for language and publication bias. A quality assessment was conducted but only the summary score was reported. Appropriate methods to reduce reviewer error and bias were used for the assessment of quality but it was unclear whether similar methods were used for the selection of studies or the extraction of data. Studies were combined in a meta-analysis but there was a high degree of heterogeneity ($I^2=99\%$). The authors reported that they conducted sensitivity analyses to assess robustness of results, but did not report either methods or data from these analyses. The authors’ conclusions reflect the evidence presented but the methodological weaknesses in the review process and small number of studies for some outcomes should be considered.

**Implications of the review for practice and research**

**Practice:** The authors stated that the use of short stay units could reduce length of patient stay in hospital and represent an alternative to the ordinary ward for selected patients.

**Research:** The authors stated that future research required accurate definition of criteria for identifying patients suitable for short stay unit admission and needed to evaluate cost-effectiveness of the implementation of short stay use.

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the reliability of the review and the conclusions drawn.