Interventions employed to improve intrahospital handover: a systematic review

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CRD summary
This review concluded that the available literature did not confirm that any method reliably improved the outcomes of clinical handover within hospitals, although information transfer may be increased. The authors’ conclusions were suitably cautious and reflect the findings of the limited quality studies identified, but relevant studies may have been missed due to limitations in the search strategy.

Authors’ objectives
To assess the effectiveness of interventions aimed at improving the quality and/or safety of the intra-hospital handover process.

Searching
MEDLINE, EMBASE, HMIC and CINAHL were searched for studies published in English from January 2002 up to July 2012; search terms were reported.

Study selection
Studies of interventions developed with the intent of improving handover quality and/or safety for groups of clinical staff handing over information about patients under their care within a hospital environment were eligible for inclusion. Studies had to report on patient outcomes, staff knowledge and skills, time taken for patient handover, or staff behavioural change. Eligible studies had to assess outcomes for pre- and post-intervention. Most of the included studies assessed shift change handover and were performed in one ward. Wards included medical, surgical, oncology, accident and emergency, and paediatric and adult intensive care units. Approximately half of the studies focused on single component interventions; the other half contained two or more components.

One reviewer assessed titles and abstracts of studies for eligibility. Two reviewers independently assessed full papers. Differences of opinion were resolved by discussion or in consultation with a third reviewer.

Assessment of study quality
A modified Downs-and-Black checklist was used to assess study quality, which had a maximum possible score of 20.

The authors did not state how many reviewers undertook quality assessment.

Data extraction
Two reviewers independently extracted data on measures of information transfer, measures of satisfaction with the process (staff and patient), measures of compliance with the prespecified protocol (for the handover, time taken, and patient outcomes including adverse events).

Methods of synthesis
A narrative synthesis was presented. The interventions were grouped into three categories of ‘person’ interventions (focusing on training people, improving awareness, and changing culture), ‘information system’ interventions (focusing on rationalising systems of information delivery) and ‘wider system’ interventions (focusing on improving the technology and infrastructure underlying the handover process).

Results of the review
Twenty-nine studies (two RCTs and 27 uncontrolled studies) were included in the review. Nineteen studies reported a total of 11,759 handovers; ten studies did not report the number of handovers. The study quality scores ranged from 1 to 17, with a median score of 9.

Seventeen studies reported a statistically significant change in at least one of their outcome measures; 10 studies did not report a significant change.
More than half of studies assessing information transfer reported improvements.

Staff satisfaction was improved in 35% studies. A similar proportion was found for improvements in time taken and compliance with protocols.

Ten studies assessed changes in patient outcome, with only two reporting a significant benefit. Of these two studies, one reported a 12% decrease in adverse events; the other reported a significant reduction in length of hospital stay.

**Authors’ conclusions**  
The available literature did not confirm that any method reliably improved the outcomes of clinical handover within a hospital, although information transfer may be increased.

**CRD commentary**  
The review question was clear. The search strategy was limited to studies in English and no attempts were made to identify unpublished data, so other relevant studies may have been missed. The authors acknowledged the limitations of their search strategy.

A brief narrative synthesis was presented. Most of the included studies were small, non-controlled, unblinded before-and-after comparisons, often with a short follow-up period. The authors acknowledged that the poor quality of most of the included studies meant that firm conclusions could not be drawn.

The authors’ conclusions were suitably cautious and reflect the findings of the limited quality data identified. However, other relevant studies may have been missed.

**Implications of the review for practice and research**  
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further research was required with better study designs and consistency of the terminology used to describe handover and its improvement. A proposal for template description of handover intervention studies was presented by the authors.

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