

HOSPITAL FALL PREVENTION: A SYSTEMATIC REVIEW OF IMPLEMENTATION, COMPONENTS, ADHERENCE, AND EFFECTIVENESS

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Objectives: To systematically document the implementation, components, comparators, adherence, and effectiveness of published fall prevention approaches in U.S. acute care hospitals.

Design: Systematic review. Studies were identified through existing reviews, searching five electronic databases, screening reference lists, and contacting topic experts for studies published through August 2011.

Setting: U.S. acute care hospitals.

Participants: Studies reporting in-hospital falls for intervention groups and concurrent (e.g., controlled trials) or historic comparators (e.g., before-after studies).

Intervention: Fall prevention interventions.

Measurements: Incidence rate ratios (IRR, ratio of fall rate postintervention or treatment group to the fall rate preintervention or control group) and ratings of study details.

Results: Fifty-nine studies met inclusion criteria. Implementation strategies were sparsely documented (17% not at all) and included staff education, establishing committees, seeking leadership support, and occasionally continuous quality improvement techniques. Most interventions (81%) included multiple components (e.g., risk assessments (often not validated), visual risk alerts, patient education, care rounds, bed-exit alarms, and postfall evaluations). Fifty-four percent did not report on fall prevention measures applied in the comparison group, and 39% neither reported fidelity data nor described adherence strategies such as regular audits and feedback to ensure completion of care processes. Only 45% of concurrent and 15% of historic control studies reported sufficient data to compare fall rates. The pooled postintervention incidence rate ratio (IRR) was 0.77 (95% confidence interval = 0.52-1.12, $P = .17$; eight studies; $I^2 : 94\%$). Meta-regressions showed no systematic association between implementation intensity, intervention complexity, comparator information, or adherence levels and IRR.

Conclusion: Promising approaches exist, but better reporting of outcomes, implementation, adherence, intervention components, and comparison group information is necessary to establish evidence on how hospitals can successfully prevent falls.