

## Better Use of Existing Evidence Reduces Falls Among the Elderly

Tinetti ME, Baker DI, King M, et al. Effect of dissemination of evidence in reducing injuries from falls. *N Engl J Med* 2008;359:252–61.

### Study Overview

**Objective.** To assess the effect of disseminating evidence-based fall prevention guidelines on injuries from falls among the elderly.

**Design.** Nonrandomized pre-/postintervention.

**Methods.** Two separate geographic regions in Connecticut were chosen for the intervention and usual care. In the intervention region, evidence-based fall prevention strategies were disseminated from 2001 to 2004 to primary care clinicians, home care agencies, senior centers, rehabilitation therapists, and acute and chronic care facilities. There were 202 primary care offices (with 522 primary care clinicians), 133 outpatient rehabilitation facilities, 26 home care agencies, 7 acute care hospitals with emergency departments, and 41 senior centers in the intervention region. The patient population consisted of all persons aged  $\geq 70$  years living in the intervention and usual care regions. Demographic profiles of both regions were similar, including gender, race, ethnicity, education, income, and physical disability.

**Main outcome measures.** Preintervention and postintervention rates of serious fall-related injuries (hip fracture, other fracture, head injury, and joint dislocation in the presence of documented falls) and fall-related use of medical services (fall-related event and treatment for any injury at an acute care hospital in Connecticut).

**Main results.** Rates of serious fall-related injuries decreased in the intervention region from 31.9 per 1000 person-years preintervention to 28.6 per 1000 person-years postintervention but slightly increased (31.2 to 31.4 per 1000 person-years) in the usual care region (adjusted rate ratio, 0.89 [95% Bayesian credibility interval, 0.88–0.94]). Rates of fall-related use of medical services increased more in the usual care region as compared with the intervention region (from 68.1 to 83.3 per 1000 person-years vs. 70.7 to 74.2 per 1000 person-years, respectively; adjusted rate ratio, 0.89 [95% Bayesian credibility interval, 0.86–0.92]).

**Conclusion.** A coordinated effort to disseminate evidence-based fall prevention guidelines to health care providers may reduce serious fall-related injuries and fall-related medical service use among the elderly.

### Commentary

Among older adults, fall-related injuries are among the most important contributors to morbidity and costs of health care, and randomized controlled trials have demonstrated the effectiveness of multifactorial fall prevention strategies, including risk assessment, environmental interventions, and exercise programs [1–3]. However, these fall prevention strategies are significantly underused among the elderly in clinical practice [4]. Older patients in the United States receive fragmented care from multiple providers [5], and it has been unclear whether efforts to encourage the use of fall prevention strategies can reduce the incidence of fall-related injuries and health care utilization.

The current investigation by Tinetti and colleagues reports the results of the first large-scale intervention designed to disseminate existing evidence on strategies to prevent falls among the elderly. The Connecticut Collaboration for Fall Prevention (CCFP) interacted with several types of health care providers in the intervention region, with successful contact rates ranging from 62% of eligible primary care offices to 100% of home care agencies over the 3-year intervention period [6,7]. Serious fall-related injuries and medical service use were assessed via state-mandated reporting by acute care facilities before and after the intervention in both study regions. Compared with older adults living in the usual care region, older adults living in the intervention region had significant decreases in serious injuries from falls and used fewer fall-related medical services.

Although this study suggests a powerful approach to reducing adverse outcomes of falls among older adults, there are some important limitations. First, the intervention was not randomized, and unmeasured differences between the intervention and usual care regions could have influenced the results. Second, both the intervention and usual care regions were located in a single state, and the results may

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not be generalizable to the national setting. Third, because the intervention was not varied within the study, it was not possible to determine whether there were parts of the intervention (eg, contacts with a certain provider group) that may have been more efficacious than others. Finally, the costs of the intervention were not assessed. Aside from the direct costs of outreach to providers, the opportunity costs of providers' time could be considerable. Determining the intervention's cost-effectiveness would inform decisions to replicate it in other settings.

### Applications for Clinical Practice

Disseminating and using evidence on strategies for preventing falls among the elderly may lead to a substantial population-level reduction in fall-related injuries and medical expenses. Payers and policy makers should consider steps to speed the adoption of existing evidence-based strategies to improve population health.

—Review by Mark W. Friedberg, MD, MPP

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### References

1. Ganz DA, Bao Y, Shekelle PG, Rubenstein LZ. Will my patient fall? *JAMA* 2007;297:77–86.
2. Chang JT, Morton SC, Rubenstein LZ, et al. Interventions for the prevention of falls in older adults: systematic review and meta-analysis of randomised clinical trials. *BMJ* 2004;328:680.
3. Gillespie LD, Gillespie WJ, Robertson MC, et al. Interventions for preventing falls in elderly people. *Cochrane Database Syst Rev* 2003;(4):CD000340.
4. Wenger NS, Solomon DH, Roth CP, et al. The quality of medical care provided to vulnerable community-dwelling older patients. *Ann Intern Med* 2003;139:740–7.
5. Pham HH, Schrag D, O'Malley AS, et al. Care patterns in Medicare and their implications for pay for performance. *N Engl J Med* 2007;356:1130–9.
6. Baker DI, King MB, Fortinsky RH, et al. Dissemination of an evidence-based multicomponent fall risk-assessment and management strategy throughout a geographic area. *J Am Geriatr Soc* 2005;53:675–80.
7. Fortinsky RH, Baker D, Gottschalk M, et al. Extent of implementation of evidence-based fall prevention practices for older patients in home health care. *J Am Geriatr Soc* 2008;56:737–43.