

## The CDC's STEADI Initiative: Promoting Older Adult Health and Independence Through Fall Prevention

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Every second of every day in America, an older adult falls, and every 20 minutes an older adult dies from a fall.<sup>1</sup> To put this into perspective, in 2014, there were 29 million falls, 7 million requiring medical treatment.<sup>1</sup> This makes falls far more common than many health conditions that affect older adults. For example, during the 2014 to 2015 influenza season, there were an estimated 8.3 million cases of influenza among persons 65 years and older,<sup>2</sup> which is about one-fourth of the number of falls that occurred in the older population in 2014.

When not fatal, falls often result in brain injury, hip fracture, and loss of independence. Falls also carry a substantial economic burden. The average fall-related hospitalization costs \$30,000, and falls rank fifth in terms of highest personal health care spending.<sup>3,4</sup> The Centers for Disease Control and Prevention (CDC) estimates that Medicare spends roughly \$31 billion on falls annually.<sup>3</sup> These statistics will only worsen as America's baby boomer population (born between 1946 and 1964) turns 65 years of age. By 2030, one in five Americans will be at least 65 years of age,<sup>5</sup> and without preventive efforts, the CDC estimates there may be 49 million falls and 12 million fall-related injuries annually.<sup>1</sup>

The good news is that there are evidence-based interventions that can prevent falls.<sup>6</sup> For community-dwelling older adults, research has found that both single and multifactorial interventions are effective at reducing falls.<sup>6,7</sup> Many of these interventions (e.g., medication management, physical therapy, corrective eyewear) can be provided in the clinical setting.

What can family physicians do to reduce falls? Physicians play an important role in identifying and managing older patients' fall risk. The CDC created the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) initiative to assist physicians in preventing falls.<sup>8</sup> Launched in 2012, STEADI offers a coordinated approach to implementing the American and British Geriatrics Societies' clinical practice guideline for fall prevention.<sup>9</sup>

STEADI includes three core elements: screen patients to identify their fall risk, assess patients' modifiable fall risk factors, and intervene to reduce fall risk by using effective clinical and community-based strategies. Combined, these elements can have a substantial impact on reducing falls, improving health outcomes, and reducing health care expenditures.

Recognizing that falls are just one of many health challenges that physicians must consider when caring for older patients, STEADI offers a streamlined clinical algorithm ([https://www.cdc.gov/steady/pdf/algorithm\\_2015-04-a.pdf](https://www.cdc.gov/steady/pdf/algorithm_2015-04-a.pdf)) readily adaptable to a busy physician's office workflow. The algorithm gives physicians and other members of the health care team (e.g., nurses, pharmacists, physical therapists, caregivers) guidance on how to conduct a comprehensive falls risk assessment. The CDC is also working with electronic health record (EHR) vendors to further integrate falls screening and assessment within the patient's medical record. Integrating STEADI with EHRs can help prompt the health care team on when to screen an older patient for fall risk and can flag potential risk factors, such as postural hypotension and the use of medications linked to falls (e.g., opioids, benzodiazepines). EHRs also offer ways to document appropriate follow-up to medical subspecialists or evidence-based community programs (e.g., tai chi program).

Additional STEADI tools and resources include case studies and tips on how to talk to patients about falls, instructional videos

on how to conduct functional assessment tests, and online training. The CDC's suite of online training courses (<https://www.cdc.gov/steady/training.html>) offers continuing education for the entire health care team, focusing on how family physician practices might address falls. Strategies include a simple three-question screening approach: Have you fallen in the past year? Do you feel unsteady when standing or walking? Do you worry about falling? The training also highlights the types of medications often associated with fall risk and how managing these medications can reduce falls.<sup>7,10</sup> Lastly, the training describes how vitamin D supplements can reduce falls by improving bone, muscle, and nerve function.<sup>11</sup> A new training course will be launched in summer 2017.

Implementing STEADI fall prevention strategies into large health systems is feasible as evidenced by health systems in Oregon and New York.<sup>12,13</sup> At the Oregon Health and Science University, STEADI was integrated first within their internal medicine and geriatrics clinics and later into family medicine practices. Integration included outlining roles and responsibilities for each health care team member (physicians, nurses, medical assistants, and even front desk staff) and creating EHR clinical decision support tools for fall risk, including dot phrases (structured note templates), doc flow sheets (data entry tables for scored measures), and Smartsets (all-in-one order sets) that resembled EHR tools often used by clinic staff. Within 18 months, the university screened more than 45% of its eligible patients.<sup>12</sup> In New York, a clinical champion from United Health Services pilot tested STEADI and then rolled it out to 17 primary care clinics. The champion worked with each clinic to improve integration success and address concerns. Before implementing STEADI, physicians at United Health Services rarely spoke to their older patients about falls, whereas nearly 70% of older patients were screened after implementation.<sup>13</sup>

So, although fall rates and health care costs are on the rise, there are steps practicing physicians can take to prevent falls and help their patients stay healthy, active, and

independent longer. For additional information on CDC's STEADI initiative and for free online tools and continuing education, visit <http://www.cdc.gov/steady>.

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## REFERENCES

- Bergen G, Stevens MR, Burns ER. Falls and fall injuries among adults aged  $\geq 65$  years—United States, 2014. *MMWR Morb Mortal Wkly Rep*. 2016;65(37):993-998.
- Centers for Disease Control and Prevention. Estimated influenza illnesses and hospitalizations averted by vaccination—United States, 2014-15 influenza season. <https://www.cdc.gov/flu/about/disease/2014-15.htm>. Accessed February 23, 2017.
- Burns ER, Stevens JA, Lee R. The direct costs of fatal and non-fatal falls among older adults—United States. *J Safety Res*. 2016;58:99-103.
- Dieleman JL, Baral R, Birger M, et al. US spending on personal health care and public health, 1996-2013. *JAMA*. 2016;316(24):2627-2646.
- Colby SL, Ortman JM. Projections of the size and composition of the U.S. population: 2014 to 2060. March 2015. <https://www.census.gov/library/publications/2015/demo/p25-1143.html>. Accessed February 23, 2017.
- Moncada L, Mire LG. Preventing falls in older persons. *Am Fam Physician*. 2017;96(4):240-247.
- Gillespie LD, Robertson MC, Gillespie WJ, et al. Interventions for preventing falls in older people living in the community. *Cochrane Database Syst Rev*. 2012;(9):CD007146.
- Stevens JA, Phelan EA. Development of STEADI: a fall prevention resource for health care providers. *Health Promot Pract*. 2013;14(5):706-714.
- Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr Soc*. 2011;59(1):148-157.
- American Geriatrics Society 2015 updated Beers Criteria for potentially inappropriate medication use in older adults. *J Am Geriatr Soc*. 2015;63(11):2227-2246.
- Michael YL, Whitlock EP, Lin JS, Fu R, O'Connor EA, Gold R. Primary care-relevant interventions to prevent falling in older adults: a systematic evidence review for the U.S. Preventive Services Task Force. *Ann Intern Med*. 2010;153(12):815-825.
- Casey CM, Parker EM, Winkler G, Liu X, Lambert GH, Eckstrom E. Lessons learned from implementing CDC's STEADI falls prevention algorithm in primary care [published ahead of print April 29, 2016]. *Gerontologist*. <https://academic.oup.com/gerontologist/article-lookup/doi/10.1093/geront/gnw074>. Accessed February 23, 2017.
- Parker E, Lee R, Floyd F, et al. Making older adult fall prevention part of routine care in a large health system in New York state. *Gerontologist*. 2015;55(suppl 2):320. ■