

A Primary Care Initiative to Reduce Falls Among Community Dwelling Older Adults

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Abstract

Purpose

The goal of this project was to implement a falls prevention program.

Design

The project involved a prospective QI designed to introduce the Center for Disease Control's STEADI initiative in a rural primary care practice in southern Virginia. Data was collected over a three-month period. Participants included providers and staff of a private clinic. Data collection included provider type, interventions initiated, patient demographics, and falls screening results. Analysis of results was completed using descriptives, ANOVA, and Point Biserial Correlations.

Clinical Relevance

The program increased the number of patients receiving interventions, introduced an order algorithm into the electronic health record, and provided a database for patient follow-up. Implementing S.T.E.A.D.I. in a single practice setting presented the opportunity to assist providers in assuring optimal care and meeting recommendations from the Centers for Medicare & Medicaid Services and the American Geriatrics Society.

Keywords: falls prevention, community dwelling older adults, S.T.E.A.D.I., evidence-based practice

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Among adults aged 65 and older the annual cost for fall related injuries in 2015 was \$50 billion (Centers for Disease Control Prevention [CDC], 2020) with a projected cost of \$67.7 billion in 2020 (National Council on Aging [NCOA], 2018). One third of senior adults will fall at least once a year with 40 to 60% of those falls leading to serious injury (Lach & Noimontree, 2018; Viera, et al., 2016). Every 19 minutes a senior adult will die as a result of injuries sustained in a fall (NCOA, 2018).

The risk factors for falls are multidimensional and encompass physiological, environmental, pharmacological, and cognitive elements (Viera et al., 2016). Beyond the fiscal costs of falls, such as hospitalizations, emergency department visits, and long-term care placement, the sequelae include fear of falls leading to deconditioning, social isolation, reduced quality of life, and declining abilities to perform activities of daily living (Viera et al., 2016).

The American Geriatrics Society/British Geriatrics Society (AGS/BGS) guidelines for prevention of falls recommends annual screening for all senior adults (Panel on Prevention of Falls in Older Persons American Geriatrics Society/British Geriatrics Society, 2011). Although screening for falls is part of the recommendations and reimbursable Medicare components of the annual wellness visit, literature reports that screening rates among primary care providers remains suboptimal (Mark et al., 2020; Phelan, Aerts, Dowler et al., 2016; Phelan, Mahoney, Voit et al., 2015). Barriers to screening include the amount of time required for appropriate screening, lack of adequate reimbursement for time spent in screening and counseling, limited availability of community programs for recommended interventions, financial constraints of patients, lack of knowledge concerning the consequences of falls among the elderly, and lack of knowledge of fall risks prevention (Liddle et al., 2018; Stevens & Lee, 2018).

The CDC developed the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) Toolkit to aid primary care providers in implementing a falls prevention program (CDC, 2011). Screening, assessing, and intervening are the critical elements on which the program's materials are based in concordance with AGS/BGS Clinical Practice Guidelines (Stevens & Phelan, 2013). Implementing the program in a primary care setting can assist healthcare providers in ascertaining the occurrence, conditions, complications, and preventative measures needed to reduce falls in community dwelling older adults (Eckstrom et al, 2017).

Review of Literature

Worldwide, 646,000 people will die this year as the result of a fall with the majority of fatalities occurring in individuals over age 60 (World Health Organization [WHO] 2020a). In the United States, a senior adult falls every second and every day 88 will die from fall-related injuries (CDC, 2020). Reducing the risk of falling has become a national and international priority and is reflected in the directives of multiple organizations (CDC, 2020; NCOA, 2018; U.S. Department of Health and Human Services [USDHHS], 2020; WHO, 2020b). Implementing multiple patient specific interventions in primary care has been shown to reduce the number of falls among older adults (Ganz & Latham, 2020; Lee, 2017; Stevens & Phelan, 2013).

STEADI Screening

The STEADI Initiative starts with the screening phase where individual patients are screened either by a three-question interview conducted by the provider or a 12-question brochure which can be completed by the patient (Stevens & Phelan, 2013). The screening brochure is designed to address the most common causes of falls (fear of falling, difficulty rising

from a chair, problems stepping up to another level, use of an ambulatory aid, difficulty getting to the bathroom, medications taken to aid sleep, and feelings of depression) (CDC, 2011).

Overcoming barriers to falls screening requires consideration of time constraints, competing priorities, staff resources, reimbursement, and knowledge deficits (Liddle et al., 2018; Mark et al., 2020). Maximizing the efficiency of distributed responsibilities allows busy offices to start the screening process as patients are registered, provide (TUG) testing, orthostatic vital signs, and visual acuity for positive screenings as patients are roomed, and to present the provider with documentation upon entering a room (Phelan, Aerts, Dowler et al., 2016). For offices where advanced assessment requires too much time during an initial visit a follow-up can be scheduled. Falls screening is covered under the annual wellness visit and the initial welcome visit for Medicare recipients (Moncada & Mire, 2017).

Positive Screening Follow-up

A “yes” response to any of the provider’s three question survey or a score of four or greater on the screening tool triggers the follow-up algorithm beginning with recommended physical assessment for gait and balance (CDC, 2011). Gait and balance testing can be completed using either the Timed Up and Go Test or the 30 second Sit to Stand (CDC, 2011). The Timed Up and Go (TUG) test requires the patient to rise from a chair, walk 10 feet, turn, and return to sit down (Podsiadlo & Richardson, 1991). Patients unable to complete the test in less than 12 seconds are considered to be at risk for falls and should be referred for gait and balance therapy (Podsiadlo & Richardson, 1991). The timed Sit to Stand uses a 30 second time and requires the patient to rise from a chair to a full standing position as many times as possible with varying numbers of stands required based on age and sex (CDC, 2011).

Additional assessments include medications, inspection of the home environment, measurement of blood pressure for orthostatic hypotension, vision screening, examination for foot problems and shoes, level of vitamin D, and any contributing comorbidities (Stevens & Phelan, 2013). Each of the steps are designed to give providers a profile of the risks for an individual patient (CDC, 2011).

Interventions Based on STEADI

Interventions are tailored to meet the specific needs of the patient, such as referrals to physical therapy or podiatry, community-based exercise programs, home assessment by occupational therapy, medication adjustment, adaptive equipment, and education (Stevens & Phelan, 2013). Although all senior adult patients should be screened, only those at moderate or high risk meet the recommendations for interventions (Moncada & Mire, 2017).

Study results from STEADI implementation have shown reduced fall hospitalization rates, fewer falls, increased screening and interventions ordered, and increased rates of patients with a high risk of falling having a Fall Plan of Care (FPOC) (Johnston et al., 2019). The STEADI program provides patients with brochures for home safety and steps they can take to prevent falls regardless of their screening results, allowing healthcare staff to address education (Stevens & Phelan, 2013).

Providing optimal care to older adults requires attention to health and safety issues that affect quality of life and functional abilities (Lee, 2017; Taylor-Piliae et al., 2017). Strengthening the primary care commitment to falls screening and application of recommended interventions presents the opportunity to keep older adults independent and reduce the costs of care (Stevens & Lee, 2018; Phelan, Aerts, Dowler et al., 2016).

Methodology

The project involved a three-month prospective Quality Improvement project that implemented the STEADI Falls Prevention Program in a rural community private family practice.

Participants included office staff, medical assistants, nurses, physician assistants, and two physicians working in a private family practice clinic. There were 25 staff and provider participants.

Procedures

Project protocol was submitted to the Institutional Review Board for approval. The program was discussed with the practice owner and staff in pre-implementation screening and was approved for implementation. Project implementation began with falls education and review of all STEADI materials for providers and staff. Due to the schedule of the clinic, initial sessions were conducted individually. An additional session occurred during an evening staff meeting. The STEADI program was presented using the CDC's training material packet with links provided to video sessions (CDC, 2011). Printed materials given to staff and providers included the fall screening tool, explanation of testing tools and procedures, and the algorithm for follow-up of positive screenings. Due to Covid restrictions there were no community resources available at the time of the project. During the course of the project the order set for risk of falls was developed and embedded in the EHR.

At project implementation a falls screening form was distributed to all senior adults at the time of the Medicare Annual Wellness Visit (AWV) for collection of fall risk data and patient assessment. One of the smallest details proved to be an item with the most trials of fit. Since patients filled out paperwork between registration and examination, fall risk scores were not always flagged for the provider. After discussion of several alternatives, patients were instructed,

both verbally and in print, to alert staff to their fall risk score. This allowed contact with several different staff members during the course of the visit and increased the number of screenings flagged. All screening forms submitted by patients with moderate to high risk of falls that did not receive orders were entered into a database given to practitioners for possible future follow-up. All falls assessment forms were scanned in to the EHR.

All senior adult patients aged 65 and older received a *Preventing Falls* brochure which outlines safety tips and home assessment that can be completed by the patient, caregivers, or family to reduce fall risks at home. All patients had education on falls prevention conducted by the wellness nurse.

Measures

Pre-Implementation

Data was collected from the electronic health record (EHR) for the number of total AWV, fall screening rates, number of patients with moderate to high fall risk, and prevention measures (referrals to physical and/or occupational therapy, referrals to podiatry, medication review, and physical assessment for fall prevention including gait and balance testing, visual acuity, foot problems, and orthostatic hypotension) over a period of six months prior to project initiation allowing for creation of a reference base.

Implementation Period

As the project was implemented falls screening forms were collected and review of the EHR was completed for all patients with a positive screening score. The total number of patients presenting for the AWV was compared to the number screened. The percentage of positive screening forms compared to the total number collected was calculated for rate of program compliance. Any screening forms excluded were noted with reason.

The percentage of interventions ordered by providers was tracked for compliance to the STEADI algorithm. Completion of nursing assessment of visual acuity, orthostatic vital signs, and TUG/ 30 second Sit to Stand tests were reported for patients with interventions ordered. Type and number of interventions were tracked.

The Demographics of age, sex, and race were gathered. The number of comorbidities and medications were collected instead of specific profiles in order to protect the anonymity of the patients. Patient responses to select questions from the screening form were calculated for influence of variables.

Data Analysis

Data analysis was conducted using the Intellectus software program. Retrospective review of records established baseline performance percentages of screening rates and interventions ordered. Descriptive statistics were used to calculate percentages of fall screening rates from the beginning of implementation to the end of the three-month period. Descriptive statistics were also used to determine the percentage of positive screenings completed compared to the total, interventions ordered by providers, and the assessment measures completed by nursing staff . Point Biserial Correlation was used to test screening results for significant correlations of binary variables (sex, race, fall in the past year, difficulty rising from a chair, stepping up onto a curb, and use of an ambulatory aid). Analysis of variance (ANOVA) was used for determining the influence of variables from the screening form that helped to determine provider's interventions.

Results

In the six-month period prior to implementation the practice had 456 patients that presented for the AWV. There were seven patients (1.5 %) that were not screened for fall risk.

There were 204 (44.52 %) patients that had either a moderate or high fall risk per the Morse Fall Risk assessment. Documentation of interventions (1.93 %) included three referrals to physical therapy and one medication change due to a fall.

For the three-month project implementation period there were 294 patients (100 % of AWW) screened with 111 (37.76 %) screening as a moderate or high fall risk. During the project period patients were screened with both the STEADI form filled out by the patient and the Morse Fall Scale by the wellness nurse to meet Medicare requirements. Of the 111 positive results 24 did not meet criteria for age 65 or older. Those charts were flagged for follow-up. There were seven additional screening forms that were illegible or lacked demographic data and one duplicate form.

Provider and Staff Information

Providers placed orders for 39.24% ($n = 31$) of the 79 patients with positive screenings. One physician placed 64.5% of the orders. Nursing staff performed visual acuity testing, orthostatic vital signs, and TUG/Sit-Stand testing on 77.4% ($n = 24$) of the 31 patients. Visual acuity and orthostatic vital signs were documented by nursing on another 9.7% ($n = 3$). Three patients declined testing and one patient had no record of testing on chart review.

Interventions

Out of the 31 patients noted to have interventions completed 22 received orders for referral to physical therapy, ten patients declined. There were three patients unable to complete either the TUG test or 30 second sit-stand test, two were in wheelchairs, one declined due to injury. There were two patients with medication changes due to positive orthostatic testing. Four patients were referred to podiatry and an additional three referred to ophthalmology.

Characteristics of Patients

The mean age for all positive patients was 77.65. Distribution by race revealed 78.48% ($n = 62$) Caucasian and 21.51% ($n = 17$) African American. The majority of patients with positive screenings were female 74.68% ($n = 59$) with mean age of 78.8 years. Patients had a mean of 10.13 ($SD = 4.75$) comorbidities and took on average 11.25 ($SD = 4.85$) medications.

Screening Variables

Over half (59.49%, $n = 47$) of the patients reported having fallen in the past year. Fear of falling affected 53.16% ($n = 42$) of patients and 57 % ($n = 21$) of the patients who responded they did not have a fear of falling had fallen in the past year. Variables tracked from the falls screening form revealed that patients at risk for falls have high rates of difficulty rising from a chair (81.01 %, $n = 64$) and stepping up onto a curb (64.56%, $n = 51$). More than half of the patients (54.4 %, $n = 43$) reported they had been told to use an ambulatory aid. Point Biserial Correlations were completed for all binary variables with the only significant correlation being age and fear of falling, $r_{pb} = -0.24$, 95% CI [-0.44, -0.02], $p = 0.30$. Lower ages tended to be correlated with the “no” response. ANOVA results showed that Caucasian males had higher rates of comorbidities, ($M = 12.38$, $SD = 4.35$, $n = 46$) than Caucasian females and African American males and females.

Discussion

The project was designed to implement STEADI into the practice of a family medical center to improve patient outcomes by reducing the risk for falls (Phelan, Aerts, Dowler et al., 2016). Despite the challenges, progress was made in incorporating a falls intervention algorithm into the electronic health record, instituting a flagging process for positive screenings, and increasing the number of patients receiving interventions by 37%. The inclusion of an EHR

template for the interventions algorithm assisted providers' access to a "risk of falls" order set and reduced the time required to implement interventions.

Barriers to progression of the project presented challenges that required re-education, changes to the manner and location of testing, and encouragement by practice champions. Limiting patient exposure to others lead to realignment of testing procedures to allow for in-room completion, accommodated with handheld visual acuity cards and the 30 second Sit-Stand test. Practice champions helped provide guidance for other nursing staff in administration of assessment testing and documentation of results in the electronic health record.

Four of the five providers were not familiar with the STEADI program prior to project initiation. Although the providers and staff knew about the fall risk assessment completed during the AWV, there was knowledge deficit of the costs, interventions, and specific risks related to falls and fall-related injuries, a problem commonly noted (Howland et al., 2018; Liddle et al., 2018; Mark et al., 2020). Sharing information during educational and staff meetings presented the opportunity to assist clinic personnel in understanding the extensive sequelae of falls among their senior adult patients (CDC, 2020).

There were several findings that parallel results from other studies. Polypharmacy was a major factor among patients with positive screenings correlating with study results where patients taking ten or more medications resulted in a 50% higher rate of falls (Dhalwani et al., 2017). Patients with higher fall risk scores had high "yes" responses on "difficulty rising from a chair" and "difficulty stepping up to a curb" questions (CDC, 2011). Recent research has focused on pathophysiologic changes to the musculature, particularly of the lower extremities, that occurs with aging and increases risk of falling (Soriano-Arroquia et al., 2016). Findings indicate the profile for an older adult at greatest risk of falls includes multifactorial dimensions (age,

comorbidities, polypharmacy, environment, gait and balance disturbances, visual impairment, and orthostatic hypotension), paralleling findings from a meta-analysis of international studies (WHO, 2017).

Limitations

The project was conducted in a small rural community. Demographic information obtained was limited to the population served and may not reflect populations in other areas. Census screening was done to locate patients presenting for the Medicare AWW which may not be reflective of every patient with risks for a fall. The project was tracked for a three-month time period which limits the evaluation of sustainability.

The advent of Covid-19 and the deleterious effects on healthcare in general were also evident in the restrictions of time and personnel available to complete program directives. Implementation began during an acute phase of the Covid-19 pandemic. During the first month of the project the practice saw 466 patients with Covid-19 related symptoms, 23% of their census. As weeks progressed, over half of the staff would either test positive for the virus or have to quarantine with a family member. The extra time and efforts made to keep patients safe, perform effective testing, and assess patients in an exterior clinic extension required extensive workload changes. Due to the restrictions necessary during the pandemic no home assessments were referred to occupational therapy.

Conclusion

Implementing changes within the daily functioning of a busy private practice presents multiple challenges (Ye et al., 2020). The STEADI initiative can be incorporated with the AWW to create an opportunity for providers to address fall risks in their senior adult patients (Phelan et al., 2016). Adding an order set to the EHR, changing TUG testing to a 30 second Sit-Stand, and

providing handheld visual acuity cards to nursing staff decreased the time needed for testing, improved the workflow, and assisted with reducing risk of exposures between patients. The incremental increase of preventative measures taken by the practice provides evidence of the drive to provide quality healthcare for their patients.

The feasibility of sustaining the STEADI initiative in a rural private practice will require concentrated effort to address barriers and find solutions (Ye et al., 2020). As the growth of the aging population exceeds the provisions of an already strained primary care workforce, the commitment to quality excellence will demand innovative measures. Reducing the risk for falls and the related personal and fiscal costs is an essential primary care objective.

Clinical Resources

Centers for Disease Control and Prevention. *STEADI – Older Adult Fall Prevention*.

<https://www.cdc.gov/steady/index.html>

National Council on Aging. *Falls Prevention*. [https://www.ncoa.org/news/resources-for-](https://www.ncoa.org/news/resources-for-reporters/get-the-facts/falls-prevention-facts/)

[reporters/get-the-facts/falls-prevention-facts/](https://www.ncoa.org/news/resources-for-reporters/get-the-facts/falls-prevention-facts/)

U.S. Department of Health and Human Services. *Reduce fall-related deaths among older adults*.

[Health.gov/healthypeople/objectives-and-data/browse-objectives/injury-prevention/reduce-fall-](https://www.health.gov/healthypeople/objectives-and-data/browse-objectives/injury-prevention/reduce-fall-related-deaths-among-older-adults-IVP-08)

[related -deaths-among-older-adults-IVP-08](https://www.health.gov/healthypeople/objectives-and-data/browse-objectives/injury-prevention/reduce-fall-related-deaths-among-older-adults-IVP-08)

References

- Bergen, G., Stevens, M. R., Kakara, R., & Burns, E. R. (2019). Understanding modifiable and unmodifiable older adult fall risk factors to create effective prevention strategies. *American Journal of Lifestyle Medicine*, 20(10).
<https://doi.org/10.1177/1559827619880529>
- Centers for Disease Control and Prevention. (2011). *STEADI - older adult fall prevention*. Retrieved September 30, 2020, from <https://www.cdc.gov/steady/index.html>
- Centers for Disease Control and Prevention. (2020). *Cost of Older Adult Falls*. Retrieved September 22, 2020, from <https://www.cdc.gov/homeandrecreationsafety/falls/data/fallcost.html>
- Dhalwani, N. N., Fahami, R., Sathanapally, H., Seidu, S., Davies, M. J., & Khunti, K. (2017). Association between polypharmacy and falls in older adults: a longitudinal study from England. *BMJ Open*, 7(10), e016358. <https://doi.org/10.1136/bmjopen-2017-016358>
- Eckstrom, E., Parker, E. M., Lambert, G. H., Winkler, G., Dowler, D., & Casey, C. M. (2017). Implementing STEADI in academic primary care to address older adult fall risk. *Innovation in Aging*, 1(2), 1–9. <https://doi.org/10.1093/geroni/igx028>
- Ganz, D. A., & Latham, N. K. (2020). Prevention of falls in community-dwelling older adults. *New England Journal of Medicine*, 382, 734–743.
<https://doi.org/10.1056/NEJMcp1903252>
- Howland, J., Hackman, H., Taylor, A., O'Hara, K., Liu, J., & Bruschi, J. (2018). Older adult fall prevention practices among primary care providers at accountable care organizations: A pilot study. *PLoS ONE*, 13(10), e0205279. <https://doi.org/10.1371/journal.pone.0205279>

- Johnston, Y. A., Bergen, G., Bauer, M., Parker, E. M., Wentworth, L., McFadden, M., Reome, C., & Garnett, M. (2018). Implementation of the Stopping Elderly Accidents, Deaths, and Injuries Initiative in primary care: an outcome evaluation. *The Gerontologist*, *59*(6), 1182–1191. <https://doi.org/10.1093/geront/gny101>
- Lach, H. W., & Noimontree, W. (2018). Fall prevention among community-dwelling older adults. *Journal of Gerontological Nursing*, *44*(9), 21–29.
- Lee, R. (2017). The CDC's STEADI initiative: promoting older adult health and independence through fall prevention. *American Family Physician*, *96*(4), 220–221.
- Liddle, J., Lovarini, M., Clemson, L., Mackenzie, L., Tan, A., Pit, S. W., Poulos, R., Tiedermann, A., Sherrington, C., Roberts, C., & Willis, K. (2018). Making fall prevention routine in primary care practice: perspectives of allied health professionals. *BMC Health Services Research*, *18*, Article 598. <https://doi.org/10.1186/s12913-018-3414-1>
- Mark, J. A., Haddad, Y. K., & Burns, E. R. (2020). Differences in evaluating fall risk by primary care provider type. *The Journal for Nurse Practitioners*, *16*, 528–532.
- Moncada, L. V., & Mire, L. G. (2017). Preventing falls in older persons. *American Family Physicians*, *96*(4), 240–247.
- Moullin, J. C., Dickson, K. S., Stadnick, N. A., Rabin, B., & Aarons, G. A. (2019). Systematic review of the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. *Implementation Science*, *14*(1).
- National Council on Aging. (2018). *Falls Prevention*. NCOA. <https://www.ncoa.org/news/resources-for-reporters/get-the-facts/falls-prevention-facts/>

Panel on Prevention of Falls in Older Persons American Geriatrics Society/British Geriatrics

Society. (2011). Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *Journal of American Geriatric Society*, 59, 148–157.

Phelan, E. A., Aerts, S., Dowler, D., Eckstrom, E., & Casey, C. M. (2016). Adoption of evidence-based fall prevention practices in primary care for older adults with a history of falls. *Frontiers in Public Health*, 4, Article 190. <https://doi.org/10.3389/pubh.2016.00190>

Phelan, E. A., Mahoney, J. E., Voit, J. C., & Stevens, J. A. (2015). Assessment and management of fall risk in primary care settings. *Medical Clinics of North America*, 99(2), 281–293. <https://doi.org/10.1016/j.mcna.2014.11.004>

Podsiadlo, D., & Richardson, S. (1991). The timed "up & go": A test of basic functional mobility for frail elderly persons. *Journal of the American Geriatrics Society*, 39(2), 142–148. <https://doi.org/10.1111/j.1532-5415.1991.tb01616.x>

Soriano-Arroquia, A., House, L., Tregilgas, L., Canty-Laird, E., & Goljanek-Whysall, K. (2016). The functional consequences of age-related changes in microRNA expression in skeletal muscle. *Biogerontology*, 17(3), 641–654. <https://doi.org/10.1007/s10522-016-9638>

Stevens, J. A., & Lee, R. (2018). The potential to reduce falls and avert costs by clinically managing fall risk. *American journal of Preventative Medicine*, 55(3), 290–297. <https://doi.org/10.1016/j.amepre.2018.04.035>

Stevens, J. A., & Phelan, E. A. (2013). Development of STEADI: A fall prevention resource for health care providers. *Health Promotion Practice*, 14(5), 706–714. <https://doi.org/10.1177/1524839912463576>

- Taylor-Piliae, R. E., Peterson, R., & Jane Mohler, M. (2017). Clinical and community strategies to prevent falls and fall-related injuries among community dwelling older adults. *Nursing Clinics of North America*, 52(3), 489–497. <https://doi.org/10.10116/j.cnur.2017.04.004>
- U.S. Department of Health and Human Services. (2020). *Reduce fall-related deaths among older adults*. Health.gov. [health.gov/objectives-and-data/browse-objectives/injury-prevention/reduce-fall-related-deaths-among-older-adults-IVP-08](https://health.gov/healthypeople/objectives-and-data/browse-objectives/injury-prevention/reduce-fall-related-deaths-among-older-adults-IVP-08)
- Vieira, E. R., Palmer, R. C., & Chaves, P. H. (2016). Prevention of falls in older people living in the community. *BMJ*, 353, i1419. <https://doi.org/10.1136/bmji1419>
- World Health Organization. (2017). *Evidence profile: risk of falls*. <https://www.who.int/ageing/health-systems/icope/evidence-centre/icope-evidence-profile-falls.pdf?ua=1>
- World Health Organization. (2020a). *Falls prevention in older age*. Retrieved October 6, 2020, from <https://www.who.int/ageing/project/falls-prevention-older-age/en/>
- World Health Organization. (2020b). *Falls*. Retrieved October 6, 2020, from <https://www.who.int/news-room/fact-sheets/detail/falls>
- Ye, J., Zhang, R., Bannon, J. E., Wang, A. A., Walunas, T. L., Kho, A. N., & Soulakis, N. D. (2020). Identifying practice facilitation delays and barriers in primary care quality improvement. *Journal of the American Board of Family Medicine*, 33, 655–664. <https://doi.org/10.3122/jabfm.2020.05.2000058>