Falls and associated injury and mortality are of increasing concern among aging Americans. Effective fall risk management is a complicated process requiring involvement by both health care professionals and older adults for three related actions: (a) early screening to detect risk factors; (b) prescription of tailored interventions; and (c) implementation of, adherence to, and compliance with the intervention by the older adult. Early detection of fall risk can prevent future falls; however, uptake of evidence-based screening and assessment protocols in the clinical setting has been limited. A variety of practice guidelines and financial incentives are available to health care professionals to facilitate adoption. Yet, there remains a gap between recommended practices and current clinical activities. This commentary addresses the complexities of fall prevention practices and offers solutions that can facilitate adoption by clinical practices. Toward this end, this commentary will present two models (i.e., a clinical approach and a financial incentive approach) to summarize current clinical recommendations and practice guidelines for fall risk management in clinical settings. The various drivers to encourage adoption of evidence-based fall risk management strategies will be described. In this context, we will discuss how understanding the different systemwide practice improvement initiatives and factors that drive action in physician groups, can facilitate adoption and implementation of fall risk management behaviors by clinicians. Additional efforts are needed to explore and assess similar initiatives to adopt and implement fall risk management practices at different entry points into the system (e.g., community settings, patients, caregivers).

Key Words: Fall, Fall prevention, Older adult, Policy

Each year, approximately 30% of adults aged 65 years and older fall (Stevens, 2012). This problem is projected to increase as baby boomers age. By 2020, an estimated $54 billion will be
spent annually on medical costs associated with falls (Stevens, Corso, Finkelstein, & Miller, 2006). Effective fall risk management is complicated in that three related actions must occur: (a) early screening to detect risk factors (Prevention of Falls in Older Persons AGS/BGS Clinical Practice Guidelines 2010); (b) prescription of tailored interventions (Roudsari, Ebel, Corso, Molinari, & Koepsell, 2005; Stevens, 2010); and (c) implementation, adherence, and compliance of the intervention by the patient (Campbell, Robertson, Gardner, Norton, & Buchner, 1999; Mahoney et al., 2007). The specific roles of who is responsible for which aspects of fall prevention are not well defined (Fixsen, Scott, Blase, Naoom, & Wagar, 2011); however, the financial cost of older adult falls and the impact on quality of life has brought fall prevention, and the need to define these roles to the forefront of several public health and clinical initiatives.

Defining the role of the primary care setting has been the traditional starting point of this process. If primary care providers routinely screen and manage fall risk as part of clinical practice, then two parts of the problem are addressed. Yet, implementation of this seemingly simple solution into clinical practice has brought attention to the complexities of current processes designed to integrate sustainable evidence-based practice in the clinical setting. It is clear that developing practice guidelines is not enough (Chou, Tinetti, King, Irwin, & Fortinsky, 2006; Davis & Taylor-Vaisey, 1997; Hanbury, Farley, Thompson, Wilson, & Chambers, 2012), and it is unclear if financial incentives add additional clarity or confusion. For example, the dynamic health care climate has created an array of financial incentive and reimbursement initiatives to improve clinical practice. These initiatives have been generated by recent health care reform legislation, but have created a situation of conflicting drivers to change policy.

This commentary addresses the complexities of fall prevention practices and offers solutions that can potentially improve clinical practice and outcomes. We recognize the responsibility for effective fall management does not solely lie on the primary care provider; the patient, caregivers, and allied health professionals play equal or often greater roles in the success of an intervention. However, given that the health care provider is typically the trusted source to start the conversation; this commentary will focus on their role in fall prevention. Although additional issues persist about the roles and responsibilities of patients and caregivers in fall prevention, screening, and management, this discussion is outside the scope of this commentary.

Toward this end, this commentary presents two models, a clinical practice model and a financial incentive model, to summarize current recommendations and practice guidelines for fall risk management in clinical settings. The gap between clinical guidelines and clinical practice is highlighted. The various drivers to encourage adoption of evidence-based fall risk management strategies are described. In this context, we will discuss how understanding the different systemwide practice improvement initiatives, and factors that drive action in physician groups, can facilitate implementation of fall risk management behaviors.

**Models of Fall Risk Assessment**

To frame this discussion, two models to enhance adoption of fall risk assessment were identified. The **clinical practice model** is based on a review of clinical practice guidelines and tool kits, recommendations to physicians on how to manage fall risk, and research on the implementation of these guides in the clinical setting. In the **financial incentive model**, we present the policies/programs/initiatives, which utilize select evidence from the clinical practice model to put forth and promote key quality improvement indicators, and then provide a financial reward to health care providers who report their clinical actions related to these indicators.

**Clinical Practice Guidelines**

Screening for fall-related risk is a critical first step to target care to a specific population that may need follow-up fall risk assessment and treatment. Several countries (e.g., France, Canada, England) have developed clinical guidelines to address falls (Beauchet, Dubost, Revel Delhom, Berrut, & Belmin, 2011; Moreland et al., 2003; NICE, 2004); however, for the purpose of this commentary, we limited the review of falls risk screening and assessment evidence to existing U.S.-based fall prevention guidelines applied to the U.S. health care system. The review was limited to guidelines, recommendations, or tool kits specifically targeting health care providers to manage fall risk in outpatient settings.

**Commentary on Clinical Practice Models**

The guidelines identified included the American Geriatrics Society (AGS)/British Geriatrics Society

The AGS/BGS guideline provides practitioners with an algorithm they can use with older adults in a community setting (Prevention of Falls in Older Persons AGS/BGS Clinical Practice Guidelines, 2010). The algorithm recommends all older adults be screened for fall risk at least annually. The algorithm includes screening questions, a list of evidence-based risk factors, and recommended interventions to address identified risk factors. This information is helpful to achieve screening purposes, but it may not necessarily facilitate the prescription of tailored interventions. The algorithm does not classify a patient’s risk or link risk level to the most appropriate intervention. Additionally, the intervention recommendations are not prescriptive. For example, the recommendation that the intervention “provide individually tailored exercise program” does not take into account the extensive literature about the most effective exercise interventions to minimize fall risk (Gillespie et al., 2012; Sherrington et al., 2008), nor does it provide guidance regarding evidence-based programs in the community (Stevens, 2008). The recommendations state all risk factors should receive an appropriate intervention, but they do not take into account the literature about the most effective interventions (e.g., which patient would be most likely to benefit from attending a Tai Chi class vs. a dose of physical therapy; Stevens, 2008).

The United States Preventive Services Task Force (USPSTF) recommendations were based on an extensive review of the published literature (Moyer, 2012). The recommendations do not specifically state all older adults should be screened for fall risk; however, they recommend Grade B interventions that include exercise or physical therapy and/or Vitamin D supplementation. The USPSTF recommends that physicians consider similar screening tools as the AGS/BGS guideline to screen an older adult at risk of falling; however, they do not provide recommendations as to who constitutes an older adult at risk, which leaves the responsibility of this judgment on the clinician. The guideline may be more effective if they include clear delineation of the at-risk population, including evidence-based criteria such as a history of falls and a history of mobility problems (Tinetti, 2010). The USPSTF specifically does not recommend a multifactorial risk assessment for all adults aged 65 and older whether they are at risk of falling or not. The Task Force’s recommendation is that if an older adult appears to be at risk, he or she should be screened, and then the physician and the patient should balance the benefits and harms of performing a more in-depth assessment, including a more comprehensive understanding of the circumstances of the fall and the needs of the patient.

The USPSTF potentially adds an additional layer of complexity. Following these proposed guidelines requires a substantial level of physician and patient interaction to determine the best course of action. The lack of clear guidelines as to who should be screened poses a challenge. Should a clinician screen all older adults? Or, should they only screen those at risk? Who is at risk? How can functional impairments be determined if they only screen those at risk per individual clinical judgment? Further, the lack of fall risk classification, especially without additional information gleaned from a multifactorial assessment, poses additional challenges to effective and efficient management of fall risk. An older adult who is frail may receive a Grade B intervention of Vitamin D and an exercise program, when they may respond better to physical therapy first to address their significant strength and balance impairments and then have the ability to successfully participate in an exercise program (Faber, Bosscher, Chin, & van Wieringen, 2006). Conversely, a more robust older adult who’s balance impairments may not require skilled physical therapy but would benefit greatly from a more challenging community-based program such as Tai Chi, or Fallproof!

**Falls Prevention Tool Kits—Additional Resources to Bridge the Gap**

The need for additional information to effectively manage fall risk has been identified, and several organizations have created tool kits to achieve the goal of tailored intervention. The majority of these tool kits have targeted facilities such as skilled nursing and long-term care facilities, home health settings, or hospitals (Agency for Healthcare Research and Quality [AHRQ], 2010, 2013). Few published tool kits have targeted the outpatient setting, which creates an additional barrier to adoption by health care providers. Clinical practice guidelines appear to be a challenge to implement. Tool kits provide resources to guide clinicians through aspects of the implementation process. The STopping Elderly Accidents, Deaths, and Injuries (STEADI) Tool Kit is one example of a tool kit recently released to simplify and standardize fall
risk assessment in clinical settings and facilitate adoption of evidence-based interventions delivered by health care providers (Stevens & Phelan, 2012). Additional research is needed to understand the impact tool kits targeting the outpatient setting will have on clinical practice.

Financial Incentive Models

To accurately capture the evolving status of fall prevention practices, incentives, and reimbursement in clinical settings, a review of quality improvement initiatives and financial incentives designed to facilitate the adoption of falls risk screening was performed. Through this review, we identified four models developed and implemented by the Centers for Medicare and Medicaid Services (CMS): (a) Physician Quality Reporting System (PQRS); (b) Medicare “Annual Wellness Visit”; (c) Meaningful Use Incentive Program; and (d) Accountable Care Organization Program (Table 1). All programs except for PQRS were launched as part of the Affordable Care Act (Patient Protection and Affordable Care Act of 2010, 2010). The review included a critique of internet-based content to assess the following components: (a) fall prevention measures; (b) method of reporting/capturing screening performed in-office; and (c) formats used to report screening activities performed during clinical visits for financial reimbursement.

Commentary on Financial Incentive Models

Physician Quality Reporting System.—Established by CMS in 2007, the PQRS is currently a voluntary quality improvement program that encourages providers to report completion of clinical procedures. Physicians and allied health providers (i.e., physician assistant, nurse practitioner, certified nurse specialist, physical therapist, occupational therapist, etc.) who bill for Medicare Services are all eligible to participate in this program (Physician Quality Reporting System, 2012). Participants are eligible if they report on three selected quality measures. In 2007, clinicians could select from a list of 70 quality measures and receive incentive pay of up to 2% of their annual Medicare billing, in 2013 they can select from up to 328 measures and receive 0.5% incentive pay, and by 2015 the incentive pay will turn into a penalty deduction. Medicare will deduct up to 1.5% of the total annual billing from eligible practices that chose not to participate in PQRS by 2015.

Fall-related risk assessment (CPT-II code 154) and a falls plan of care (CPT-II code 155) are two quality measures, which have been available since 2010. To qualify to receive the PQRS financial incentive, providers need to report on any three quality measures for 80% of patients aged 65 and older. For the falls-related quality measures, the provider must report on both measures. First, the provider carries out a fall risk assessment on an adult considered at fall risk based on a history of two or more falls or one fall with injury within the previous 12 months. Assessments can consist of measuring a patient’s performance on the “timed up-and-go” test, orthostatic hypotension, vision impairment, medications, and home hazards. Second, for the provider to document a fall plan of care, providers must report that they prescribed an intervention, such as physical therapy or a medication change.

Meaningful Use Incentive Program.—Launched in 2011 as part of the Affordable Care Act, Meaningful Use is a CMS-run program to incentivize providers to: (a) use electronic health record (EHR) technology in a meaningful way; (b) enable the exchange of patient health information through EHR technology; and (c) submit indicators on quality of care (An Introduction to the Medicare EHR Incentive Program for Eligible Professionals, 2012). If providers report specific core measures and select quality indicators, they can receive incentive pay up to a total of $24,000–$44,000, depending on the year participation started. Providers who do not participate in Meaningful Use will be subject to a penalty fee in 2015. A final list of 64 quality indicators for practices to select and receive incentive pay for in 2014 was recently released (Clinical Quality Measures, 2013). Fall risk screening is one of the quality indicators. Unlike for PQRS, the clinician only has to report the patient was screened for fall risk, and does not have to report subsequent assessment or intervention (Meaningful Use—Stage 2, 2012).

Medicare Annual Wellness Visit.—Launched in 2011, the Wellness Visit is a benefit that involves a series of prevention screenings including those for fall-related risk as well as for depression, cognition, and body mass index. Physicians who perform a wellness visit receive a higher reimbursement than a regular visit (Quick Reference Information: The ABCs of Providing the Annual Wellness Visit, 2012). The initial Wellness Visit is the most comprehensive and includes a falls risk screen, but does not provide clinicians with recommendations for appropriate screening tools. Further, this first
<table>
<thead>
<tr>
<th>Model</th>
<th>Fall-related measure (code)</th>
<th>Description</th>
<th>Recommended procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Quality Reporting System (PQRS)</td>
<td>Falls: Risk Assessment (PQRS #154)</td>
<td>Provider screens for fall risk (i.e., 2 or more falls within past 12 months or any fall with injury in the past year). If patient is at fall risk, provider conducts multifactorial assessment.</td>
<td>• Identify falls history</td>
</tr>
<tr>
<td></td>
<td>Falls: Plan of Care (PQRS #155)</td>
<td>If the patient screens at fall risk (PQRS #154), then provider creates a plan of care.</td>
<td>• Conduct Timed up and Go (TUG)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check vision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Measure orthostatic blood pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Review medication</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Check home environment</td>
</tr>
<tr>
<td>Meaninful Use Incentive Program</td>
<td>Falls: Screening for Fall Risk (NQF #0101)</td>
<td>Provider screens for fall risk (i.e., 2 or more falls within past 12 months or any fall with injury in the past year).</td>
<td>• Consider appropriate assistive device</td>
</tr>
<tr>
<td></td>
<td>Fall Risk Management (NQF #0035)</td>
<td>Provider discusses problems about falling or problems with balance or walking with patient. Provider develops a plan of care for falls for patients at risk.</td>
<td>• Provide balance, strength, and gait training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Discuss problems of falling or problems with balance or walking</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Assess orthostatic blood pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Suggest an exercise or physical therapy program</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Suggest a vision or hearing test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Screen patient for fall risk</td>
</tr>
<tr>
<td>Medicare Annual Wellness Visit</td>
<td>Falls: Screening for Fall Risk</td>
<td>Provider screens for fall risk; Provider provides health advice and referrals, as appropriate, to programs aimed at reducing risk factors for falls.</td>
<td>• Provide balance, strength and gait training</td>
</tr>
<tr>
<td>Accountable Care Organization (ACO) Program</td>
<td>Falls: Screening for Fall Risk (ACO #13)</td>
<td>Provider screens for fall risk (i.e., 2 or more falls within past 12 months or any fall with injury in the past year).</td>
<td>• Identify falls history</td>
</tr>
</tbody>
</table>

visit does not provide physicians with specific evidence-based guidelines about how to identify an appropriate screening tool. In addition, the fall risk screen is only part of the initial wellness visit, and is not a requirement for subsequent annual wellness exams, which counters recommendations that fall-related risk screenings be performed annually.

**Accountable Care Organization Program.**—
Launched in 2011, Accountable Care Organization (ACO) programs were created to help manage risk and incentivize prevention. According to CMS, an ACO is “an organization of health care providers that agrees to be accountable for the quality, cost, and overall care of Medicare beneficiaries who are enrolled in the traditional fee-for-service program” (Accountable Care Organizations, 2012, p. 1). Providers are incentivized to control costs by participating in a cost-savings plan. In general, the total health care costs of an ACO are compared with Medicare benchmark data. If the ACO spends less than the benchmark, then the ACOs receive that savings in incentive pay. To qualify for this program, ACOs need to report on quality indicators. Fall risk screening is one of the quality indicators. Similar to the Meaningful Use indicator program, clinicians must screen for falls but they are not required to document assessment or intervention, nor does the ACO require that electronic health records provide recommended interventions for those at risk of falls.

**Discussion**

Falls are recognized as a growing health concern among the aging population, and more health care systems are taking action to ensure seniors receive the screening and preventive treatment they require. This commentary introduces the role of clinical and financial incentive models designed to improve fall prevention, and describes some of the complexities in delivering and evaluating the effectiveness of fall risk management. Admittedly, we have not accounted for the myriad of practice variations utilized to manage fall-related risk across providers and settings. Yet, the lack of standardization and consistency of messaging from multiple agencies and drivers may inadvertently create barriers to clinicians’ adoption of evidence-based fall risk management relative to the number of facilitators.

Further, we recognize that older adults play an equal or greater role in the effectiveness of an intervention. As stated by Beauchet in the French Society’s Fall Risk Management Guidelines “… although the practice of regular physical activity is the most well-known intervention (to protect against falls), exercise compliance in older adults is still weak, regardless of its type. This particularity is too often underestimated however it is essential for the efficacy of any fall prevention intervention” (Beauchet et al., 2011, p. 80). There is concern that this lack of standardized messaging to providers will also have a negative impact on the already poorly understood factors that impact patient adherence and compliance.

**Challenges for Clinical Practice Implementation**

Changing clinical practice is a challenging task. Research indicates the adoption of clinical practice guidelines in any setting can be limited by physician/provider perceptions that introducing a new guideline takes too much time, it isn’t applicable to their patient population, or the belief that they already provide these services to their patients (or provide a better service to their patients relative to what is suggested by the guideline) (Chou et al., 2006; Davis & Taylor-Vaisey, 1997; Hanbury et al., 2012). Adoption of clinical guidelines for fall risk management has met similar challenges. Although the AGS/BGS guideline has been in existence for over a decade, and there is compelling evidence that screening for falls is efficient and effective, providers have been slow to adopt a clinical practice guideline for fall risk management. It is unknown if tool kits that provide additional resources for training and implementation will facilitate the adoption process.

The impact of the financial models has yet to be determined, especially because these models are relatively new and not in complete alignment with the clinical practice recommendations as described in this commentary. It is not yet evident the extent to which physicians are adopting the falls PQRS indicator, which was the first fall risk management indicator to be implemented. According to CMS, falls is the eighth most reported quality indicator for the PQRS, with more than 600,000 patients screened and assessed for falls risk to date (2010 Reporting Experience Including Trends (2007–2011), 2012). However, when the data are broken down per provider, a different story is told. The fall quality indicator was not listed in the top five indicators for any physician group (including geriatricians). For allied health providers, falls were the second most popular quality indicator for physical therapists. These data indicate physical therapists, not physicians, may be the clinicians who are actually adopting and reporting this PQRS indicator.
With the implementation of other financial models linked to health care reform, it is unknown how long or in what form the PQRS will be used in the future. This is especially true considering Meaningful Use Incentives and ACO programs are using the first part of the PQRS system but have not adopted the other sections. The advantage of the PQRS is that it includes guidance for assessments, which can inform health care providers about patients’ fall risk factors that require intervention. The disadvantage is that completing the falls risk PQRS requirements can be lengthy and complex for physicians.

The Wellness Visit, ACO Programs, and Meaningful Use Incentive Programs have all taken an important first step in identifying fall screening as a quality indicator, but they may not provide enough information for falls to be managed after the risk is identified. Some research suggests if you tell an older adult they are at risk for falling, but do not follow through with an intervention, the older adult may significantly decrease their activity levels for fear they may fall (Ness, Gurney, & Ice, 2003). This often results in a vicious cycle of inactivity, which will actually increase fall risk. Thus, there are unintended consequences that these initiatives might identify fall risk but not manage fall risk. Physicians report appreciating guidance and specific recommendations regarding appropriate assessments such as those embedded in the PQRS (Schrodt et al., 2012). However, the PQRS may not provide enough information or may be too limiting to accurately manage all aspects of fall risk management in a patient population.

It may be that the practice change drivers, much like the patient interventions, need to be tailored for the greatest adoption. The myriad of financial models may be confusing for a clinician who wants to do a better job managing fall risk. Engaging physicians and other health care providers (e.g., nurses) in fall prevention requires an understanding of drivers of change for an individual practice as well as recognition of the different messages providers receive about falls risk management. Understanding the practice drivers will help tailor appropriate messages to enhance adoption. The following questions can be asked to identify the relevant drivers in a health care practice and help tailor implementation strategies:

1. What percentage of the practice is over the age of 65?
2. Does the practice use PQRS? If so, on what quality indicators do they report?
3. Which clinical personnel in the practice (Physician Assistant, Nurse Practitioner, etc.), besides the physician, is qualified to conduct a fall risk assessment and still qualify for financial incentives based on current Medicare policies?
4. Is the practice joining an ACO?
5. Is the practice implementing EMR? If so, are they trying to qualify for Meaningful Use?
6. Is the practice aware of the Medicare Wellness Exam?

Once drivers are identified, a targeted message can be created that will engage and motivate a health care provider to participate in fall prevention. For example, one practice may be very interested in training all providers in fall risk management to qualify for Meaningful Use. Alternatively, another practice may want to use the Wellness Visit to maximize fall prevention opportunities. Yet another practice may mostly focus on fall prevention practices to minimize health care costs and may integrate the clinical practice guidelines into their standard office visit workflow. All approaches should include a scan of each individual practice’s personnel and resources and then delegation of fall risk management tasks to appropriate clinicians to efficiently and effectively implement fall risk management tasks while maximizing financial incentives.

Next Steps for Implementation Research

Although there has been a long history of research underpinning clinical guidelines for fall prevention efforts in clinical settings, less is known about the implementation of falls-related guidelines and best practices, and especially the coordination of care across different clinical professions and the transitions between clinical practice and community-based interventions. To further understanding, a national research agenda is needed that addresses questions such as:

1. How can professional and financial incentives be most effective in changing clinical practice?
2. How can patients and their families be best engaged in fall prevention screening and referral for follow-up treatment?
3. How can referrals between clinical and community settings be enhanced so there is an effective exchange of knowledge between community and clinical care?
4. What would be the effect of different strategic initiatives to change reimbursement models on clinical practice?
5. Who are the most effective providers to manage fall risk? What attributes of a scope of practice strategically position a provider to effectively manage fall risk? Why are these attributes important?

For maximal effectiveness, such a research agenda should be multidisciplinary and draw upon expertise from the clinical sciences, social and behavioral sciences, and public health as well as examine these issues from a systems perspective. It is recommended that this research be set within a dissemination and implementation framework to accelerate information transfer from research to practice.

Conclusion

Falls among older adults are a public health issue requiring a multilevel, multipartner research and practice approach that includes engagement of the broad range of providers, patients, and caregivers. However, it is not yet standard practice for primary care physicians to screen older adults for falls risk (nor is it a standard part of medical school curricula), despite strong evidence for the benefits of fall screening and that such screening is part of the initial Medicare Wellness Visit. Providers are key partners in addressing and preventing falls and reducing fall risk among older adults. Strategies to encourage standardized fall screening and referral are needed to engage clinicians in larger efforts to improve practice and to influence fall-related injury and death.

Falls risk screening and management needs to be integrated into all systems of care. Given the multifactorial nature of falls, systematically screening all older adults as part of an annual visit will provide insight into several aspects of health and function. Providing financial incentives to start the process and reward physicians for screening patients is an excellent first step, but additional tools and guidance to implement tools is needed. In particular, tools that are easy to use, stratify risk, triage and link interventions to risk factors, and include patient engagement.

Funding

Support was received from the Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS) under grant number U84HP19053, Carolina Geriatric Education Center. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the BHPr, HRSA, DHHS, or the U.S. Government.

References


Ness, K. K., Gurney, J. G., & Ice, G. H. (2003). Screening, education, and counseling to promote interventions to manage fall risk? Why are these attributes important?


