



**Development of the Percent of
Residents Experiencing One or
More Falls with Major Injury During
a Home Health Episode Measure**

Public Comment Document

**Outcome and Assessment
Information Set (OASIS) Quality
Measure Development and
Maintenance Project**

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DRAFT SPECIFICATIONS FOR THE DEVELOPMENT OF THE PERCENT OF PATIENTS
EXPERIENCING ONE OR MORE FALLS WITH MAJOR INJURY DURING A HOME
HEALTH EPISODE MEASURE

Abt Associates

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1. PROJECT INFORMATION

1.1 Project Title:

Outcome and Assessment Information Set (OASIS) Quality Measure Development and Maintenance Project

1.2 Project Overview:

The Centers for Medicare and Medicaid Services (CMS) has contracted with Abt Associates to develop and maintain Outcome and Assessment Information Set (OASIS) quality measures. The contract name is Outcome and Assessment Information Set (OASIS) Quality Measure Development and Maintenance Project. The contract number is HHSM-500-2013-130011.

1.3 Date:

Information included is current as of March 31, 2016.

2. MEASURE DESCRIPTIVE INFORMATION

2.1 *Measure Name:*

Percent of Residents Experiencing One or More Falls with Major Injury during a Home Health Episode

2.2 *Measure Type:*

Outcome

2.3 *Care Setting:*

Home Health

2.4 *Brief description of the Measure:*

The quality measure addressing the incidence of major falls is an Application of the NQF-endorsed Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674). This quality measure reports the percentage of patients who experience one or more falls with major injury (defined as bone fractures, joint dislocations, and closed-head injuries with altered consciousness, or subdural hematoma) during the home health stay.

The data for the measure will be submitted via the OASIS Data Set for home health patients. New OASIS items will need to be added. This quality measure will be based on data reported for two items (See Appendix A). The first item (J1800) is a gateway item that asks whether the patient has experienced any falls since admission/resumption of care (prior assessment). Because the home health measure is based on patient-level data reported at discharge, the item (J1800) for the OASIS Data Set asks whether the patient has experienced any falls since admission/resumption (prior assessment). If the answer to J1800 is no, the next item (J1900) is skipped. If the answer to J1800 is yes, the next item (J1900) asks for the number of falls with a) no injury, b) injury (except major), and c) major injury. The measure is calculated using data reported for J1900C (number of falls with major injury).

3. MEASURE JUSTIFICATION

3.1 *Measure Priority:*

Within the home health population, the risk of falling is significant as approximately one third of individuals over the age of 65 experience at least one fall annually (Avin et al., 2015; Carande-Kulis, Stevens, Florence, Beattie, & Arias, 2015). Major fall-related injuries among older community-dwelling adults are a growing health concern within the United States (Hester & Wei, 2013; Orces & Alamgir, 2014) because they can have high medical and cost implications for the Medicare community (Liu et al., 2015). Evidence from national surveillance data and research indicates that implementing effective fall prevention interventions and minimizing the impact of falls that do occur reduces overall costs, emergency department visits, hospital readmissions, and overall Medicare resource utilization (Bamgbade & Dearmon, 2016; Carande-Kulis et al., 2015; Cohen, Miller, Shi, Sandhu, & Lipsitz, 2012; Howland, Shankar, Peterson, & Taylor, 2015). Despite this evidence base there are no existing measures that assess the incidence of falls with major injury for home health. The proposed Percent of Residents Experiencing One or More Falls with Major Injury during a Home Health Episode measure addresses this gap and enables home health agencies to gauge their impact and performance in improving the health, care, and safety of their patients.

To examine fall risk and prevalence among the cohort of home health patients targeted for this measure, we conducted analysis using 2015 OASIS data. In nearly 32% of the 5.3 million episodes with relevant data, the patient had a history of falls, defined as two or more falls, or any fall with an injury, in the previous 12 months. For the more than 6.1 million episodes where the patient received a multi-factor falls risk assessment using a standardized, validated assessment tool, the patient was found to have falls risk 93% of the time. Additionally, there were nearly 100,000 instances documented where a patient required emergency care for an injury due to a fall.

3.2 *Performance Gap:*

Current Home Health Quality Improvement measures that address falls include the following:

- Multifactor Fall Risk Assessment Conducted for All Patients who Can Ambulate
- Falls Prevention Steps in Plan of Care
- Falls Prevention Steps Implemented for All Episodes of Care
- Emergent Care for Injury Caused by Fall

Of these, only *Multifactor Fall Risk Assessment conducted for All Patients who Can Ambulate* is NQF endorsed, and this measure has been placed in reserve status due to limited variability.

Some literature suggests there may be variability in the effectiveness of a fall prevention intervention depending on the type of provider delivering it, specifically in environmental assessment and home modification fall prevention interventions. In a home assessment and modification study, researchers compared the effectiveness of the intervention delivered by qualified occupational therapists to the intervention delivered by unqualified trained assessors. The results revealed a 46 percent reduction in fall rates for participants who received a home

assessment from an occupational therapist suggesting the professional background of the person delivering the intervention influences its effectiveness (Pighills et al., 2011).

3.3 Actionability:

There is a range of services provided in home health care that could improve performance on the specified measure. For example, home modification fall prevention interventions have been proven to successfully reduce the number of falls, specifically in patients that were recently hospitalized or those with poor vision (Beegan & Messinger-Rapport, 2015). Exercise programs, such as Tai Chi and the Otago exercise program, are viewed as effective interventions for reducing falls among community-dwelling older adults (Beegan & Messinger-Rapport, 2015; Stevens et al., 2014). In addition, clinical interventions such as Vitamin D supplementation have been proven to be effective in reducing the rate of falls and risk of falling in older adults, specifically in stroke patients (Beegan & Messinger, 2015).

Medication assessments and modifications in medication may also successfully reduce the fall rate in older community-dwelling adults (Zia, Kamaruzzaman, & Tan, 2016). The American and British Geriatrics Societies clinical guidelines (2010) endorse a multifactorial approach to fall interventions which involves an assessment of a patient's risk factors for falling and a tailored intervention (e.g., home modifications, medication management, vision management, gait and balance training) that addresses the patient's specific fall risk factors (Houry et al., 2015; Chase et al., 2012). Overall, patients participating in these types of interventions experienced improved quality of life due to reduced morbidity, improved functional ability and mobility, reduced number of falls and injurious falls, and a decrease in the fear of falling (Chase et al., 2012; Patil et al., 2015).

3.4 Measure Impact:

A falls with major injury measure for the home health setting would affect a large proportion of the Medicare population each year. In 2013, 3.5 million beneficiaries received home health care (Medicare Payment Advisory Commission, 2015).

4. MEASURE SPECIFICATIONS

4.1 Numerator Statement:

The numerator for this quality measure is the number of patients who experienced one or more falls that resulted in major injury during the episode of care.

4.2 Numerator Details:

Home health patients with one or more assessments that indicate one or more falls that resulted in major injury (J1900C = [Coding 1, 2]).

4.2.1 Items Included in the Quality Measure

The items used for this measure (See Appendix A) collect data that indicates whether or not a fall took place (J1800), and if so, the number of falls in each of the following categories (J1900):

Injury Related to Fall: Any documented injury that occurred as a result of, or was recognized within a short period of time (e.g., hours to a few days) after as, the fall and attributed to the fall.

Injury (Except Major): Includes skin tears, abrasions, lacerations, superficial bruises, hematomas, and sprains; or any fall-related injury that causes the patient to complain of pain.

Major Injury: Defined as a bone fracture, joint dislocation, closed-head injury with altered consciousness, or subdural hematoma.

Only the data on number of falls resulting in major injury are included to calculate this measure.

The item (J1900C) would assess whether patient had one or more falls that resulted in major injury since the time of admission to home health.

4.2.2 Risk Adjustment

This measure is not risk-adjusted or stratified.

4.2.3 Quality Measure Calculation Algorithm

The following steps would be used to calculate the measure. Since this measure is not risk-adjusted or stratified, only the agency observed score is computed.

Calculate the facility observed score (steps 1 through 3)

Step 1. Calculate the denominator count:

Calculate the number of patient episodes, except for those who meet the exclusion criteria.

Step 2. Calculate the numerator count:

Calculate the number of patient episodes during the selected time window for those who experienced one or more falls that resulted in major injury during the episode of care.

Step 3. Calculate the agency's observed score:

Divide the agency's numerator count by its denominator count to obtain the agency's observed score; that is, divide the result of step 2 by the result of step 1.

4.3 Time Period for Data:

When items activate, CMS systems report data on episodes that end within a rolling 12 month period, updated quarterly.

4.4 Denominator Statement:

All patients with one or more assessments that are eligible except those with exclusions.

4.5 Denominator Details:

All home health episodes of care, defined as a start/resumption of care assessment (OASIS item M0100) (Reason for Assessment) = 1 (Start of care) or 3 (Resumption of care)) paired with a corresponding discharge/transfer assessment (M0100 (Reason for Assessment) = 6 (Transfer to inpatient facility – not discharged), 7 (Transfer to inpatient facility – discharged), 8 (Death at home), or 9 (Discharge from agency)), other than those covered by generic and measure-specific denominator exclusions.

4.6 Denominator Exclusions:

Patient is excluded if one of the following is true for all of the look-back scan assessments:

1. The occurrence of falls was not assessed OR
2. The assessment indicates that a fall occurred AND the number of falls with major injury was not assessed.

Generic Exclusions:

Medicare-certified home health agencies are currently required to collect and submit OASIS data only for adult (aged 18 and over), non-maternity Medicare and Medicaid patients who are receiving skilled home health care. Therefore, maternity patients, patients less than 18 years of age, non-Medicare/Medicaid patients, and patients who are not receiving skilled home services are all excluded from the measure calculation. However, the OASIS items and related measures could potentially be used for other adult patients receiving services in a community setting, ideally with further testing. Publicly reported data for HHAs on CMS's Home Health Compare Web site require that the HHA have at least 20 observations for the quality measure and that the HHA has been in operation at least six months.

4.7 Data Dictionary, Code Table, or Value Sets:

4.8 Type of Score:

Ratio (percentage)

4.9 Interpretation of Score:

Better quality = lower score

5.0 Data Source:

Clinical assessment data (OASIS)

5.1 Level of Analysis:

Agency

References

- American Geriatrics Society/British Geriatrics Society (2010). AGS/BGS Clinical Practice Guideline: Prevention of Falls in Older Persons. http://www.americangeriatrics.org/health_care_professionals/clinical_practice/clinical_guidelines_recommendations/prevention_of_falls_summary_of_recommendations. Accessed May 10, 2016.
- Avin G., K., Hanke A., T., Kirk-Sanche, N., McDonough M., C., Shubert E., T., Hardage, J., & Hartley, G. (2015). Management of Falls in Community- Dwelling Older Adults: Clinical Guidance Statement From the Academy of Geriatric Physical Therapy of the American Physical Therapy Association. *Physical Therapy*, 95(6), 815–834. doi:10.2522/ptj.20140415
- Bamgbade, S., & Dearmon, V. (2016). Fall prevention for older adults receiving home healthcare. *Home Healthcare Now*, 34(2), 68–75.
- Beegan, L & Messinger-Rapport, B. J. (2015). Stand by me! Reducing the risk of injurious falls in older adults. *Cleveland Clinic Journal of Medicine*, 82(5), 301–307.
- Carande-Kulis, V., Stevens, J. A., Florence, C. S., Beattie, B. L., & Arias, I. (2015). A cost–benefit analysis of three older adult fall prevention interventions. *Journal of Safety Research*, 52, 65–70. doi:10.1016/j.jsr.2014.12.007.
- Chase, C. A., Mann, K., Wasek, S., & Arbesman, M. (2012). Systematic review of the effect of home modification and fall prevention programs on falls and the performance of community-dwelling older adults. *American Journal of Occupational Therapy*, 66(3), 284–291.
- Cohen, A. M., Miller, J., Shi, X., Sandhu, J., & Lipsitz, A. (2015). Prevention program lowered the risk of falls and decreased claims for long-term care services among elder participants. *Health Affairs*, 34(6), 971–977.
- Hester, A. L. & Wei, F. (2013). Falls in the community: state of the science. *Clinical Interventions in Aging*, 8:675–679.
- Houry, D., Florence, C. Bladwin, G., Stevens, J., & McClure, R. (2015). The CDC Injury Center’s response to the growing public health problem of falls among older adults. *American Journal of Lifestyle Medicine*, 10(1), 74–77.
- Howland, J., Shankar, K. N., Peterson, E. W., & Taylor, A. A. (2015). Savings in acute care costs if all older adults treated for fall-related injuries completed matter of balance. *Injury Epidemiology*, 2(25), 1–7.
- Liu, S. W., Obermeyer, Z., Chang, Y., & Shankar, K. N. (2015). Frequency of ED revisits and death among older adults after a fall. *American Journal of Emergency Medicine*, 33(8), 1012–1018. doi:10.1016/j.ajem.2015.04.023

Medicare Payment Advisory Commission (2016, March). Home health care services. In MedPAC Report to the Congress: Medicare Payment Policy. Medicare Payment Advisory Commission. Retrieved from [http://www.medpac.gov/documents/reports/chapter-8-home-health-care-services-\(march-2016-report\).pdf?sfvrsn=0](http://www.medpac.gov/documents/reports/chapter-8-home-health-care-services-(march-2016-report).pdf?sfvrsn=0)

Orces, C. H. & Alamgir, H. (2014). Trends in fall-related injuries among older adults treated in emergency departments in the USA. *Injury Prevention*, 20: 421–423.

Patil, R., Uusi-Rasi, K., Tokola, K., Karinkanta, S., Kannus, P., & Sievanen, H. (2015). Effects of a Multimodal Exercise Program on Physical Function, Falls, and Injuries in Older Women: A 2-Year Community-Based, Randomized Controlled Trial. *Journal of the American Geriatrics Society*, 63(7), 1306–1313.

Pighills, A. C., Torgerson, D. J., Sheldon, T. A., Drummond, A. E., & Bland, J. M. (2011). Environmental assessment and modification to prevent falls. *Journal of the American Geriatrics Society*, 59(1), 26–33.

Stevens, J. A., Mahoney, J. E., & Ehrenreich, H. (2014). Circumstances and outcomes of falls among high risk community-dwelling older adults. *Injury Epidemiology*, 1(5), 1–9.

Zia, A., Kamaruzzaman, S. B., Tan, M. P. (2016). The consumption of two or more fall risk-increasing drugs rather than polypharmacy is associated with falls. *Geriatrics & Gerontology International*, 16(5), 1–8.

Appendix A: New Items to Add to OASIS

I. Percent of Residents or Patients Experiencing One or More Falls with Major Injury

DISCHARGE	
J1800. Any Falls Since Admission	
Enter Code <input type="checkbox"/>	Has the patient had any falls since admission? 0. No → Skip to M0210, Does this patient have one or more unhealed pressure ulcer(s) at Stage 1 or higher on Discharge? 1. Yes → Continue to J1900, Number of Falls Since Admission
J1900. Number of Falls Since Admission	
CODING: 0. None 1. One 2. Two or more	↓ Enter Codes In Boxes
<input type="checkbox"/>	A. No injury: No evidence of any injury is noted on physical assessment by the nurse or primary care clinician; no complaints of pain or injury by the patient; no change in the patient's behavior is noted after the fall
<input type="checkbox"/>	B. Injury (except major): Skin tears, abrasions, lacerations, superficial bruises, hematomas and sprains; or any fall-related injury that causes the patient to complain of pain
<input type="checkbox"/>	C. Major Injury: Bone fractures, joint dislocations, closed head injuries with altered consciousness, subdural hematoma