Home Health Agencies Failed To Report Over Half of Falls With Major Injury and Hospitalization Among Their Medicare Patients

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Why OIG Did This Review

Starting in 2019, home health agencies (HHAs) were required to report that their patients experienced falls with major injury in patient Outcome Assessment Information Set (OASIS) assessments. The Centers for Medicare & Medicaid Services (CMS) uses this HHA-reported information to calculate major injury fall rates at the agency level. Beginning in 2022, CMS included these fall rates as one of the Care Compare website's quality measures, which provide consumers with information about HHA performance. OIG and others have found problems with using provider-reported information to assess quality in the past. We conducted this study to determine the extent of falls reporting by HHAs and implications for the accuracy of the falls information on Care Compare.

How OIG Did This Review

We identified falls with major injury in Medicare hospital claims for home health patients. Whenever their patients are hospitalized, HHAs must submit an OASIS assessment. We checked whether the falls were reported in those OASIS assessments as required. We calculated non-reporting rates for these falls. We also examined whether reporting rates differed by patient or HHA characteristics, including whether HHAs had low fall rates on Care Compare.

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Key Takeaway

Among Medicare home health patients hospitalized for falls with major injury, over half of the falls were not reported on patient assessments by HHAs as required. These patient assessments are used by CMS to monitor and provide public information about home health care quality. Due to this high rate of non-reporting, Care Compare may not provide accurate information about the incidence of these falls.

What OIG Found

Fifty-five percent of falls we identified in Medicare claims were not reported in associated OASIS assessments as required. Falls reporting on OASIS assessments was worse among younger home health patients (compared to older patients) and patients who identified as Black, Hispanic, or Asian (compared to White). Reporting was also lower among for-profit HHAs as compared to nonprofit and government-owned agencies. Notably, HHAs with the lowest Care Compare major injury fall rates reported falls less often than HHAs with higher Care Compare fall rates, indicating that Care Compare does not provide the public with accurate information about how often home health patients fell. Finally, for many Medicare home health patients who fell and were hospitalized, there was no OASIS assessment at all associated with the hospitalization, which raises additional concerns about potential noncompliance with data submission requirements and its impact on the accuracy of information about falls with major injury on Care Compare.

What OIG Recommends

We recommend that CMS (1) take steps to ensure the completeness and accuracy of the HHA-reported OASIS data used to calculate the falls with major injury quality measure; (2) use data sources, in addition to OASIS assessments, to improve the accuracy of the quality measure related to falls with major injury; (3) ensure that HHAs submit required OASIS assessments when their patients are hospitalized; and (4) explore whether improvements to the quality measure related to falls can also be used to improve the accuracy of other home health measures. CMS concurred with all four recommendations.

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BACKGROUND

Falls among older adults, including home health patients, are costly, common, and often preventable.[1] According to the Centers for Disease Control and Prevention, in 2020, falls among older adults resulted in approximately 920,000 hospitalizations and $70 billion in medical costs—more than half of which was paid for by Medicare.[2, 3] Among home health patients, nearly 100,000 fall-related injuries required emergency care in 2015.[4] Home health agencies (HHAs) may recommend interventions such as home modifications, exercise programs, and medication adjustments that can reduce the prevalence and severity of falls; improve quality of life for their patients; and reduce program costs.

OASIS Assessments in Home Health Care

HHAs conduct regularly scheduled Outcome Assessment Information Set (OASIS) assessments to capture patients' clinical and demographic information (such as race, ethnicity, and age), as well as information about patient outcomes and how often HHAs follow best practices, and submit this information to the Centers for Medicare & Medicaid Services (CMS). Home health providers conduct OASIS assessments at the start of care; at 60-day intervals; upon any significant change in a patient's health status; and when patients are discharged from home health care, are transferred to an inpatient facility, or die at home.[5] HHAs must submit OASIS assessments to CMS—for both Medicare and Medicaid patients— as a requirement for participation in the Medicare program.[6, 7]

Ensuring the completeness and accuracy of OASIS assessments is the responsibility of HHAs. HHAs should have practices in place for monitoring the accuracy of OASIS data, such as clinical record audits, data entry audits, and reports based on electronic health records. Through agreements between CMS and the States, State survey agencies (hereafter referred to as State agencies) conduct on-site surveys of HHAs before they enroll in Medicare, and every 36 months afterwards, to certify that HHAs comply with the minimum health and safety requirements outlined in the Medicare Conditions of Participation.[8, 9] As part of these surveys, State agencies audit the accuracy of OASIS data for a small number of patients.[10] While the survey process is intended to ensure the accuracy of the OASIS data, in past work OIG found that in practice few States take steps to ensure the data's completeness and accuracy.[11]

Data derived from OASIS assessments are used to determine Medicare home health payment amounts and monitor the quality of home health care. CMS uses OASIS assessments to determine the appropriate payment rate for each home health episode in Traditional (fee-for-service or FFS) Medicare. When CMS cannot directly link an FFS home health claim to a start of care, resumption of care, or recertification OASIS assessment, it will not pay for the home health service. State agencies also use

OASIS data to prepare for HHA surveys and to assess the quality of care provided to HHAs' patients. Finally, CMS uses OASIS data to calculate home health quality measures used to monitor and drive improvements in patient care.

CMS's home health quality monitoring efforts

CMS began collecting OASIS data for a new home health quality measure—the percentage of each HHA's patients that experienced a fall with major injury—as part of its Home Health Quality Reporting Program in 2019. This quality measure helps HHAs assess their efforts at improving patient care and safety and provides information for patients and their families as they select an HHA. However, an HHA's performance on the falls quality measure does not currently affect its overall quality rating or the payments it receives from CMS.

Home Health Quality Reporting Program. HHAs must participate in CMS's Home Health Quality Reporting Program.[12] As part of this program, CMS calculates several quality measures reflecting patient care outcomes and processes for Medicare- and Medicaid-paid home health care. CMS then provides each agency with its quality scores, which HHAs can use to gauge their impact in improving patient care and safety. CMS operates similar quality reporting programs for other providers, including nursing homes.

To calculate home health quality measures used in the Home Health Quality Reporting Program, CMS uses both OASIS data and Medicare claims. CMS uses OASIS data to calculate many quality measures, including measures that reflect how often HHAs follow best practices to improve patient outcomes and how often home health patients' general health and functional status improve. For many of these measures—such as how often patients get better at walking; moving around; or getting in and out of bed—HHA-submitted OASIS data are the only available source of information. CMS also uses Traditional Medicare claims to calculate a smaller number of quality measures based on health care utilization, such as how often home health patients need urgent, unplanned emergency care or are admitted to a hospital.[13] CMS refines these quality measures over time and publishes updates in the annual Home Health Payment Rules.

To calculate a new quality measure to capture the incidence of falls among home health patients, in 2019 CMS began requiring HHAs to report the number and severity of falls among their patients.[14] Whenever a home health patient is transferred to an inpatient facility, is discharged from home health care, or dies at home, the home health care provider must complete an OASIS assessment and report the number of falls experienced by that patient for the entire episode of care.[15, 16] The provider also reports the severity of these falls, indicating whether they resulted in a major injury, minor injury, or no injury. CMS uses this information to calculate the percentage of each HHA's episodes of care in which the patient experienced a fall with major injury (defined as bone fracture, joint dislocation, closed head injury with altered consciousness, and/or subdural hematoma).[17]

Care Compare Website. CMS's Care Compare website publicly reports a subset of these quality measures to help home health patients and their families make informed decisions when selecting an HHA. The public can use Care Compare to review how HHAs perform on specific measures of quality related to managing daily activities, symptom treatment, harm prevention, and the prevention of unplanned hospital care. People can also view each HHA's five-star quality rating, an overall performance measure based on seven of the publicly reported quality measures.
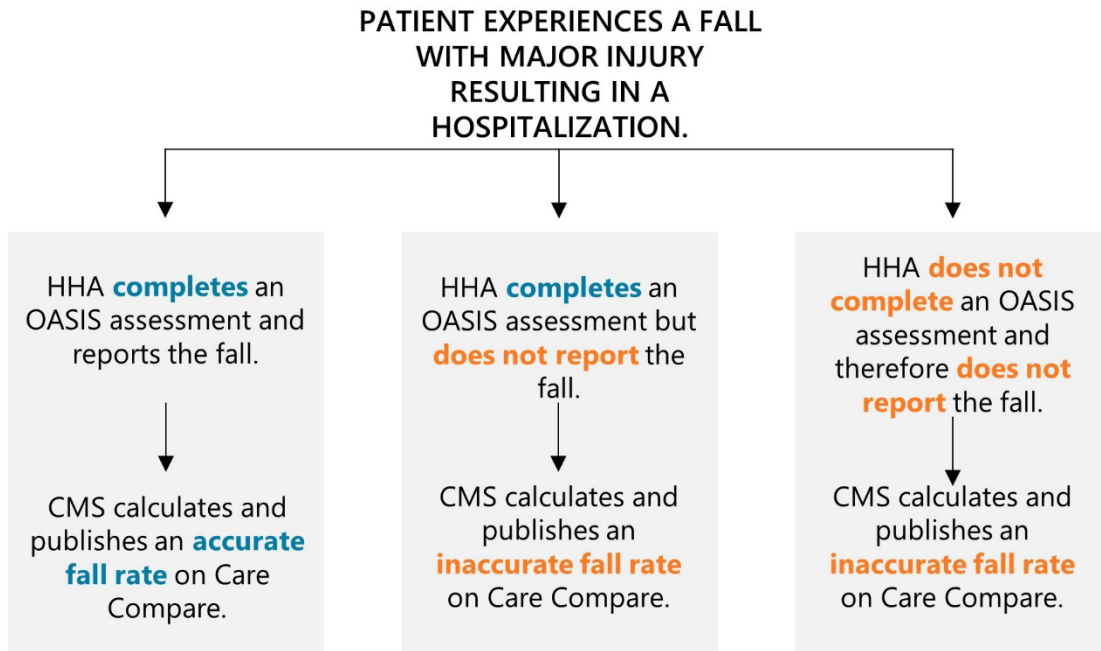
CMS began reporting information about falls among home health patients on Care Compare in April 2022. CMS publishes the percentage of each HHA's patients that experienced a fall with major injury, as well as the national average rate of falls among home health patients, on the Care Compare website.[18] According to this quality measure on Care Compare, as of April 2022, on average, 0.9 percent of episodes of care included a fall that resulted in a major injury.[19] Currently, an HHA's performance on the falls quality measure does not affect its five-star quality rating.

Payment Implications for HHAs. CMS links HHAs' payment to the OASIS assessment data used to calculate quality measures in two ways. First, in response to OIG work that uncovered issues with the completeness and accuracy of OASIS data, CMS introduced a "Pay for Reporting" program in 2015.[20] This program financially penalizes HHAs that do not submit the OASIS assessments CMS uses to assess quality episodes of care.[21] Second, CMS uses quality measures derived from OASIS data to determine payments for HHAs participating in the CMS Innovation Center Home Health Value-Based Purchasing Model, which CMS plans to implement for all HHAs in Calendar Year 2025.[22] As part of this model, HHAs will receive payment adjustments (both bonuses and penalties) based on their total Medicare FFS payments and their relative scores on a set of quality measures. This set of quality measures does not, to date, include the falls quality measure.

Previous work has identified concerns with quality and completeness of provider-reported assessment data

Studies have shown that providers do not always accurately report patient assessment data—particularly when it could result in lower quality scores and fewer prospective customers—which raises concerns that HHAs may not report falls in OASIS assessments as required. Academic researchers have found that nursing homes did not always report falls in patient assessments that were then used in a similar quality measure for nursing homes.[23, 24] In addition, OIG found that nursing homes underreport the use of antipsychotic drugs and inappropriately exclude residents from the antipsychotic drug quality measure.[25] Finally, as noted above, while State agencies are responsible for auditing home health OASIS data through the survey process, OIG found that few States take steps to ensure the data's completeness and accuracy.[26]

Exhibit 1. Because OASIS assessments are the sole source of information used by CMS to calculate fall rates among home health patients, HHAs' failure to accurately report falls with major injury or complete OASIS assessments leads to inaccurate fall rates on Care Compare.

PATIENT EXPERIENCES A FALL
WITH MAJOR INJURY
RESULTING IN A
HOSPITALIZATION.

HHA **completes** an OASIS assessment and reports the fall.	HHA **completes** an OASIS assessment but **does not report** the fall.	HHA **does not complete** an OASIS assessment and therefore **does not report** the fall.
CMS calculates and publishes an **accurate fall rate** on Care Compare.	CMS calculates and publishes an **inaccurate fall rate** on Care Compare.	CMS calculates and publishes an **inaccurate fall rate** on Care Compare.

Scope of Inspection

For this study, we reviewed HHAs' reporting of falls with major injury that resulted in hospitalization among Medicare home health patients on OASIS assessments completed between July 1, 2020, and June 30, 2021. This was the same time period used by CMS to calculate the major injury fall rates that were first publicly posted to Care Compare in April 2022. This study focused on the subset of home health patient falls that resulted in a hospital admission because (1) the HHA must submit an OASIS assessment and report any falls when the patient is admitted to the hospital; and (2) we can independently identify hospitalizations for falls in the Medicare claims data. While HHAs are also required to submit an OASIS assessment and report any falls upon patient discharge from home health care or death, even if there is no hospital admission, we did not assess HHA reporting of such falls in this study. This study also did not assess HHA falls reporting for Medicaid home health patients. Lastly, this study did not collect data on or analyze why HHAs did not report falls.

Methodology in Brief

This study builds on past work on limitations of using assessment data for quality monitoring by examining the accuracy of the OASIS data used to calculate one specific home health quality measure: the percentage of patients experiencing falls with major injury.

We linked OASIS assessments to information from a second data source, Medicare claims, to assess whether falls resulting in major injury were reported in OASIS assessments as required over the 1-year period July 1, 2020, through June 30, 2021. More specifically:

- We identified falls with major injury that resulted in a hospitalization from Medicare inpatient hospital claims among home health patients.

- For each of these hospitalizations due to a fall, we looked for the associated OASIS assessment. When a patient is hospitalized for any reason, HHAs must submit a transfer or discharge OASIS assessment. CMS requires HHAs to complete the assessment within 48 hours of learning that their patient was admitted to the hospital. To allow for time for the HHA to learn about these hospital admissions, we included assessments that were completed up to 7 days after the admission, or that indicated a discharge or transfer date within 4 days of the admission.

- In cases in which OASIS assessments were identified, we determined whether the fall was reported on the assessment as required.

- We calculated falls non-reporting rates overall and by person-level and HHA-level characteristics, including fall rates on Care Compare.

- We determined the extent to which we could not locate associated OASIS assessments.

Refer to the Detailed Methodology section for additional details.

Limitations

This analysis may not have identified all falls with major injury that resulted in a hospitalization among Medicare home health patients. For example, this analysis was based on diagnosis codes for falls and injuries in Medicare hospital claims; therefore, we may not have identified falls with major injury among home health patients if the inpatient hospital claims did not fully capture the cause and extent of patients' injuries. Additionally, OIG and others have found that Medicare Advantage encounter records are often less complete than Traditional Medicare claims.[27, 28] As a result, we may not have identified all falls leading to hospitalization among people enrolled in Medicare Advantage. However, for all falls that we identified in the claims and encounters and linked to OASIS assessments, we did evaluate whether those falls were reported in associated assessments as required.

Standards

We conducted this study in accordance with the Quality Standards for Inspection and Evaluation issued by the Council of the Inspectors General on Integrity and Efficiency.

We identified **39,900** falls with major injury and hospitalization among Medicare home health patients that had a matching OASIS assessment conducted between July 1, 2020, and June 30, 2021.

Home health patients experienced the following major injuries because of these falls*:

85% of falls resulted in a **bone fracture**.

9% resulted in a **subdural hematoma**.

11% resulted in a **head injury with altered consciousness**.

1% resulted in a **joint dislocation**.

*The total of these percentages is greater than 100 percent because some falls were associated with more than one injury type.

Agency-Level Characteristics

- The falls captured in this study occurred among people served by **6,180 distinct HHAs** (out of over 10,000) across the United States. These agencies served a median of 101 patients. Additionally, we identified a median of 3 falls per HHA.
- For-profit entities owned most HHAs, with nonprofit and government entities owning the remaining agencies.
- Among agencies with star ratings, the median rating was 3.5 stars in April 2022.
- Based on Care Compare site data, the median major injury fall rate among HHAs in this study was less than 1 percent.
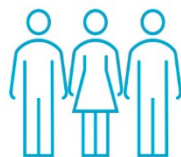
Patient-Level Characteristics

- **38,580 patients** experienced these falls.
- Most patients experienced a single fall during the study period, although 3 percent experienced 2 or more falls.
- The median age was 82 years old; 38 percent of falls occurred among patients aged 85 years and older.
- Most falls were among patients who identify as White (88 percent). The remaining falls were among patients who identify as Black (5 percent), Hispanic (5 percent), Asian (2 percent), and other races and/or ethnicities (less than 1 percent).
- Females accounted for 65 percent of these falls.
- 23 percent of patients in the study lived in a rural ZIP code.
- Nearly one-quarter (23 percent) of falls were among patients who lived alone.

Source: OIG analysis of Medicare claims and OASIS data, July 2020-June 2021.

HHAs failed to report over half of falls with major injury and hospitalization among Medicare patients, as required, on their OASIS assessments

We found that many falls resulting in a major injury and hospitalization among Medicare home health patients were not reported by HHAs in the OASIS assessments they submitted, as is required. Given that CMS requires HHAs to report the number and severity of falls in OASIS assessments, the high rate of non-reporting indicates poor overall compliance among HHAs.

55%

of the 39,900 falls with major injury and hospitalization went unreported by HHAs on OASIS assessments.

For-profit HHAs failed to report falls more often than other types of agencies. HHAs owned by for-profit entities did not report 56 percent of falls, while HHAs owned by nonprofit and government-owned entities did not report 52 percent and 38 percent of falls, respectively. Refer to Appendix A, Exhibit A-1, for falls non-reporting rates by additional HHA-level characteristics.

Falls non-reporting rates were higher for Hispanic, Black, and Asian people and younger patients. While most falls were among White home health patients, the percentage of falls not reported for White patients was lowest (54 percent not reported). That is, a greater percentage of falls with major injury went unreported for patients who identified as Asian (66 percent not reported), Black (65 percent of falls not reported), or Hispanic (64 percent not reported) as compared to White patients.

Exhibit 2. While HHAs failed to report falls for all groups of patients, HHAs failed to report falls for Asian, Hispanic, and Black patients at higher rates than for White patients; rates for these groups were even higher than the overall non-reporting rate.
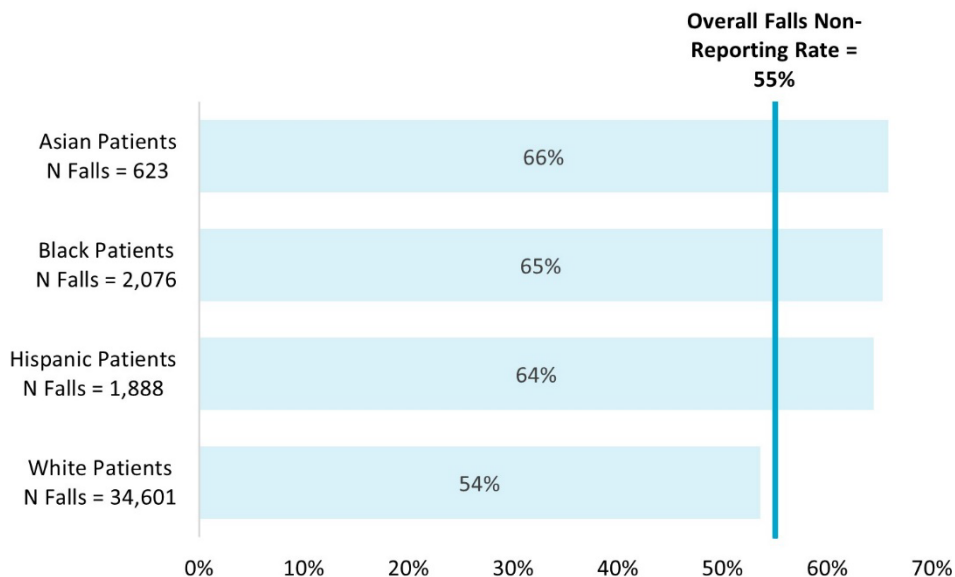
Source: OIG analysis of Medicare claims and OASIS data, July 2020-June 2021.

Note: The number of falls here is less than the total number of falls in the study (39,900) because the exhibit excludes falls among patients in other race/ethnicity groups or with unknown race/ethnicity.

Similarly, while most falls were among home health patients in older age groups, the percentage of falls not reported by HHAs was lowest among those 85 years of age and older (52 percent). In contrast, falls non-reporting was highest among patients less than 65 years of age (64 percent). Additionally, home health patients who qualified for Medicare due to disability (the majority of whom were under 65 years of age) were less likely to have their falls reported (64 percent not reported) than patients who qualified due to age (54 percent not reported).

Refer to Appendix A, Exhibit A-2, for falls non-reporting rates by additional patient-level characteristics.

Lack of falls reporting on OASIS assessments leads to inaccurate HHA fall rates on Care Compare

The home health falls with major injury quality measure published on Care Compare provides the public with inaccurate information about how often people using home health services fell. Currently, CMS calculates this measure using information about falls among Medicare and Medicaid home health patients collected as part of the OASIS assessment process. However, our finding that HHAs failed to report more than half of falls with major injury that resulted in a hospitalization among Medicare home health patients on OASIS assessments suggests that the falls quality measure may substantially underestimate how often home health patients actually fell. In other words, **a low fall rate on Care Compare may reflect an HHA's lack of falls reporting, rather than a low incidence of falls among its patients**.

One home health agency **reported 0** of the **18 falls with major injuries** experienced by its Medicare patients between July 1, 2020, and June 30, 2021.

The percentage of this HHA's patients experiencing a fall with major injury published on the CMS Care Compare website was 0.4 percent. This is much lower than the average percent (1 percent) reported by other HHAs in this study.

This is a large for-profit agency (≥98 patients served) located in Florida.

This HHA has a 5-star quality rating, as published on the Care Compare website.

Source: OIG analysis of Medicare claims and OASIS data, July 2020-June 2021.

In fact, we found that HHAs with low falls with major injury rates on Care Compare were the most likely to not report falls among their patients enrolled in Medicare— suggesting that those HHAs' low fall rates on Care Compare are driven by a failure to report patient falls, rather than an actual low incidence of falls. After evenly splitting HHAs on Care Compare into three categories—those with low, medium, and high falls with major injury rates—we found that the HHAs in our study with low fall rates on Care Compare failed to report 78 percent of the falls we identified in the Medicare claims. In contrast, the HHAs in our study with high fall rates on Care Compare failed to report 43 percent of the falls we identified in the Medicare claims.

We cannot determine what the falls with major injury rates on Care Compare would have been if all falls we identified in the Medicare claims were reported as required. The falls with major injury rate on Care Compare factors in both Medicare and Medicaid patients and reflects HHA-reported falls with major injury that did not result

in hospitalization. The scope of this evaluation does not cover all of these aspects. However, the correlation between HHAs' low fall rates on Care Compare and high non-reporting rates among hospitalized Medicare patients in our analysis calls into question the accuracy of the Care Compare measure.

Exhibit 3. HHAs with the lowest falls with major injury rates on Care Compare had the highest rates of falls non-reporting among their patients.
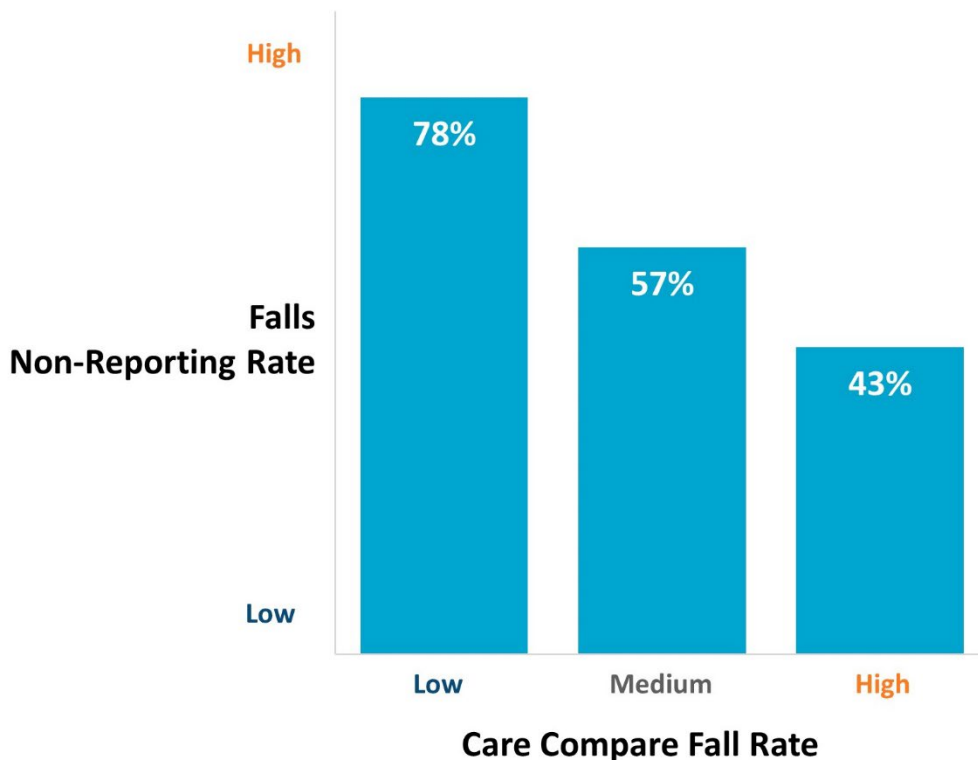
Source: OIG analysis of Medicare Inpatient and Home Health Claims and Encounters, OASIS assessments, and Care Compare data, July 2020-June 2021.

Note: "Low" Care Compare fall rates are those less than 0.4%; "medium" rates are ≥0.4% and <1.2%; "high" rates are ≥1.2%. Falls among patients of HHAs without Care Compare fall rates are excluded from this calculation of falls non-reporting rates.

In many cases, HHAs did not submit required OASIS assessments when their Medicare patients were admitted to the hospital due to a fall

In addition to failing to report falls on submitted OASIS assessments, HHAs failed to submit any OASIS assessment at all for a portion of hospitalizations due to falls. We were unable to identify any transfer or discharge OASIS assessment completed around the time of the hospitalization for 5,757 falls (13 percent of the total falls we identified) that resulted in a major injury among home health patients. While we excluded falls that could not be linked to OASIS transfer or discharge assessments

from our non-reporting analysis, treating these falls as not reported would increase the overall non-reporting rate from 55 percent to 61 percent. We were unable to find these assessments despite using a flexible approach to maximize our match rate. For example, our approach allowed for matches on Medicare beneficiary identification numbers or social security numbers, as well as for assessments submitted well beyond the required timeframe.[29]

Moreover, it is likely that these missing transfer or discharge assessments for Medicare home health patients who were admitted to the hospital after a fall also resulted in inappropriately lower fall rates on Care Compare. If a patient's fall is never reported by the HHA on an OASIS assessment, it will not be included in the fall rate on Care Compare. It is possible that HHAs submitted OASIS assessments for some falls that we identified long enough after the fall occurred that they would not have been considered matches in our analysis but would have been included in the quarterly calculation of the Care Compare fall measure. However, this is unlikely to be the case for all of the falls with missing transfer or discharge assessments in our analysis.[30]

OASIS assessments were more often missing for patient falls resulting in major injury and hospitalization in Medicare Advantage as compared to Traditional Medicare

We were more often able to link falls to OASIS assessments when the home health services were paid by Traditional (FFS) Medicare as compared to Medicare Advantage organizations. Most falls occurred among FFS enrollees, and we were able to link to OASIS assessments for all but 8 percent of these falls; in contrast, for Medicare Advantage enrollees, we could not find OASIS assessments for 29 percent of falls.

Exhibit 4. OASIS assessments for Medicare Advantage enrollees were more likely to be missing than OASIS assessments for FFS enrollees.

OASIS Assessments Missing for **Medicare Advantage Enrollees** — 29%

OASIS Assessments Missing for **FFS Enrollees** — 8%
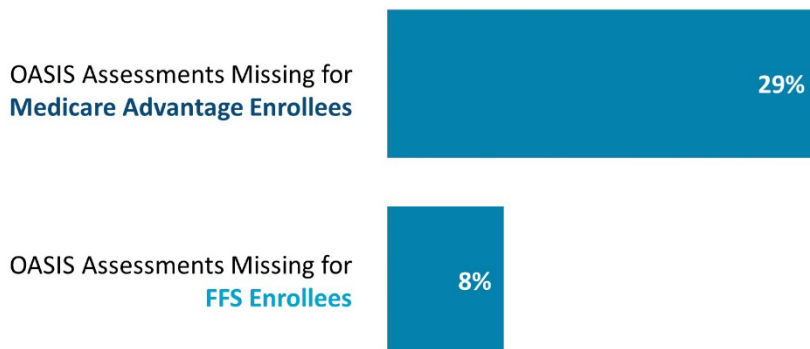
Source: OIG analysis of Medicare claims and OASIS data, July 2020-June 2021.

This difference in match rates between Medicare Advantage and Traditional Medicare may be related to differences in the oversight of HHAs' OASIS submissions between the two programs. For example, CMS checks for certain required OASIS assessments before paying home health claims in FFS Medicare; if CMS cannot link to those assessments, the HHA will not get paid. While CMS does not link FFS claims to the specific transfer or discharge assessments in which falls should be reported—because those assessments are not required for payment—CMS's general focus on OASIS assessment submission in FFS may drive the higher rate of matches we found. In contrast, CMS does not have a process to link any assessments with managed care encounters.

CONCLUSION AND RECOMMENDATIONS

Because falls are not accurately reported in OASIS data, CMS's falls with major injury quality measure does not provide reliable information—for patients and their families in selecting an HHA, or for CMS and HHAs in their efforts to improve the safety and care of patients. We found that over half (55 percent) of falls with major injury were not reported by HHAs in OASIS assessments as required. In addition, we were unable to find any OASIS assessments submitted for a large number of these falls, particularly among home health patients enrolled in Medicare Advantage. As a result, the actual incidence of falls resulting in major injury among home health patients is almost certainly higher than the rate CMS shares with HHAs and reports on Care Compare. Because an individual HHA's low fall rate on Care Compare can result from poor falls reporting—rather than less frequent falls among the HHA's patients—these rates may also provide misleading information about which HHAs have a lower incidence of patient falls with major injury than their peers.

These findings contribute to a growing body of evidence that the use of provider-reported information from patient assessments may provide a misleading representation of care quality. Academic researchers have found that nursing homes did not always report falls in patient assessments, leading to potential inaccuracies in a similar falls quality measure for nursing homes.[31, 32] After finding that nursing homes underreport the number of residents receiving antipsychotic drugs in patient assessments, OIG has also raised concerns about the accuracy of CMS's quality measure based on this provider-reported data.[33]

CMS should work to improve falls reporting among HHAs—as well as submission of the OASIS assessments that record these falls—and ensure that the quality information it shares with HHAs and the public is accurate. While this study did not specifically evaluate the underlying cause of these low reporting rates or missing assessments, CMS could consider a number of approaches when determining the most effective way to address these issues and improve the falls with major injury quality measure. CMS may also be able to apply lessons learned during this process to assess whether other existing or future quality measures based on HHAs' OASIS data would be improved with additional data sources, oversight, or training.

Therefore, we recommend that CMS:

Take steps to ensure the completeness and accuracy of the HHA-reported OASIS data used to calculate the falls with major injury quality measure

CMS should take steps to improve HHAs' reporting of falls with major injury among their patients on OASIS assessments. CMS could consider multiple approaches to

meet this objective. For example, CMS could work with State agencies to provide home health providers with additional training and education about these relatively new falls reporting requirements.

CMS could also use data analysis to identify, and then address, continued problems with HHAs' reporting of falls. For example, to identify continued gaps in HHA reporting of falls through audits, CMS could compare HHAs' OASIS assessment responses with inpatient hospital claims data—as we did in this study—or with patients' medical records. Additionally, CMS could compare HHAs' OASIS-based fall rates with claims-based fall rates to identify any patterns of underreporting. Finally, CMS could encourage State agencies to focus on the accuracy of falls reporting, and other questions used to generate quality measures, when auditing OASIS assessments as part of the survey process. CMS could then use this information to target OASIS falls data improvement efforts.

Use data sources, in addition to OASIS assessments, to improve the accuracy of the quality measure related to falls with major injury

As CMS evaluates the new home health falls with major injury quality measure, it should supplement falls data from OASIS assessments with additional data sources, such as Medicare claims. For example, CMS could consider using a combination of Medicare claims—which include the information necessary to identify falls with major injury—and provider-reported OASIS data to generate a more accurate measure of the rate of falls with major injury among people using home health services. Given the low reporting rates found in this study, this could help CMS to estimate fall rates more accurately than the provider-reported assessment data alone.

Ensure that HHAs submit required OASIS assessments when their patients are hospitalized

CMS should do more to ensure that HHAs submit required discharge and transfer assessments when their patients are hospitalized. We were unable to find the required OASIS transfer or discharge assessments for many falls among managed care home health patients in our study, as well as a smaller share of FFS patients. CMS currently has two mechanisms in place to encourage HHAs to submit OASIS assessments as required. First, CMS directly links some types of OASIS assessments to FFS claims to determine FFS payment amounts. Second, following previous OIG work which found that few States take steps to ensure OASIS data's completeness and accuracy, CMS established the "Pay for Reporting Performance Requirement," which penalizes HHAs that do not submit the patient assessments CMS uses to assess quality episodes of care. However, neither of these mechanisms are designed to ensure that transfer and discharge assessments are submitted when patients are hospitalized. As a result, even with these policies in place, we could not identify

OASIS transfer or discharge assessments associated with 13 percent of hospitalizations for falls with major injury among Medicare home health patients.

To address this issue, CMS could consider a number of approaches. For example, CMS could evaluate whether automated checks to identify inpatient hospital claims and encounters among home health patients and alert HHAs if the required OASIS assessments are not submitted in a timely manner would be an effective way to improve OASIS completion rates. CMS could also encourage State agencies to check for completion of assessments when home health patients are hospitalized as part of the survey process. CMS could provide additional training and/or guidance to HHAs about when transfer and discharge assessments are required. Finally, given our finding that there is a higher rate of missing assessments for home health care paid via managed care, CMS should target efforts aimed at improving compliance with OASIS submission requirements for hospitalized patients to HHA's managed care patients.

Explore whether improvements to the quality measure related to falls can also be used to improve the accuracy of other home health measures

Given the inaccuracies of provider-reported assessment data identified by this and other studies, CMS should consider opportunities to improve additional home health quality measures that are based solely on OASIS assessment data. In doing so, CMS should determine whether the approaches it takes to improve the falls with major injury quality measure could also be used to improve such measures. For example, if CMS determines that incorporating claims data allows it to more accurately measure falls with major injury rates for HHAs, CMS could consider using a similar approach as it develops and revises other quality measures. Similarly, if CMS finds that additional training for home health providers or having State agencies conduct targeted follow-up through the survey process improves the accuracy of OASIS falls reporting, it could apply the same approaches to improve other types of OASIS reporting from which quality measures are derived.

AGENCY COMMENTS AND OIG RESPONSE

CMS concurred with all four of our recommendations.

In response to our first recommendation—that CMS should ensure the completeness and accuracy of the HHA-reported OASIS data used to calculate the falls with major injury quality measure—CMS stated that it would explore opportunities to promote the completeness and accuracy of the data, including additional OASIS outreach and educational opportunities.

In response to our second recommendation—for CMS to use data sources, in addition to OASIS assessments, to improve the accuracy of the quality measure related to falls with major injury—CMS stated that it would explore opportunities to use additional data sources to improve the accuracy of the quality measure. OIG acknowledges that changing a quality measure specification to incorporate new data sources requires significant time and effort due to established procedures such as soliciting public comment and validation. We look forward to seeing the specific steps CMS plans to take to address this recommendation in its Final Management Decision.

In response to our third recommendation—for CMS to ensure that HHAs submit required OASIS assessments when their patients are hospitalized—CMS stated that it will explore opportunities to help ensure that these assessments are submitted. OIG notes that because we found a higher rate of missing assessments for home health care paid via managed care as compared to fee-for-service, our recommendation specifies that CMS should target efforts to improve compliance with OASIS submission requirements to managed care patients.

In response to our final recommendation—for CMS to explore whether improvements to the major injury falls quality measure could also be used to improve the accuracy of other home health measures—CMS stated that it will consider this recommendation when evaluating other home health measures.

For the full text of CMS's comments, see Appendix B.

DETAILED METHODOLOGY

Data Sources

Medicare Inpatient and Home Health Claims and Encounters. We used both Traditional Medicare claims and Medicare Advantage encounters (hereafter referred to as claims) to identify falls among home health patients to include in our analysis. We used inpatient claims to identify hospital admissions for falls with major injury with admission dates between June 27, 2020, and June 30, 2021.[34] Then, we used home health claims to identify the subset of falls that occurred among home health patients.

OASIS assessments. We analyzed OASIS assessments with assessment completion dates between July 1, 2020, and June 30, 2021, to determine whether the falls identified in the claims were reported.[35] We also used OASIS assessments to identify characteristics of the home health patients who fell and characteristics of the HHAs that served them.

Medicare Enrollment Database (EDB). We used the Medicare EDB from Calendar Years 2020-2021 to identify additional patient-level characteristics.

Care Compare Provider file. We used CMS's public Home Health Services Provider file from April 2022 to identify additional HHA characteristics.

Data Analysis

Identifying falls with major injury among home health patients. We used external cause of injury codes from the inpatient claims to identify inpatient hospital admissions due to falls. We then used diagnosis codes to identify which of those hospitalizations met CMS's criteria for major injuries: bone fractures, joint dislocations, closed head injuries with altered consciousness, and subdural hematomas. For each admission, we noted the Medicare identification numbers of the person who was hospitalized and the date of the hospital admission.

Next, we determined which hospitalizations due to falls with major injury were among people who were receiving home health services at the time of the fall. To do this, we used Medicare identification numbers to link to home health claims. Specifically, we considered a person to have been using home health services at the time of the fall if they had a home health claim with dates of service that included the admission date or had a home health claim that ended the day prior to the admission date.

In results not included in the report, we also explored falls reporting where the home health claim ended in the 2 to 7 days prior to the hospital admission date, rather than the same day or 1 day prior. While many falls meeting these criteria were reported (non-reporting rates were still greater than 50 percent with this set of falls), we

decided to exclude these falls from the study inclusion criteria because responsibility for reporting is less clear when more time accrued between the end of the home health claim and the admission date as compared to the shorter time window we used.

We also used the home health claims to classify falls into two groups based on program structure: managed care (i.e., Medicare Advantage) and FFS. If the home health claim associated with the hospital admission was a managed care encounter record per the claim type code, we assigned that fall as managed care; if the home health claim was an FFS claim, we assigned the fall as FFS.

Matching to the associated OASIS assessments. For each hospitalization of a home health patient for a fall with major injury, we attempted to identify the associated OASIS transfer or discharge assessment. We used Medicare identifiers, the hospital admission dates, and dates from the OASIS assessments to match between the two data sources. We considered the fall to have a match to an OASIS assessment if there was a match on Medicare identifiers[36] and either (1) the assessment completion date (OASIS item M0090) was the same day or in the 7 days after the hospital admission date or (2) the assessment discharge/transfer/death date (OASIS item M0906) was within 4 days of the hospital admission date.[37]

We used this set of inpatient hospitalizations for home health patients to calculate the total number of falls resulting in major injury and hospitalization among home health patients. We also calculated the number of unique patients who experienced one of these falls. We determined the number and percentage of these falls for which we were able to identify an associated OASIS transfer or discharge assessment in which the fall should have been reported. We also calculated the match rate for falls classified as managed care and FFS separately. Finally, for falls with linked OASIS assessments, we described the characteristics of the patients who fell and the HHAs that served them.

Falls reporting. For the hospitalizations with matched OASIS assessments, we then determined whether the fall was reported in the OASIS assessment as required. We reviewed the OASIS items that ask (1) whether the patient has had any falls since the last assessment and (2) how many falls with major injury the patient experienced. If the OASIS assessment did not record that the patient had experienced at least one fall with major injury, the fall was considered to be unreported by the HHA. We then determined the total number of these falls that were not reported in OASIS as required.

To evaluate the extent to which HHAs reported these falls among their patients, we calculated the percentage of unreported falls with major injury (hereafter referred to as falls). First, we divided the total number of falls not reported in the OASIS assessments by the total number of falls identified in the hospital claims and matched to OASIS assessments. We also calculated the percentage of unreported falls for each HHA by dividing the number of falls not reported by the HHA in its OASIS assessments by the number of falls identified in the review of hospitalizations and

matched to OASIS assessments for the HHA's patients' services. We analyzed the number and percentage of unreported falls across HHAs to identify any HHAs with concerning patterns of falls non-reporting.

Patient-level characteristics. We calculated the percentage of unreported falls for different groups of patients to identify potential disparities in falls reporting. Using information from OASIS, we determined the percentage of unreported falls by age, sex, race/ethnicity, rural versus non-rural ZIP code, and whether the patient lived alone during the home health care episode.[38] Using information from the Medicare enrollment file, we also compared the percentages of unreported falls for home health patients covered by Medicare only versus Medicare and Medicaid (i.e., dual-eligibles) and by reason for Medicare entitlement (age versus disability and/or end-stage renal disease).

Patient race and ethnicity data are collected during OASIS assessments. The home health patient (or their caregiver) is given the following options and instructed to mark all that apply: American Indian or Alaska Native; Asian; Black or African American; Hispanic or Latino; Native Hawaiian or Pacific Islander; and White. We then coded these responses into the following mutually exclusive groups: White (single race) non-Hispanic; Black non-Hispanic; American Indian Alaska Native (AIAN) non-Hispanic; Asian non-Hispanic; Native Hawaiian/Pacific Islander non-Hispanic; more than one race non-Hispanic; and Hispanic.

HHA characteristics. We also calculated the percentage of unreported falls for different groups of HHAs to determine if there are differences in falls reporting by HHA characteristics. Using CMS's Home Health Agency Care Compare data, we determined the percentage of unreported falls by ownership type (for-profit, nonprofit, or government-owned), Care Compare patient quality of care star rating, and major injury fall rate. Using OASIS data, we also calculated falls non-reporting rates by agency size (number of patients), percentage of Medicaid-paid patients, and percentage of patients identifying as a race/ethnicity other than White.

Appendix A: Falls non-reporting rates by additional HHA-level and patient-level characteristics

Exhibit A-1: Falls non-reporting by HHA-level characteristics

Characteristic of HHA		Percentage of Falls Not Reported
Size (Number of Patients)	Small (fewer than 30 patients)	51.1%
	Medium (30-97 patients)	51.8%
	Large (98+ patients)	55.5%
Percent Medicaid-Paid Patients	Low (0%)	55.1%
	Medium (0.1% – 7.4%)	55.5%
	High (>7.4%)	54.0%
Percent Patients of Color	Low (<19.4%)	52.0%
	Medium (19.4 – 53.2%)	56.9%
	High (53.3%+)	63.4%
Care Compare 5-Star Quality Rating	1 star (lowest rating)	55.7%
	2 stars	50.3%
	3 stars	54.3%
	4 stars	56.8%
	5 stars (highest rating)	60.4%

Source: OIG analysis of Medicare claims, OASIS, and Home Health Services Provider file, July 2020-June 2021.

Note: Falls among patients of HHAs that are missing information about each characteristic are excluded from the calculation of the percentage of falls not reported. For example, falls among patients served by agencies with no 5-star quality rating are excluded from the calculation of percentage of falls not reported by 5-star quality rating.

Exhibit A-2: Falls non-reporting rates by patient-level characteristics

Characteristic of Patient Who Fell		Percentage of Falls Not Reported
Sex	Male	57.8%
	Female	53.3%
Age	Less than 65 years	64.1%
	65-74 years	58.0%
	75-84 years	54.7%
	85 years and older	51.8%
Insurance Coverage	Medicare only	53.7%
	Medicare and Medicaid	58.4%
Location	Rural ZIP code	48.2%
	Non-rural ZIP code	56.9%
Living Arrangement	Lives alone	55.4%
	Lives with others	54.8%

Source: OIG analysis of Medicare claims and OASIS data, July 2020-June 2021.

Note: Falls among patients who are missing information about each characteristic are excluded from the calculation of the percentage of falls not reported. For example, falls among patients with no information on living arrangement are excluded from the calculation of percentage of falls not reported by living arrangement.

Appendix B: Agency Comments

Following this page are the official comments from CMS.

Home Health Agencies Failed To Report Over Half of Falls With Major Injury
and Hospitalization Among Their Medicare Patients
OEI-05-22-00290

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DATE: August 04, 2023

TO: Ann Maxwell
               Deputy Inspector General for Evaluation and Inspections
               Office of Inspector General

FROM: Chiquita Brooks-LaSure
               Administrator
               Centers for Medicare & Medicaid Services

SUBJECT: Office of Inspector General (OIG) Draft Report: Home Health Agencies Failed
               To Report Over Half of Falls With Major Injury and Hospitalization Among Their
               Medicare Patients (OEI-05-22-00290)

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the Office of Inspector General's (OIG) draft report.

As the nation's largest payer and a trusted partner of the health care system, CMS has been committed to ensuring the highest quality care and best health outcomes for all individuals. CMS has leveraged a number of approaches to achieve quality goals, including quality measurement; public reporting; value-based payment programs and models; establishing and enforcing health and safety standards; and providing quality improvement technical assistance.

Home health is a covered service under the Part A Medicare benefit. It consists of part-time, medically necessary, skilled care (nursing, physical therapy, occupational therapy, and speech-language therapy) that is ordered by a physician. Home health agencies collect a group of standard data elements, referred to as the Outcome and Assessment Information Set (OASIS), as part of their comprehensive assessment to collect and report quality data to CMS. Since 1999, CMS has required Medicare-certified home health agencies to collect and transmit OASIS data for all adult patients whose care is reimbursed by Medicare and Medicaid with the following exceptions: patients under the age of 18, patients receiving maternity services, and patients receiving only chore or housekeeping services. OASIS data are used for multiple purposes including calculating several types of quality reports which are provided to home health agencies to help guide quality and performance improvement efforts.

CMS posts a subset of OASIS-based quality performance information on the Care Compare website.[1] These publicly reported measures include outcome measures, which indicate how well home health agencies assist their patients in regaining or maintaining their ability to function, and process measures, which evaluate the rate at which home health agencies use specific evidence-based processes of care. CMS also reports information on Medicare fee-for-service claims-based measures and Home Health CAHPS® (Consumer Assessment of Healthcare Providers and Systems) measures on Care Compare. For example, CMS reports on how often patients experienced one or more falls with a major injury on the Care Compare

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[1] The Care Compare website is available at https://www.medicare.gov/care-compare.

Home Health Agencies Failed To Report Over Half of Falls With Major Injury
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website. The information provided includes the percentage of each home health agency's patients that experienced a fall with major injury, as well as the national average rate of falls among home health patients.

In 2022, the agency launched the CMS National Quality Strategy, an ambitious long-term initiative that aims to promote the highest quality outcomes and safest care for all individuals. The CMS National Quality Strategy builds on previous efforts to improve quality across the health care system, incorporates lessons learned from the COVID-19 Public Health Emergency, and addresses the urgent need for transformative action to advance towards a more equitable, safe, and outcomes-based health care system for all individuals.

CMS is dedicated to empowering consumers, their families, and their caregivers by giving them the resources they need to make informed decisions regarding their care. As such, CMS understands the importance of providing accurate quality information to home health agencies and the public. CMS is consistently looking for ways to improve the quality of care, including the completeness and accuracy of the information used to assess quality. CMS appreciates the OIG's work on this area and looks forward to working collaboratively on this and other issues in the future.

The OIG's recommendations and CMS' responses are below.

OIG Recommendation
The OIG recommends that CMS take steps to ensure the completeness and accuracy of the HHA-reported OASIS data used to calculate the falls with major injury quality measure.

CMS Response
CMS concurs with this recommendation. CMS will explore opportunities to help promote the completeness and accuracy of the home health agency reported OASIS data used to calculate the falls with major injury quality measure, including additional OASIS outreach and educational opportunities.

OIG Recommendation
The OIG recommends that CMS use data sources in addition to OASIS assessments, to improve the accuracy of the quality measure related to falls with major injury.

CMS Response
CMS concurs with this recommendation. CMS will explore opportunities to use additional data sources in addition to OASIS assessments to improve the accuracy of the falls with major injury quality measure.

OIG Recommendation
The OIG recommends that CMS ensure that HHAs submit required OASIS assessments when their patients are hospitalized.

CMS Response
CMS concurs with this recommendation. CMS will explore opportunities to help ensure that home health agencies submit required OASIS assessments when their patients are hospitalized.

OIG Recommendation
The OIG recommends that CMS explore whether improvements to the quality measure related to falls can also be used to improve the accuracy of other home health measures.

CMS Response

CMS concurs with this recommendation. CMS will consider this recommendation when evaluating other home health measures.

Acknowledgments

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This report was prepared under the direction of Laura Kordish, Regional Inspector General for Evaluation and Inspections in the Chicago regional office; Adam Freeman, Deputy Regional Inspector General; and Hilary Slover, Assistant Regional Inspector General.

Contact

To obtain additional information concerning this report, contact the Office of Public Affairs at Public.Affairs@oig.hhs.gov. OIG reports and other information can be found on the OIG website at oig.hhs.gov.

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ENDNOTES

[1] Abt Associates, *Development of the Percent of Residents Experiencing One or More Falls with Major Injury During a Home Health Episode Measure*, August 31, 2016. Accessed at https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/mms/downloads/impact_-falls-with-major-injury-measure_public-comment.pdf on May 10, 2022.

[2] The Centers for Disease Control (CDC), WISQARS Injury Data. Accessed at WISQARS (Web-based Injury Statistics Query and Reporting System)|Injury Center|CDC on June 7, 2023.

[3] CDC, "Cost of Older Adult Falls," July 9, 2020. Accessed at https://www.cdc.gov/falls/data/fall-cost.html on August 5, 2022.

[4] Abt Associates, *Development of the Percent of Residents Experiencing One or More Falls with Major Injury During a Home Health Episode Measure*, August 31, 2016. Accessed at https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/mms/downloads/impact_-falls-with-major-injury-measure_public-comment.pdf on May 10, 2022.

[5] 42 CFR §§ 484.55(b) and (d); CMS, *Outcome and Assessment Information Set OASIS-D Guidance Manual*, ch. 1, pp. 3-4, January 1, 2019.

[6] OASIS data are collected for Medicare and Medicaid patients 18 years and older receiving skilled services, with the exception of patients receiving services for pre- or postnatal conditions. Those receiving only personal care, homemaker, or chore services are excluded since these are not considered skilled services. CMS, *Outcome and Assessment Information Set OASIS-D Guidance Manual*, ch. 1, p. 3, January 1, 2019.

[7] 42 CFR §§ 484.55 and 484.45(a).

[8] For a fee, HHAs can opt to have their surveys conducted by a CMS-approved accrediting organization instead of a State agency. 42 CFR § 488.4; CMS, *State Operations Manual*, ch. 2, Section 2003C, revised March 11, 2022.

[9] 42 CFR § 488.730 and Part 484.

[10] 42 CFR §§ 488.68(c) and 488.710.

[11] OIG, *Limited Oversight of Home Health Agency OASIS Data*, OEI-01-10-00460, February 2012.

[12] 42 CFR § 484.245.

[13] CMS, "Process of Care and Outcome of Care Quality Measures." Accessed at https://data.cms.gov/provider-data/topics/home-health-services/process-care-outcome-care-quality-measures on June 9, 2022.

[14] Abt Associates, *Development of the Percent of Residents Experiencing One or More Falls with Major Injury During a Home Health Episode Measure*, August 31, 2016. Accessed at https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/mms/downloads/impact_-falls-with-major-injury-measure_public-comment.pdf on May 10, 2022.

[15] CMS, *Outcome and Assessment Information Set OASIS-D Guidance Manual*, ch. 1, p. 3, January 1, 2019.

[16] This includes falls that occur when home health personnel are not providing care. HHAs are required to report any witnessed or unwitnessed falls on the basis of review of home health clinical reports; incident reports; any other relevant clinical documentation; and interviews with patients and/or caregivers about the occurrence of falls.

[17] CMS defines major injury in the OASIS questionnaire. The specific OASIS items are:

J1800 Has the patient had any falls during the episode of care? If yes, then the agency reports the number of falls in each of the following three categories:

J1900A 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

J1900B 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

J1900C Major injury: Bone fractures, joint dislocations, closed head injuries with altered consciousness, subdural hematoma

[18] While the new falls quality measure was publicly reported beginning in April 2022, it is not currently used to calculate the HHA's star rating that appears on CMS's Care Compare website. Of the 17 CMS Home Health Quality Reporting Measures that currently appear on Care Compare, 7 are used to generate the Quality of Patient Care star rating. CMS regularly makes changes to the HHA star rating system, so CMS may consider using the new falls measure in the star rating system in the future.

[19] Downloaded from the CMS Home Health Services Data Archive, 2022 Annual Files, April 2022 version. Accessed at https://data.cms.gov/provider-data/archived-data/home-health-services on April 27, 2022.

[20] 80 Fed. Reg. 68624, 68703-68706 (Nov. 5, 2015).

[21] An example of a non-quality assessment would be a Start of Care assessment for a patient that is not followed by a later End of Care assessment indicating the later discharge from care. Source: CMS, Home Health Quality Reporting Requirements website. Accessed at https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/homehealthqualityinits/home-health-quality-reporting-requirements on January 10, 2023.

[22] CMS, "Expanded Home Health Value-Based Purchasing Model," May 8, 2023. Accessed at https://innovation.cms.gov/innovation-models/expanded-home-health-value-based-purchasing-model on May 11, 2023.

[23] Prachi Sanghavi, Shengyuan Pan, and Daryl Caudry, "Assessment of Nursing Home Reporting Of Major Injury Falls for Quality Measurement on Nursing Home Compare," *Health Services Research*, Vol. 55, 2020, pp. 201-210.

[24] Jessica Silver-Greenberg and Robert Gebeloff, "Maggots, Rape and Yet Five Stars: How U.S. Ratings of Nursing Homes Mislead the Public," *New York Times*, March 13, 2021. Accessed at https://www.nytimes.com/2021/03/13/business/nursing-homes-ratings-medicare-covid.html on May 13, 2022.

[25] OIG, *CMS Could Improve the Data It Uses to Monitor Antipsychotic Drugs in Nursing Homes*, OEI-07-19-00490, May 2021.

[26] OIG, *Limited Oversight of Home Health Agency OASIS Data*, OEI-01-10-00460, February 2012.

[27] OIG, *CMS's Encounter Data Lack Essential Information That Medicare Advantage Organizations Have the Ability to Collect*, OEI-03-19-00430, August 2020.

[28] Health Affairs, "The Promise and Pitfalls of Medicare Advantage Encounter Data," February 25, 2019. Accessed at https://www.healthaffairs.org/do/10.1377/forefront.20190221.696651/full/ on May 23, 2022.

[29] CMS, *Outcome and Assessment Information Set OASIS-D Guidance Manual*, ch. 1, p. 4. HHAs have 48 hours from the time they learn of a significant change in condition, transfer, discharge, or death date to complete the transfer/discharge/death at home assessment. It may take HHAs longer to learn about and report a fall with major injury, particularly if a hospitalized patient decides to end their home health care without notifying the HHA of the fall. To allow time for the HHA to learn about the fall and admission, we used a wider window when identifying OASIS transfer or discharge assessments. Specifically, we looked for assessments with (1) an assessment completed date up to 7 days after the inpatient admission date or (2) a transfer or discharge date within 4 days of the hospital admission date.

[30] HHAs should report the fall at the transfer/discharge/death assessment that follows the fall. If the HHA submitted the next transfer/discharge/death assessment more than 7 days after the hospital admission date and reported the fall on that assessment, it would not have been identified as a match in this study, but it would be counted as a fall for CMS's calculation of the major injury fall rate.

[31] Prachi Sanghavi, Shengyuan Pan, and Daryl Caudry, "Assessment of Nursing Home Reporting Of Major Injury Falls for Quality Measurement on Nursing Home Compare," *Health Services Research*, Vol. 55, 2020, pp. 201-210.

[32] Jessica Silver-Greenberg and Robert Gebeloff, "Maggots, Rape and Yet Five Stars: How U.S. Ratings of Nursing Homes Mislead the Public," *New York Times*, March 13, 2021. Accessed at https://www.nytimes.com/2021/03/13/business/nursing-homes-ratings-medicare-covid.html on May 13, 2022.

[33] OIG, *CMS Could Improve the Data It Uses to Monitor Antipsychotic Drugs in Nursing Homes*, OEI-07-19-00490, May 2021.

[34] Because OASIS transfer and discharge assessments can be completed after a patient is hospitalized, we also looked at falls that occurred up to 4 days before July 1, 2020. This allowed us to determine whether falls were reported on the OASIS assessments submitted at the beginning of our study period.

[35] To ensure that we only examined falls reporting on OASIS assessments completed in our study period, we only analyzed falls with a matching OASIS assessment completed between July 1, 2020, and June 30, 2021. We excluded falls that occurred at the end of our study period but had a matching OASIS assessment completed after June 30, 2021. When we could not match a fall at the end of our study period to any OASIS assessment, we included it in the count of falls missing an OASIS assessment.

[36] We used several Medicare identifiers to match between the Medicare data and the OASIS records. Specifically, we looked for matches between the following fields in the two data sources:

Medicare beneficiary identification number (MBI in EDB and item M0063 in OASIS)

Social security number (SSN in EDB and item M0064 in OASIS)

Home health patient IDs (Patient medical record number in the home health claim and item M0020 in OASIS)

National Provider Identifiers (NPIs) (Header attending or rendering NPI or line rendering NPI from the home health claim and item M0018 in OASIS)

For each record that matched using at least one of the above Medicare identifiers, we further required that at least two of the following fields match between the Medicare EDB and OASIS: first name, last name, date of birth, and sex.

[37] In supplemental analyses, we explored whether falls non-reporting rates were much different for cases with exact matches on these dates as compared to cases with more flexible matches on dates (i.e., allowing for these small differences in dates between Medicare claims and the OASIS assessment we linked to). Non-reporting rates were 52 percent when dates matched exactly and 59 percent when dates were more flexible, giving us confidence that the flexible date matching approach did not drive the high rates of falls non-reporting that we find overall.

[38] Where possible, we used OASIS, rather than Medicare enrollment data, to identify the characteristics of patients who fell because OASIS assessments contain patients' self-reported demographic information that is considered more accurate than the demographic information, especially on race and ethnicity, contained in the Medicare enrollment files. See OIG, *Inaccuracies in Medicare's Race and Ethnicity Data Hinder the Ability to Assess Health Disparities*, OEI-02-21-00100, June 2022. See also Olga Jarrin et al., "Validity of Race and Ethnicity Codes in Medicare Administrative Data Compared With Gold-Standard Self-Reported Race Collected During Routine Home Health Care Visits," *Medical Care*, Vol. 58, No. 1, January 2020, pp. e1-e8. Accessed at https://journals.lww.com/lww-medicalcare/Fulltext/2020/01000/Validity_of_Race_and_Ethnicity_Codes_in_Medicare.16.aspx on May 23, 2022.