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Original Study

Differences in Nursing Home Quality Between Medicare Advantage and Traditional Medicare Patients

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A B S T R A C T

Background: Medicare Advantage (MA) enrollment is steadily growing, but little is known about the quality of nursing home (NH) care provided to MA enrollees compared to enrollees in traditional fee-for-service (FFS) Medicare.
Objectives: To compare MA and FFS enrollees' quality of NH care.
Design: Cross-sectional.
Setting: US nursing homes.
Participants: 2.17 million Medicare enrollees receiving care at an NH during 2011.
Measurements: CMS methodology was used to calculate the 18 Nursing Home Compare quality measures as applicable for each enrollee.
Results: Among Medicare enrollees using NH in 2011, 17% were in MA plans. Most quality scores were similar between MA and FFS. After adjusting for facility, beneficiary age and gender, CMS Hierarchical Condition Category score, and geographic region, short-stay MA enrollees had statistically significantly lower rates of new or worsening pressure ulcers [relative risk (RR) = 0.76, 95% confidence interval (CI) = 0.71–0.82] and new antipsychotic use (RR = 0.82, 95% CI = 0.80–0.83) but higher rates of moderate to severe pain (RR = 1.09, 95% CI = 1.07–1.12), compared with short-stay FFS enrollees. MA long-stay enrollees had lower rates of antipsychotic use (RR = 0.94, 95% CI = 0.93–0.96) but had higher rates of incontinence (RR = 1.08, 95% CI = 1.06–1.09) and urinary catheterization (RR = 1.10, 95% CI = 1.06–1.13), compared with long-stay FFS enrollees.
Conclusion: Overall, we found few differences in NH quality scores between MA and FFS Medicare enrollees. MA enrollment was associated with better scores for pressure ulcers and antipsychotic use but worse scores for pain control, incontinence, and urinary catheterization. Results may be limited by residual case-mix differences between MA and FFS patients or by the small number of short-stay measures reported.

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The Centers for Medicare and Medicaid Services was able to review and approve the manuscript prior to submission, but did not have any role in design or conduct of the study or analysis and interpretation of the data.

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Medicare managed care, currently known as Medicare Advantage (MA), was originally introduced as a way of managing rising costs among traditional fee-for-service (FFS) Medicare patients.[1] Enrollment has steadily increased since 2003 and now accounts for 31% of Medicare enrollees nationwide.[1] Multiple studies have compared patient health outcomes or quality measures between MA and FFS Medicare for primary care,[2] preventive care,[3,4] and selected conditions.[5–13] However, few studies have focused on non-acute institutional settings, such as nursing home (NH) and postacute care.[7,14,15] As admissions and costs for postacute NH care continue to rise steeply,[16,17] the quality of NH care requires greater scrutiny. The advent of public reporting through Nursing Home Compare in 2002 led to increased attention to technical quality of care rather than "hotel services" provided by NHs.[18] However, NH quality remains variable across facilities. In this study, we add to the existing literature by comparing the quality of NH care provided to MA and FFS beneficiaries nationally in 2011.

Methods

Conceptualization and Hypotheses

Patient outcomes may be affected by NH-specific factors including staff or leadership turnover,[19–21] culture,[22] staffing levels,[23] physician commitment and medical staff organization,[24,25] ownership,[26,27] and payer source.[28,29] Other factors are patient-specific such as acuity or hospital-specific such as quality of interfacility information transfer.[30] Because short-stay patients spend a limited time in NHs, we hypothesize that patient acuity will be the predominant outcome driver in this group. MA plans may influence patient acuity by selecting which patients are transferred to NH, either directly or through contracted medical practices that are at financial risk for inpatient and short-stay NH use. For example, MA patients may be sent "quicker and sicker" from the hospital to NH,[31] whereas healthier patients may be sent home with home health rather than using NH, resulting in MA NH patients having a higher acuity than FFS. In contrast, hospice-eligible MA patients may be sent to hospice at home rather than NH, resulting in a less acute group of MA patients in NH.[32–34] The net effect of these conflicting forces may be neutral with respect to acuity, and thus neutral with respect to outcome-based measures of care quality.

For long-stay residents, we hypothesize that MA plans will have less direct influence over measured quality of care, because of changes in financing from Medicare to other sources (out-of-pocket payments, Medicaid, or other insurance) after 100 days in NH, with the possible exception of patients enrolled in an Institutional Special Needs Plan (I-SNP). A type of MA coordinated care plan, I-SNPs enroll MA-eligible individuals who require the level of care provided in NHs, inpatient psychiatric facilities, or assisted living facilities for at least 90 days. Other types of SNPs are Dual Eligible (D-SNP), which enroll patients with both Medicare and Medicaid, and Chronic Condition (C-SNP), which enroll patients with severe or disabling chronic conditions such as HIV, cancer, or schizophrenia.

Study Design and Data Sources

We conducted a retrospective population-based study of Medicare enrollees using merged 2011 data sets from Centers for Medicare & Medicaid Services (CMS) beneficiary enrollment files and the quarterly long-term care Minimum Data Set (MDS) 3.0 files. The MDS 3.0 is completed for all residents of Medicare-certified NHs, regardless of payer. CMS provided cross-sectional extracts of Medicare enrollment files containing patient Health Insurance Claim number, Social Security number, date of birth, and enrollment information as of December 2011. CMS also provided patient Institutional CMS–Hierarchical Condition Category (HCC) scores.[35] The CMS-HCC model risk-adjusts payments to private Medicare plans using demographics and 70 categorized diagnoses derived from administrative medical encounter data over the past year to estimate future expenditures, and it has also been shown to be a significant predictor of health outcomes such as mortality.[36] The work carried out for this study underwent review by the RAND Human Subjects Protection Committee.

Quality Measures

We generated the 18 NH quality measures listed in Table 1 at the patient level by following existing methodology for developing the facility-level measures used in Nursing Home Compare.[37] Quality measures were categorized by length of NH stay, reflecting changes in how NH care is reimbursed after 100 days. Short-stay measures include all residents in an episode whose cumulative days in the facility (CDIF) are 100 days or less at the end of the target period, and long-stay measures include residents with CDIF greater than 100 days. Eight of the quality measures were process measures and 10 were outcome measures. The short-stay pressure ulcer measure and long-stay pain and urinary catheterization measures were risk adjusted using resident-level covariates.[37] In addition, all measures other than pneumococcal vaccination excluded some patients from the denominator, to ensure the quality measure was targeted to the appropriate

Table 1
Quality Measures Reported in Nursing Home Compare

Length of Stay	Quality Measure	Event Desirability
Short stay	Percent of residents who self-report moderate to severe pain	Undesired
	Percent of residents with pressure ulcers that are new or worsened	Undesired
	Percent of residents who were assessed and appropriately given the seasonal influenza vaccine	Desired
	Percent of residents assessed and appropriately given the pneumococcal vaccine	Desired
	Percent of residents who newly received an antipsychotic medication	Undesired
Long stay	Percent of residents experiencing 1 or more falls with major injury	Undesired
	Percent of residents who self-report moderate to severe pain	Undesired
	Percent of high-risk residents with pressure ulcers	Undesired
	Percent of residents assessed and appropriately given the seasonal influenza vaccine	Desired
	Percent of residents assessed and appropriately given the pneumococcal vaccine	Desired
	Percent of residents with a urinary tract infection	Undesired
	Percent of low-risk residents who lose control of their bowels or bladder	Undesired
	Percent of residents who have/had a catheter inserted and left in their bladder	Undesired
	Percent of residents who were physically restrained	Undesired
	Percent of residents whose need for help with activities of daily living has increased	Undesired
	Percent of residents who lose too much weight	Undesired
	Percent of residents who have depressive symptoms	Undesired
	Percent of residents who received an antipsychotic medication	Undesired