

The Effect of the New Prospective Payment System on Medicare Beneficiaries Receiving Home Health Care

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Abstract

The purpose of this study was to begin to quantify the impact the October 1, 2000 prospective payment system (PPS) regulations have on the health outcomes of Medicare recipients who use home health agency (HHA) services. Patients were assessed as they entered the home health agency using the Outcome and Assessment Information Set (OASIS) format and case-mix weights were applied according to the federally-mandated formula to determine an allowable and prospective number of home health visits. This number of visits was compared with the number of visits estimated by home health nurses. The means of both estimates were almost the same at 24 visits but the standard deviation of the HHA projected visits was almost two times that of the OASIS case-mix estimated visits (20.29 SD to 8.73 SD). A regression analysis found that home health nurses were using not only the OASIS items to predict visits, but included as part of the estimate process the number of unmet health outcomes encountered at the evaluation visit. The strength of this estimation process was greater for those patients who did not show signs of depression. For this group of patients the presence of depressive symptoms in patients made the visit-estimation process less predictable.

Introduction

As of October 1, 2000, home health agencies (HHAs) have been receiving payment for Medicare patients under a prospective payment system (PPS), where reimbursement rate is determined prior to service delivery. A “case-mix model” is used to predict per “episode” resource requirements. An “episode” of health care is determined as a 60-day window of services. The case-mix model used to determine prospective payment hinges on data from the Outcome and Assessment Information Set (OASIS), an instrument designed to measure and document changes in adult clients’ health status. Twenty-two items from the 80-item OASIS are used to determine the case-mix severity of a patient’s condition. There are 14 clinical items, 6 functional status items, and 2 service utilization items that have differential weights reflecting their case-mix importance. Payments to the HHA are calculated by multiplying the case-mix weight by the Health Care Finance Association (HCFA) national standard payment rate. Actual visits required, however, depend upon agency care plus the ability of the patient to respond to a treatment plan.

It is crucial to home health agencies that accurate estimates of visits be made and that documentation be provided to continue treatment, if necessary, beyond the initial 60-day episode. To facilitate this process the Home Care Plus agency in Reno, Nevada uses a

procedure of estimating the number of health indicators each patient must reach to be able to maintain self care safely. This process starts at the first visit and continues across visits. The number of indicators met or not met at each visit is an outcome measure that reflects health status. There may be 40 or more indicators for the primary condition and each co-morbid condition. This procedure is discussed in Ferry (1996) and described as a health-outcomes documentation system in Ferry (2000). Indicators include such measures as: 1) patient or caregiver ability to recognize onset of symptoms, 2) patient or caregiver ability to identify dose and time of medications, 3) presence or absence of granulation tissue in a healing wound.

The present study compares the number of prospective, OASIS-driven Medicare-allowed patient visits to the HHA estimate of visits. Regression analysis is used to predict the HHA estimated number of visits. Predictors in the analysis include the OASIS case mix and the number of “unmet” clinical indicators at the first visit. The presence or absence of depressive symptoms has been predicted by the authors (Elias, Ferry, & Treland, 2000; Ferry & Elias, In Press) to be a likely moderator of health outcomes in home-health patients, and was treated as a moderator variable in the analyses.

Methods and Results

Based on the records of 44 consecutive Medicare patients covered under the case-mix PPS and admitted to the Home Care Plus home health agency in Reno, Nevada, an analysis was conducted to compare the number of agency-estimated visits with the number of visits prescribed by the PPS case mix. The patients ranged in age from 44 to 97 years of age with a mean age of 82 and a standard deviation of 10.04. There were 13 males and 31 females.

Figure 1 shows that the mean number of PPS visits anticipated and the HHA anticipated visits are almost exactly the same (Means = 24.40 & 24.45, respectively). However, a wide discrepancy existed in the variation of the estimates (HHA SD = 20.29, PPS SD = 8.73). Part of the large variance in the HHA estimate of visits is due to one wound patient who is estimated at 120 visits. Without this individual the mean for the HHA number of visits was 22 with a SD of 13.

Figure 1

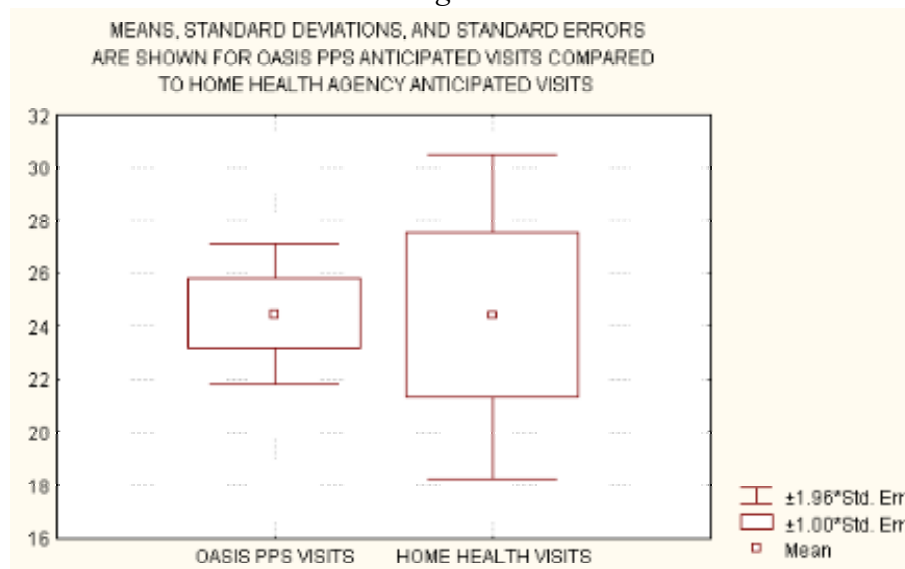


Table 1 shows the results of regression analyses designed to predict the number of visits predicted by the HHA based on the OASIS case-mix items, and the number of unmet clinical indicators at time of initial patient assessment.

Table 1

Predictors	Multiple \underline{R}	\underline{F} (df)=	\underline{R}^2	Adj \underline{R}^2
OASIS PPS & Unmet Clinical Indicators	.47	$\underline{F}(2,39) = 5.53$.22	.18
With No Depressive Symptoms	.61	$\underline{F}(2,22) = 6.43$.37	.31
With Depressive Symptoms	.21	$\underline{F}(2,16) =$ (non-significant)	.045	.02

Examination of first-order Pearson Product moment correlations between these variables finds that OASIS PPS visits and HHA anticipated visits correlated $\underline{r} = .29$ ($p < .05$), $\underline{r}^2 = .08$. The number of clinical indicators unmet at first interview correlated with HHA anticipated visits $\underline{r} = .39$ ($p < .05$), $\underline{r}^2 = .15$. It can be seen in Table 1 that multiple regression analysis shows an \underline{R} of .47, $\underline{R}^2 = .22$ with HHA predicted visits regressed on (predicted from) the OASIS Case-mix visits prescribed and number of unmet co-morbid health indicators.

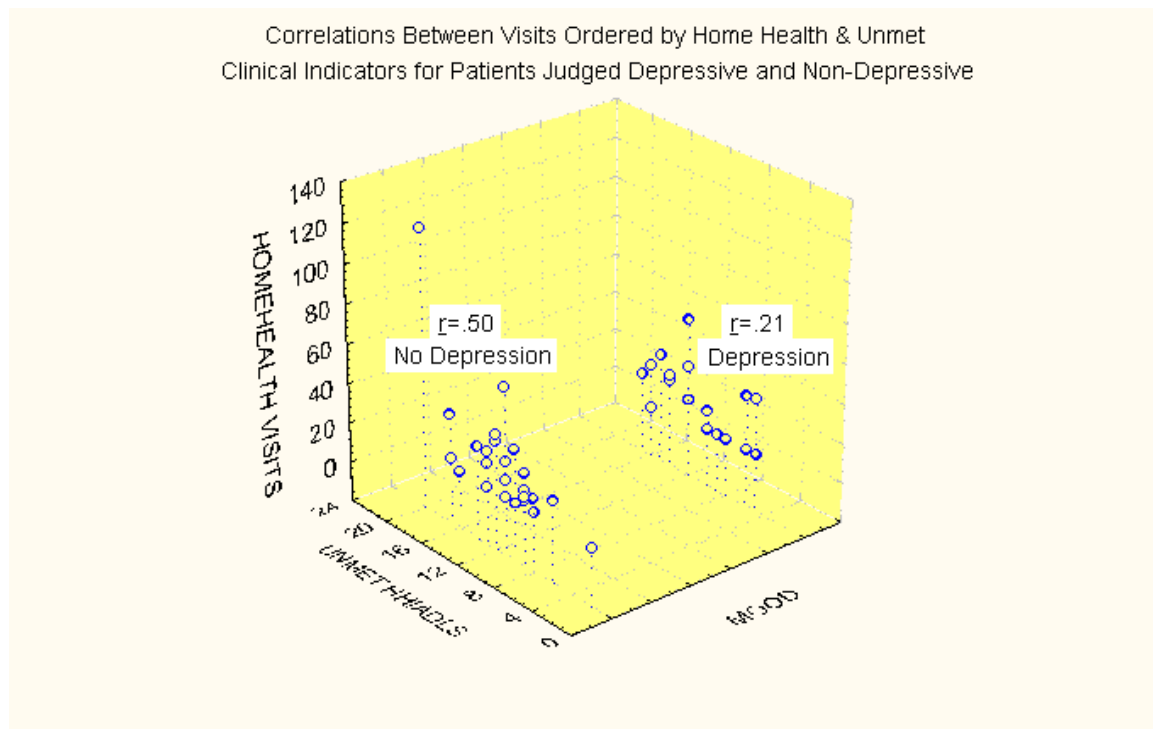
To estimate the role depressive symptoms might play as a moderator of the HHA estimated visits, individuals were classified as showing symptoms or not showing symptoms according to the OASIS M0590 item. This item scores depressive symptoms in terms of: 1) evidence of depressed mood (sad, tearful), 2) sense of failure or self-reproach, 3) hopelessness, 4) recurrent thoughts of death, and/or 5) thoughts of suicide.

When the multiple regression analysis was performed within groups of patients graded as having no mood disturbance ($N = 23$), the multiple \underline{R} as shown in Table 1 increased to .61 ($p < .05$, Adj. $\underline{R}^2 = .31$). Pearson-Product-Moment correlations between OASIS Case-mix PPS visits and HHA anticipated visits increased to $\underline{r} = .40$ and the correlation between HHA anticipated visits and number of unmet indicators increased to $\underline{r} = .50$. These results can be seen in Figure 2 for groups of individuals defined as showing no signs or some signs of depressive symptoms.

As further illustrated in Table 1 and Figure 1, for patients showing signs of depressive symptoms the multiple \underline{R} for the regression analysis shrank from $\underline{R} = .47$ to $\underline{R} = .21$. The first-order correlations between OASIS PPS visits and HHA anticipated visits decreased to $\underline{r} = .16$ and the correlation between HHA anticipated visits and number of unmet

clinical indicators decreased to $r = -.08$. Number of initial unmet clinical indicators was the same (mean =) for those with and without depressive symptoms.

Figure 2



Discussion

The ability of home health agency nurses to adequately predict the number of home health visits needed for patients in an OASIS case-mix PPS driven system is crucial to the survival of home health agencies and is crucial to the health of patients. Based on these initial results from patients at a home health agency in Reno, Nevada, the mean number of PPS OASIS estimated visits and nurse estimated HHA visits is the same. However, the correlation between OASIS PPS visits and HHA estimated visits was only $r = .29$, indicating that the rankings of severity of illness and time to recovery was very different between the methods of estimation. The regression analyses show that estimating visits on the basis of unmet clinical indicators as well as OASIS items improves the variance accounted for in prediction of visits by a factor of almost two. The presence or absence of depressive symptoms acts as a moderator to the predictions such that the absence of symptoms allows for a much clearer estimate of needed visits; i.e., nine times more variance can be accounted for in predictions when symptoms are absent rather than present.

At the end of a 60-day “episode” patients whose health or inability to maintain health still requires home health management must ethically and legally be retained by the HHA. To receive further payment the agencies must prepare a plan for care plan management. The clinical indicator-outcome system that focuses on the ability of patients or caregivers to independently manage health problems at home clearly has merit in terms of planning and validating the need for the care-plan. The role of depression or depressive symptoms

in facilitating exit from home health care should be carefully examined. Although not presented in this report due to the fact that many patients have not yet completed a 60-day episode, early indications are that those individuals who show depressive symptoms do not meet unmet clinical indicators as quickly as those without depressive symptoms. Patients with depressive symptoms tend to plateau in numbers of indicators met toward the middle of the 60-day period. Another factor not discussed in this report is the presence, absence, or competence of a caregiver. In this first set of patients only three individuals were without some form of caregiver. Nevertheless, the lack of a competent caregiver could certainly affect the ability to safely manage health. As patients move through this first year of the PPS system it will be extremely important for agencies to track their own progress toward meeting the PPS mandated standards. The variables discussed in this report are important ones to consider.

References

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