Hospital-Related Quality of Care Improvements Associated with a High Risk Case Management Pilot Program for Medicare Beneficiaries with Medigap Coverage

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Objectives

■ Evaluate a High Risk Case Management (HRCM) program consisting of both face-to-face and telephonic services provided by nurses and social workers to improve care coordination for those with multiple chronic conditions.

■ Estimate the relationship between participation in a HRCM program and inpatient hospital-related quality of care and expenditure metrics for Medicare beneficiaries with an AARP® Medicare Supplement Insurance (i.e. Medigap) plan.

Population Studied

■ About 2.9 million people are covered by an AARP Medicare Supplement Insurance (i.e. Medigap) plan insured by UnitedHealthcare insurance company (for New York residents, UnitedHealthcare Insurance Company of New York).
  –These plans are offered in all 50 states, Washington DC, and various US territories.

■ The HRCM program is currently being piloted in five states.
  –Target markets included parts of California, Florida, New York, North Carolina, and Ohio.

■ The program began in December 2008 and is ongoing.
  –This research covers the first year of the program.

■ Qualified members were those who had a Hierarchical Condition Category (HCC) score greater than 3.74 during the period from December 1, 2008 to December 31, 2009.

■ **Cohort Assignment:** Sample members were categorized into one of two groups:
  –The first group consisted of 676 members (11% of those who qualified) who were engaged in a HRCM program and utilized the HRCM services. We refer to these as Engaged Participants.
  –The second group consisted of 5,654 members (89% of those who qualified) who did not utilize those services. We refer to these as Not Engaged Members.

Methods

■ **Time Periods:** An Engaged Participant's index date is the date he or she began active participation in the program. A Not Engaged Member's index date is the date he or she was identified as a candidate for the program.
  –The pre-index period was the 12 months prior to the index date.
  –The post-index period was of variable length and lasted from the index date until the member successfully completed or withdrew from the program, was no longer insured, or until June 30, 2010, whichever occurred first.
  –Members were required to have, at a minimum, one month of post-index period data to be included in the analysis. (The average duration was 11.5 months for each group.)

■ **Quality of Care and Expenditure Metrics:** Three commonly used metrics associated with inpatient care were compared between the Engaged Participants and Not Engaged Members in the post-index period, to evaluate the HRCM program impact:
  –Whether hospital readmission occurred for any reason within 30 days of a hospital discharge;
  –Having an office visit (a face-to-face provider encounter) within 15 days of hospital discharge;
 –Average inpatient expenditures during the post-index period.

Methods (Continued)

■ **Statistical Analyses:** Involved four sets of analyses.
  –Analysis One: Described the sample and compared demographic, socioeconomic, and clinical characteristics between the two groups, using univariate techniques.
  –Analysis Two: Logistic regression analysis was used to estimate differences in the odds of having a readmission within 30 days of hospital discharge between the two groups, controlling for demographic, socioeconomic, and clinical characteristics.
  –Analysis Three: Logistic regression analysis was used to estimate differences in the odds of having an office visit within 15 days of hospital discharge between the two groups, controlling for demographic, socioeconomic, and clinical characteristics.
  –Analysis four: Two-part regression models were used to estimate differences in average inpatient expenditures in the post-index period between the two groups.
   • In the first part, differences in the probability of having any inpatient expenditures in the post-index period were estimated, controlling for demographic, socioeconomic, and clinical characteristics.
   • In the second part, average hospital expenditures were estimated for those who had any expenditures in the post-index period.
   • The results of the two models were then multiplied together to yield estimates of whether there were differences in inpatient expenditures between the two groups.

*Sample Characteristics of Engaged Participants and Not Engaged Members
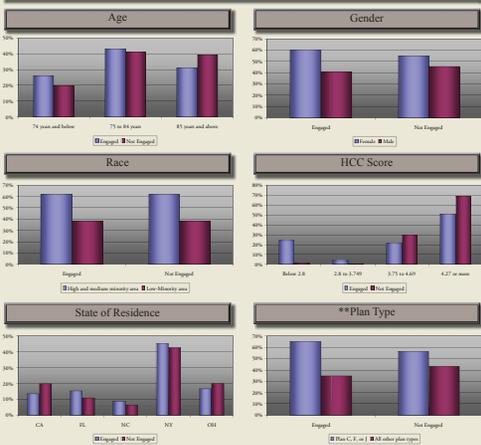
*Selected sample characteristics are shown above. Other variables were omitted for brevity.
**Medigap plans C, F, and J are often considered near full first dollar coverage plans, while the rest of the plans insured by UnitedHealthcare constitute all other Medicare Supplement plan types.
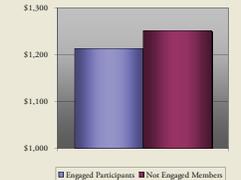
Results: Quality of Care and Expenditure Metrics
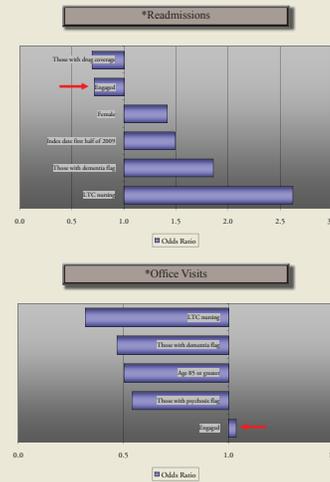
*The readmission and office visit regression models include only those 209 Engaged Participants and 2,170 Not Engaged Members who had a hospital admission in the post-index period.

Note: The red arrows point out the impact of engagement on readmission and office visit rates, respectively.

Results: Quality of Care and Expenditure Metrics

■ The quality of care graphs in the previous column illustrate the Odds Ratio (OR) for each of the statistically significant (p<0.01) demographic, socioeconomic, and clinical characteristics associated with the likelihood of having a readmission or an office visit in the post-index period. Other variables were omitted for brevity.
  –The OR estimates the likelihood that Engaged Participants had a readmission or an office visit, relative to Not Engaged Members. An OR greater than 1.0 represents an increased likelihood; whereas, a value less than 1.0 represents a decreased likelihood.

■ Of particular interest:
  –Engaged members were 28% (p<0.07) less likely to have a hospital readmission within 30 days of hospital discharge.
  –Engaged members were 4% (p<0.05) more likely to have an office visit within 15 days of hospital discharge.

■ The expenditure graph in the previous column illustrates the differences in average inpatient expenditures for the two groups, in the post-index period.
  –Average inpatient expenditures per month for Engaged Participants were $1213.34.
  –Average inpatient expenditures per month for Not Engaged Members were $1250.62.
  –The difference between the two groups was $37.28 per member per month (p=0.01).

Conclusions

■ This is the first known HRCM program designed solely for Medigap members.

■ In its first year of existence, the HRCM program resulted in significantly better hospital-related quality of care and significantly lower inpatient expenditures.
  –As the program continues in its second year, continued member satisfaction, increased enrollment, and similar improvements in quality of care are anticipated.

■ The program was also associated with high member satisfaction.
  –Almost all members (98%) were satisfied or very satisfied with the program, based on a patient questionnaire (data not shown).

■ Future program enhancements are focused on increasing engagement in the HRCM program.