Diabetes Medication Adherence Association with Total Cost of Care

Background

- Diabetes medication non-adherence has been associated with substantial morbidity and mortality.
- Several studies have identified specific diabetes drug cost trends identified in the literature.
- Diabetes was 7.8% of all pharmacy benefit claims.
- Diabetes medication adherence was associated with a significant impact on hospitalizations.

Methods

- This retrospective concurrent cohort study utilized integrated administrative medical and pharmaceutical claims data from the commercial Blue Cross Blue Shield (BCBS) Plan in the Central US with approximately 1.3 million lives with Prime Therapeutics pharmacy benefits.
- Members were required to be continuously enrolled between January 1, 2007 to December 31, 2009.
- Medical claims were first queried for the presence of diabetes medication use and pharmacy claims data identified claim for diabetes (ICD-9-CM 250.x-256.x) at any time in 2007 through 2009.
- The index date was determined by the presence of diabetes medications over the 365 days prior to the 10 member’s first hospitalization for diabetes in 2008.
- The index date, a member required to have diabetes medication supply or at least one hospitalization for diabetes in the year prior to the index date (August 15, 2007 to August 14, 2008).
- Adherence was measured using the proportion of days covered (PDC) for the index date.
- Cost analysis was performed using the proportion of days covered (PDC) for the index date.

Objective

- To compare one year cause hospitalization rates, medical costs and pharmacy costs among adult individuals adherent and non-adherent to their diabetes medications.

Results

- 643,376 members were continuously enrolled in the study, January 1, 2007 to December 31, 2009 and 15,043 members met inclusion and exclusion criteria, a 99% flow of members into the study.
- In the study, 96% of medical and pharmacy costs were for those 18 years of age or older.
- Cost analyses were limited to members with a hospitalization in the year following the index date.
- Medical costs were $1,010 lower in the adherent group ($3,117, SD $3,244) compared to the non-adherent group ($4,127, SD $4,297).
- Pharmacy costs were $2,170 lower in the adherent group ($4,297, SD $4,560) compared to the non-adherent group ($6,467, SD $6,881).
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- Pharmacy costs were $5,170 lower in the adherent group ($8,427, SD $8,891) compared to the non-adherent group ($13,637, SD $14,482).
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Conclusions

- Our findings are consistent with previous research identifying an association between diabetes medication adherence and lower one-year hospitalization rates, medical and total costs among individuals with an average Charlson comorbidity index score of 0.69, 95% confidence interval, 0.61 to 0.78.
- A one-year hospitalization rate of less than 30% for individuals adherent to diabetes medication was identified in the one-year follow-up analyses.
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- Pharmacy costs were $2,170 lower in the adherent group ($4,297, SD $4,560) compared to the non-adherent group ($6,467, SD $6,881).
- The one-year study period used for this analysis was from August 15, 2007 to August 14, 2008.
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Limitations

- Administrative pharmacy and medical claims have the potential for miscoding and include assumptions about patient characteristics, thereby the data may represent information that is different from the actual data.
- Data is limited to a commercial population, the findings may not be generalizable to Medicare or Medicaid populations or other geographic regions.
- Members with high medical or pharmacy costs (above the 99th percentile) were excluded in the analysis and total cost result, our findings may not represent all actual costs.

References