Clinical and Economic Outcomes Associated with Teriparatide Adherence in Medicare Part D Recipients: A Retrospective Cohort Study

Leslie Hazel-Fernandez PhD, MPH, Anthony M Louder PhD, MPH, Shonde A Foster PharmD, MSc, Claudia Uribe MD, PhD, 1 Russell T Burge PhD 2

1Competitive Health Analytics Inc., Humana Inc., Louisville, KY, USA; 2Eli Lilly and Company, Indianapolis, IN, USA

Objectives

The objective of this study was to evaluate the association between adherence to a single once-daily medication (teriparatide) and a set of health-related quality of life (HRQOL) measures as measured using a patient-reported outcome (PRO) questionnaire. The study's primary outcomes included adherence measured by the proportion of days covered (PDC) and fracture-related outcomes (medical resource use, healthcare costs, and health-related quality of life). The study's secondary outcomes included the use of concomitant medications (calcitonin and bisphosphonates), the impact of patient characteristics (age, gender, socioeconomic status, and comorbidities) on adherence and fracture outcomes, and the impact of adherence on fracture risk and healthcare resource use.

Methods

A retrospective cohort study was conducted using a 1% random sample representative of the Medicare population. The study included participants who were prescribed teriparatide between January 2009 and December 2010 and had at least 12 months of continuous eligibility. The primary outcome was adherence, measured by the PDC. The secondary outcomes included fracture-related resource utilization (hospitalization, emergency department visits, and outpatient visits), medical resource utilization (pharmacy claims), and healthcare costs (hospitalization, emergency department visits, and outpatient visits). The study also investigated the impact of concomitant medications (calcitonin and bisphosphonates) on adherence and fracture outcomes.

Results

Adherence was measured by the PDC, which was defined as the proportion of days covered by the medication. The study found that adherence was associated with lower healthcare costs and improved health-related quality of life. The study also found that patients who discontinued teriparatide treatment had higher healthcare costs and worse health-related quality of life compared to those who continued treatment. The study also found that concomitant medications (calcitonin and bisphosphonates) were associated with lower adherence and higher healthcare costs.

Conclusions

These findings suggest that improving adherence to teriparatide could lead to better health-related quality of life and lower healthcare costs. Further research is needed to understand the mechanisms underlying the association between adherence and healthcare outcomes.

Limitations

The study had several limitations, including the use of administrative claims data, which may underestimate the true burden of fractures and healthcare resource use. Additionally, the study was unable to account for the impact of non-medical factors on adherence and fracture outcomes.

References