Results

Table 1. Sample Selection and Attrition

Since few patients were prescribed allogliptin, it was removed from analysis. Based on study criteria, 22,860 patients with Medicare coverage (17,292 sitagliptin, 4,882 saxagliptin, and 1,187 linagliptin) and 3,129 patients with commercial coverage (2,561 sitagliptin, 643 saxagliptin and 218 linagliptin) were included.

Table 2. Baseline Demographic Characteristics

Table 3. Baseline Clinical Characteristics

Table 4. Direct Medical Costs

Conclusions

• Although baseline demographics in Medicare and commercial populations were similar across the DPP-4 inhibitor medication groups, patients on linagliptin may have been more complex (i.e., higher DCIS, more insulin use at baseline).

• When controlling for baseline factors, 12-month post-index total healthcare costs were similar across all index DPP-4 medications.

Figure 1. Direct Medical Costs

There were no differences in adjusted medical and total health care costs between treatment groups in the Medicare and commercial cohorts.

Adjusted pharmacy costs for sitagliptin were significantly higher than linagliptin in the commercial cohort.

Costs for diabetic patients receiving dipeptidyl peptidase-4 inhibitors in US Medicare and commercial insurance plans

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Background

Dipeptidyl peptidase-4 (DPP-4) inhibitors are a newer class of oral hypoglycemic medications which prevent the breakdown of incretin, resulting in decreased glucagon levels and increased insulin release, both reducing blood glucose. This medication class is primarily indicated for management of type 2 diabetes as either monotherapy or in combination with other oral hypoglycemic agents.1-3 There are four DPP-4 inhibitors presently available in the US: sitagliptin marketed as Januvia, saxagliptin marketed as Onglyza, linagliptin marketed as Tradjenta, and allogliptin marketed as Neirin. A systematic review showed that adding a DPP-4 inhibitor may be more cost effective than other medication combinations in patients whose diabetes is not well controlled on monotherapy.4 However, direct cost comparisons using claims data are lacking.

Objective

To compare post-index direct medical costs for patients prescribed DPP-4 inhibitors in both Medicare and commercial plan cohorts.

Methods

Study Design: Historical cohort study.

Data Source: Pharmacy and medical claims, and enrollment data, from the Humana Research Database, which includes data from approximately 1.7 million members nationwide across commercial (private insurance purchased individually or through an employer), Medicare Advantage, and Medicaid programs provided to individuals age ≥65 and individuals of any age with diabetes and prescription drug plans from 2007 to present.

Inclusion and Exclusion Criteria:

Patients with Humana Medicare and commercial coverage, with ≥2 filled prescriptions for a DPP-4 inhibitor between July 1, 2011 and March 31, 2013 were identified.

• The first prescription claim for a DPP-4 inhibitor was defined as the index date and index medication.

• Continuous enrollment was required for the 12 months prior to, and after the index date.

• Patients without at least one refill of their index medication were excluded from analysis.

Outcomes and Analyses:

• Medicare and commercial populations were analyzed separately.

• Demographic characteristics (age, gender, and geographic region), and the following pre-index clinical and cost characteristics, were described:
  • Mean HbA1c (A1C) levels were calculated from lab results 6 and 10 months after the index date for the subset of patients with available data.
  • Pre-index health care costs (sum of plan and patient paid), which were considered a proxy for clinical severity, were reported as total, pharmacy (Rx) and medical costs.

• Post-index costs (in US 2013 dollars) were compared, adjusting for pre-index costs, DCSI, pre-index insulin (defined as a prescription for insulin during the 365 days prior to the index date), age, and gender, using generalized linear models (GLMs) and p<0.05.

Limitations

• Results were subject to limitations inherent in all claims databases, such as missing and miscoded data.

• While Humana is a large national health plan with members throughout the U.S., results may not be generalizable to other populations.

• Medication refills do not ensure the patient consumed their medication.

• The study sample was limited to those with HbA1c results available.

References


