OBJECTIVES

This study examined the association between comorbidities and COPD medication maintenance (long-acting bronchodilator agents (LABAs) persistence among Medicaid beneficiaries with newly diagnosed COPD.

METHODS

Data Source

- Medicaid Analytic eXtract (MAX)
- We used data from multiple years (2005-2008) and multiple states (California, Illinois, New York, and Texas) from the MAX files. These files contain personal summary (enrollment), inpatient, outpatient, and pharmacy claims for services provided to Medicaid beneficiaries. All files can be linked based on the beneficiaries’ unique identification numbers.

Study Design

- Using a retrospective longitudinal cohort design, we identified Medicaid beneficiaries with newly diagnosed COPD in a 2-year period (2006-2007).
- First date of COPD diagnosis, as defined below, was considered the index date. Baseline period was defined as 1 year prior to the index date, and follow-up period was defined as 1 year after the index date.
- In the first 6 months of the follow-up period, the patient’s use of LABA medications was ascertained, and the date of the first LABA prescription was termed the index treatment date. The 6-month period following that was used to measure LABA medication persistence.

Study Population

- Patients with at least one inpatient or two outpatient visits (14 days apart) for International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis of chronic bronchitis (491.xx), emphysema (492.xx), or unspecified chronic airway obstruction (496.xx) were considered to have COPD.
- All patients with at least one prescription claim for LABA medications in the first 6 months of the follow-up period were selected.
- The final study population (after applying all exclusion criteria) included 59,516 Medicaid beneficiaries aged 40 to 64 years with newly diagnosed COPD.

Dependent Variables: LABA Medication Persistence

- LABA medications were identified from the pharmacy claims in the first 6 months of the follow-up period using National Drug Codes.
- Medication persistence was defined as continuous use of LABAs (i.e., without a 60-day gap in prescription refills of LABAs).

Key Independent Variable: Multimorbidity

- Commonly co-occurring, chronic physical and mental conditions with COPD were identified in the baseline period (from inpatient and outpatient claim files) using ICD-9-CM codes obtained from the Agency for Healthcare Research and Quality’s Clinical Classification Software.
- These conditions included arthritis, cardiovascular diseases, diabetes, hypertension, hyperlipidemia, osteoporosis, and depression.

RESULTS

- The final study population (after applying all exclusion criteria) consisted of 6,119 Medicaid beneficiaries aged 40 to 64 years with newly diagnosed COPD who initiated LABA treatment within 6 months of diagnosis.
- Figure 1 presents the algorithm used to define the study cohort.

Association Between Multimorbidity and LABA Medication Persistence

- Kaplan-Meier analyses
- Although persistence rates were higher among patients with no multimorbidity (40%) compared with those with physical conditions only (31%), mental conditions only (42%), and both physical and mental conditions (33%), these differences were not statistically significant.
- Time to LABA discontinuation was significantly shorter (P < 0.05) among patients with mental conditions (median 96 days; 95% CI, 93-113 days) compared with those with no multimorbidity (median: 114 days; 95% CI, 106-124 days).
- Figure 2 shows the survival curves with days to discontinuation by several multimorbidity categories.

CONCLUSIONS

- This study describes the extent of poor COPD medication management in patients with multimorbidity.
- Further research needs to examine the provider factors (e.g., provider knowledge and experience in managing patients with multimorbidity) that may affect COPD medication in the presence of multimorbidity.

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REFERENCES