

# HEALTHCARE COST AND UTILIZATION ASSOCIATED WITH COMORBID COPD AND ASTHMA IN THE UNITED STATES

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## Abstract

**PURPOSE:** Chronic obstructive pulmonary disease (COPD) is associated with substantial healthcare costs. Among patients with COPD, little is known about the impact of asthmatic symptoms. Our objective was to assess healthcare utilization and costs associated with comorbid COPD and asthma.

**METHODS:** We used a large health plan database to identify commercial enrollees with medical and pharmacy benefits, ages 40 and older, and medical claims with International Classification of Disease, Ninth Revision (ICD-9) diagnosis codes for COPD or asthma between 1/1/2004 and 12/31/2004. We assigned patients to COPD or COPD and asthma cohorts; all others were excluded. Within in each cohort, patient's index date was the first date showing evidence of COPD or COPD and asthma. We excluded each patient who had only 1 outpatient COPD or asthma claim or were not continuously enrolled during the 12 months before and after index date. After controlling for age, gender, geographic region, and comorbidity, postindex respiratory-related emergency department (ED) visits and/or hospitalizations and costs were compared between cohorts.

**RESULTS:** We identified 24,935 patients, 17,394 (70%) comprised the COPD cohort and 7,541 (30%) the COPD and asthma cohort. The COPD and asthma patients were younger (58 vs 60 years;  $P < 0.0001$ ) and more were females (62% vs 45%;  $P < 0.0001$ ). Patients with COPD and asthma were more likely to have acute events (ED visits/hospitalizations) than patients with COPD alone (OR = 1.64; 95% CI, 1.54, 1.75) and had \$1,987 (SE = 174,  $P < 0.0001$ ) more respiratory-related total healthcare costs. Mean adjusted respiratory-related healthcare costs for the COPD cohort totaled \$3,803 compared with \$5,790 for the COPD and asthma cohort.

**CONCLUSION:** Patients with COPD and asthma are more costly and use more services than patients with COPD alone. These patients may be more unstable and require more intensive treatment.

**CLINICAL IMPLICATIONS:** Patients with COPD and asthma may require more intensive treatment than those with one condition alone.

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Employee Christopher Blanchette is an employee of GlaxoSmithKline.

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