THE NET COST OF ASTHMA TO NORTH CAROLINA (NC) MEDICAID AND IDENTIFICATION OF FACTORS DRIVING COSTS IN AN ASTHMATIC POPULATION
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OBJECTIVE: To estimate the net cost of asthma to NC Medicaid and identify factors influencing the health care cost of asthmatics. METHODS: The study design was a retrospective matched case control design wherein administrative claims data from NC Medicaid spanning May 1996 through April 1998 were utilized. Inclusion criteria were: at least one inpatient claim for asthma (ICD-9-CM = 493) or 2 or more outpatient asthma claims or asthma prescriptions in the first year. Exclusion criteria were: a diagnosis for emphysema, COPD, cancer, age <1 and age >65, a nursing home claim, or prescription for Ipratropium in the first year. A sensitivity analysis using case definitions restricted to diagnosis or drug markers was also undertaken. To estimate net costs, non-asthmatic comparison subjects were matched 1:1 on age, gender, and race. Net adjusted cost differences were obtained from a generalized least square (GLS) model accounting for heteroscedasticity with terms to account for unmatched factors. To investigate factors influencing asthma costs, separate GLS models exploring 40 different comorbidity categories, demographics were estimated for all asthmatics. RESULTS: The net cost for asthma was $910 (CI: 787 to 1032, N = 27,493) with prescriptions (33%), hospitalizations (14%) comprising a majority of costs. The net cost of asthma was not meaningfully affected by varying case definitions but prevalence estimates varied between 2.2% to 4.6%. In the asthma group, asthmatics with congestive heart failure ($32,32), psychoses ($3128), diabetes ($2143), depression ($1363), and lower respiratory tract infections ($416) were among the most influential comorbidity drivers of total cost (p < 0.001). Males ($486) and whites ($835) had higher costs than their counterparts (p < 0.001). For prescription and physician costs, diseases such as hypertension, rhinitis, and sinusitis were also influential (p < 0.001). CONCLUSION: The net cost of asthma is estimated at $900/year above a comparable non-asthmatic Medicaid recipient. The cost of asthma is driven by prescriptions, hospitalizations and is greatly affected by several comorbidities which should be considered when delivering care for asthmatics.