ducted using patient costs from billing records, and three different effectiveness measures [all based on a 0 (worst) to 100 (best) scale]. The primary CE analysis used Subject General Well Being score (SGWB), which was a general health assessment question. Two other effectiveness measures were β-mediated treatment effect (BMTE) and Disease Symptom Assessment (DSA) scores.

**OBJECTIVES:** LEV patients required fewer total nebulizations (median 10 vs 12; p = 0.031), and the two groups were not statistically different with respect to the number of rescue nebulizations, length of hospital stay, and total hospital cost. For the primary CE analysis, LEV was as effective (70.0 vs 68.3) and cost $164 less per patient compared with RAC. For CE analyses using BMTE and DSA, LEV was again as effective (86.9 vs 79.0 and 39.2 vs 57.2, respectively) and cost $174 less per patient. Bootstrap re-sampling analyses found that approximately 65%-77% of the 10,000 simulations for LEV fell within the dominant quadrant on a CE plane. CONCLUSION: In this study, LEV patients required significantly fewer total nebulizations without an increased need for rescue nebulizations. CE analysis indicated that LEV was at least as effective as RAC with a $164 savings in costs.

**QUALITY-ADJUSTED LENGTH OF STAY ANALYSIS OF HOSPITALIZED PATIENTS WITH ASTHMA OR COPD TREATED WITH LEVALBUTEROL OR RACEMIC ALBUTEROL**


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**OBJECTIVES:** This was a prospective, randomized, multicenter, open label study to determine the cost-effectiveness (CE) of lev-albuterol versus racemic albuterol in patients hospitalized for acute asthma or COPD; here we present a subset CE analysis which focuses on quality-adjusted length of stay (QLOS) as a measure of effectiveness. **METHODS:** Patients were randomized to either levalbuterol (n = 241) or racemic albuterol (n = 238). We conducted an exploratory CE analysis using QLOS, which was developed to reflect the relative rapidity of symptom resolution over the patient’s hospital stay, conceptually similar to Q-TWiST. A measure of overall HRQoL based on daily responses to the Subject General Well-Being (SGWB) score was used as the utility value. An overall value was obtained by calculating the sum over the time period, resulting in the QLOS score. QLOS was also calculated for two other effectiveness measures, Disease Symptom Assessment (DSA) and beta-mediated treatment effects (BMTE). Hospital charges obtained from billing records were converted to costs by applying cost-to-charge ratios. A cost/QLOS comparison was made between treatment groups. Sensitivity analyses examined different time periods and measures of effectiveness. Bootstrap sampling was used to generate 10,000 samples for each analysis. **RESULTS:** When SGWB was the effectiveness measure, levalbuterol compared to racemic albuterol was associated with lower costs ($3676 vs $3841, respectively) and slightly better cumulative effectiveness (11.99 vs. 12.68, respectively; lower value better health). Similar results were observed using other time periods and BMTE as the effectiveness measure. Results from bootstrap sampling showed that, in the majority of samples, levalbuterol was associated with better health and lower costs than racemic albuterol. When DSA was used, racemic albuterol was slightly more effective but more costly than levalbuterol. **CONCLUSION:** In this study using prospectively collected cost data and QLOS scores, levalbuterol was at least as effective as racemic albuterol, with total costs that were $165 less.
A 4-YEAR ASSESSMENT OF SUB-ACUTE LACK OF ASTHMA CONTROL IN A REAL-WORLD SETTING


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OBJECTIVES: To assess in a managed care setting the sub-acute lack of asthma control (SALAC) identified by excess short-acting ß2-agonist (SABA) use or clinic visits but not necessarily associated with acute asthma exacerbations.

METHODS: An administrative claims database containing 8.8 million lives was analyzed over 4 years (June 2000–May 2004). Patients aged ≥12 years with an ICD-9 code for asthma and ≥2 claims/year for asthma medication were included; those with other significant respiratory conditions were not. SALAC was defined as ≥5 SABA prescriptions/year or visits for asthma/year or ≥2 claims/year for asthma medication were included; those with other significant respiratory conditions were not. SALAC was defined as ≥4 clinic visits for asthma/year or ≥2/quarter, or >5 SABA prescriptions/year. Acute asthma exacerbations were defined as asthma-related emergency department visits, hospitalizations, or oral corticosteroid bursts. SALAC rates during years 2–4 were compared for patients who had loss of control during year 1 with patients who did not.

RESULTS: Of 3998 patients (mean age = 41 years, 63% female) who met the study criteria, only 42% had an acute exacerbation but 70% had SALAC in the 4-year period (63% excess clinic visits/year, 36% excess SABA/year); 22% had SALAC in only 1 of the 4 years, 16% in 2 of the 4 years, 14% in 3 of the 4 years, and 18% in all 4 years. Patients experiencing SALAC in year 1 were more likely to do so again in years 2–4 vs. all other patients (83% v. 47%; p = 0.0005). SALAC rates/year changed little over the 4-year period (year 1: 44%; year 2: 45%; year 3: 42%; year 4: 37%). CONCLUSION: A sub-acute lack of asthma control (SALAC) in year 1 predicts SALAC in a subsequent year. SALAC occurred in more than two thirds of patients at some point and occurred every year in almost one fifth. Asthma control is also lacking in many patients who did not have an acute exacerbation.

GUIDELINE-RECOMMENDED MINIMUM 3-YEAR COURSE OF THERAPY

Among the 308 patients receiving IT who were included in clinical and economic subanalyses, average IT cost was $20 (SD $23) per administration and $468 (SD $543) over the treatment course. Pharmacy, outpatient and inpatient costs significantly decreased in the 6 months following completion of IT versus the 6 months prior to IT initiation (−$78, p = 0.0125; −$273, p = 0.0005; −$2123, p = 0.0092 respectively). CONCLUSION: We found wide variation in IT delivery by sex and race. Despite the preponderance of premature IT discontinuation among patients in our study, significant cost savings were demonstrated. Findings suggest that patients with AR and the health care systems that provide care to these patients may benefit from broader access and improved adherence to IT.