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.

**A 4-YEAR ASSESSMENT OF SUB-ACUTE LACK OF ASThma CONTROL IN A REAL-WORLD SETTING**


1. Massachusetts General Hospital, Boston, MA, USA, 2. Wake Forest University, Winston-Salem, NC, USA, 3. Sharp Rees-Stealy Medical Group, San Diego, CA, USA, 4. UCLA, Los Angeles, CA, USA, 5. AstraZeneca, Wilmington, DE, USA, 6. Formerly AstraZeneca, Wilmington, DE, USA

**OBJECTIVES:** To assess in a managed care setting the sub-acute lack of asthma control (SALAC) identified by excess short-acting β2-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 ≥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 < 0.001). 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 loss of asthma control (SALAC) in 1 year 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.

**CATEGORIES AND TRANSITION PATTERNS OF GUIDELINE INFORMED CONTROL IN SEVERE OR DIFFICULT-TO-TREAT ASTHMA**

**Campbell JC**, **Sullivan SD**

University of Washington, Seattle, WA, USA

**OBJECTIVE:** In their 2007 guidelines, the National Asthma Education and Prevention Program (NAEPP) recommends assessing a patient’s level of asthma control to determine an appropriate management strategy. We sought to describe the levels and transition patterns of asthma control as defined by the new NAEPP guidelines for an adult asthma cohort with severe or difficult-to-treat disease. **METHODS:** We used The Epidemiology and Natural History of Asthma: Outcomes and Treatment Regimens (TENOR) adult cohort to describe their NAEPP informed levels of asthma control. TENOR was a three year, multicenter, prospective study of patients with severe or difficult-to-treat disease. Levels and transition patterns of asthma control were semi-annually categorized into three levels of asthma control: controlled, partly controlled, and uncontrolled. We measured impairment with spirometry and the validated Asthma Therapy Assessment Questionnaire (ATAQ) and measured exacerbation risk with health care utilization outcomes. **RESULTS:** A total of 3488 adults (≥18 years of age) had a mean follow-up of 25 months. At baseline, 12.5% were controlled, 34.9% were partly controlled, and 52.6% were uncontrolled. Out of 15,569 control assessments across all visits, 15.3% were controlled, 35.0% were partly controlled, and 49.7% were uncontrolled. Data was missing on an additional 1476 (8.7%) observations across all completed visits. Six month transition patterns of control yielded: 63.4% of controlled patients remained controlled, 65.2% of partly controlled patients remained partly controlled, and 82.4% of uncontrolled patients remained uncontrolled. **CONCLUSIONS:** The results suggest that the majority...
of adults in TENOR do not achieve asthma control and that a considerable proportion of patients transition from one level of asthma control to another over six months. This and additional research that quantifies the relationship between control and utilities and costs could aid in the development of an asthma policy model for severe or difficult-to-treat asthma.

**PAA14**

PRESCRIPTION DRUG INSURANCE COVERAGE: RISK FACTOR FOR EMERGENCY DEPARTMENT VISITS AND OVER UTILIZATION OF SHORT ACTING BRONchodilATORS IN ASTHMA PATIENTS OF THE UNITED STATES

Vaidya V, Hong SH

University of Tennessee, Memphis, TN, USA

**OBJECTIVES:** Excessive use of short acting bronchodilators worsens asthma control. This study hypothesizes that people with no prescription drug insurance coverage tend to rely more on short acting bronchodilators (SAB) than controller drugs and consequently have higher number of Emergency Department (ED) visits. **METHODS:** This study utilized 2004 Medical Expenditure Panel Survey (MEPS) data. Asthma patients (ICD code: 493) were identified from the “medical conditions file.” Prescription drug insurance coverage and ED visits were identified from the “household component of MEPS.” Multiple logistic regression analysis was used to estimate associative risks of ED visits and SAB use among asthmatic patients with no prescription drug insurance coverage. **RESULTS:** A total of 14 million individuals were estimated to have asthma in U.S. in the year 2004. Amongst them, 6.21 million (44.2%) did not have prescription drug coverage. A total of 3.06 million ED visits were reported by people without prescription drug coverage compared to 2.53 million ED visits by individuals having prescription drug coverage. The people with no prescription drug coverage had a 2.544; 95% CI: 2.534 to 2.554) difference in agreement was significant (p < 0.03). **CONCLUSION:** Most patients are able to provide more detailed information about their child’s current asthma medications than the medical chart as many asthma medication strengths were not recorded in the medical chart.

**PAA15**

AGREEMENT BETWEEN PARENT REPORTS AND MEDICAL CHARTS FOR PEDIATRIC ASTHMA MEDICATION UTILIZATION

Unger W1, Davidson-Grimwood SR1, Bikangaga P1, Gold M2, Cousins M2

1The Hospital for Sick Children, Toronto, ON, Canada, 2McMaster University, Hamilton, ON, Canada

**OBJECTIVES:** Although parents are often asked to report their children’s medication use for epidemiological and health economic evaluations, the accuracy of medication reports from parental proxies is unknown. The objective was to assess agreement between parent report and medical record for pediatric asthma patients. **METHODS:** A retrospective analysis compared parent and medical chart data for reports of current asthma medication name and strength in 99 asthmatic children recruited from outpatient practices of a pediatric respirologist and an allergist. **RESULTS:** A total of 279 asthma medications were reported with an average of 2.8 ± 1.2 asthma medications per child. Perfect agreement between reported and charted asthma medication names and strengths was found in 4% of the medical charts and occurred for 33% of reported medications. Medication names were found in the medical chart for 85% (238/279) of reported medications and a medication strength was located in the medical chart for 52% (123/238) of these. Parents reported a medication strength that did not match the chart for 24% (29/123) of the asthma medications for which strengths were found in the chart. Significantly more medication strengths were found in the medical chart for inhaled corticosteroids (90/100) than for short-acting beta agonists (9/95) (p < 0.03). Of the 90 inhaled corticosteroids for which strengths were recorded in the medical chart, 70 (78%) matched the parent report. Of the 9 short-acting beta agonists for which strengths were recorded in the medical chart, 4 matched the parent report. This difference in agreement was significant (p < 0.03). **CONCLUSION:** Parents may be able to provide more detailed information about their child’s current asthma medications than the medical chart as many asthma medication strengths were not recorded in the medical chart.

**PAA16**

PREDICTORS OF THE PRESCRIBING OF ASTHMA PHARMACOTHERAPY IN THE AMBULATORY PATIENT POPULATION OF THE UNITED STATES

Navaratnam P1, Balkrishnan R2

1The Ohio State University, Columbus, OH, USA, 2The Ohio State University College of Pharmacy, Columbus, OH, USA

**OBJECTIVES:** This study attempted to determine if select patient and physician demographic variables are predictors of the prescribing of asthma pharmacotherapy in the ambulatory patient population of the United States. Another aim of this study was to evaluate if physician prescribing behavior of asthma pharmacotherapy was in compliance with the recommendations of the National Heart, Lung & Blood Institute’s National Asthma Education and Prevention Program Expert Panel 2 national asthma guidelines. **METHODS:** This study was a retrospective cross-sectional study that used data from the National Ambulatory Medical Care Survey (NAMCS) from 1998 through 2004. The weighted population sample size of the study was 82,020,318 patients. Specific patient demographic variables, physician demographic variables and asthma medications prescribed were extracted from the dataset and analyzed using logistic regression procedures. **RESULTS:** The major finding from the study was that physicians did not seem to be adhering to the EPR-2 pharmacotherapy guidelines. Another major finding from this study was the fact that there were vulnerable sub-populations of asthma patients that were receiving sub-optimal asthma pharmacotherapy. It was also found that patients who were non-white and non-African American were also less likely to receive optimal asthma pharmacotherapy (all p < 0.05). The majority of these patients were of Asian origin. These individuals were less likely to be prescribed controller medications and more likely to be prescribed SABA agents when compared to whites. Patient status, physician specialty, ownership status and physician employment status were important variables in certain aspects of asthma pharmacotherapy. **CONCLUSION:** It appears that a more concerted effort needs to be undertaken to improve physician adherence to the EPR-2 guidelines, especially in the prescribing of asthma pharmacotherapy. There is also a need to address the disparities observed in the prescribing of asthma pharmacotherapy in vulnerable, underserved populations.