medication; “appropriate therapy”) and CHBNAi (CUs not using any anti-inflammatory medication). Univariate analyses for continuous variables was performed using Mann-Whitney U test; and multivariate logistic regression was performed to predict the probability of being on appropriate therapy. RESULTS: A total of 1127 chronic users were identified (474 before and 653 after the introduction of the guidelines). A higher proportion of CHBYAi patients were found after the introduction of the guidelines (7%, Chi-square test, p-value = 0.041). However, both before and after the introduction of the guidelines the CHBNAi had significantly fewer asthma-related total (physician, ER and hospital) visits and costs (all p-value = 0.000). Multivariate logistic regression results indicated that total asthma-related visits was significantly associated with the odds of being on appropriate therapy. Before the guidelines, for every asthma related visit the odds of being on appropriate guidelines was found to be 1.937 (95% CI: 1.624–2.309). CONCLUSION: We would have expected a higher health care utilization (visits & cost) for the CHBNAi group but we could not conclude this.

COSTS FOR ASTHMA-RELATED MEDICAL SERVICES AND PRESCRIPTION MEDICATIONS IN A STATE MEDICAID PROGRAM

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Previous studies have shown that costs for asthma care tend to be higher among recipients of Medicaid compared to patients covered by private insurance. OBJECTIVE: Report the costs for asthma-related health care in a state Medicaid Program. METHODS: Medicaid medical services claims with a primary ICD-9 diagnosis code for asthma dated 2002 were extracted. Matching claims for asthma-related prescription medications also were collected. Costs for outpatient visits, emergency department (ED) visits, and prescriptions were based on dollars reimbursed by Medicaid. Costs for hospitalizations were estimated based on average DRG reimbursements. RESULTS: There were 16,573 recipients with claims for asthma. Among demographic groups, a majority of recipients were younger than 15 years (44%), female (58%), and white (93%). Medicaid paid roughly $12.9 million for asthma-related medical services and prescriptions, or an average of $779 per recipient with asthma. A majority of the dollars were paid for services and prescriptions utilized by adults between 21 and 64 years of age (49%), females (61%), and caucasians (93%). Hospitalization costs amounted to $3.5 million (27% of the total) at an average cost of nearly $4000 per admission. ED costs equaled over $619,000 (5% of the total) at an average cost of $169 per visit. Outpatient costs were nearly $2.4 million (19% of the total) at an average cost of $83 per visit. Prescription costs totaled $6.2 million (48% of the total) for an average cost of $51 per prescription. A majority of the dollars paid for prescriptions were for leukotriene modifers (33%), short-acting beta-agonists (23%), and inhaled corticosteroids (21%). CONCLUSIONS: Asthma is responsible for a substantial consumption of economic resources of the Medicaid Program. Roughly half of the dollars Medicaid spends for asthma care is for medical services and half for prescription drugs. Hospitalizations account for a majority of medical services costs.

THE EFFECT OF MEDICAID COVERAGE DECISIONS ON NON-SEDATING ANTIHISTAMINE UTILIZATION AND SPENDING FOLLOWING OVER-THE-COUNTER AVAILABILITY OF LORATADINE

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OBJECTIVES: This study evaluates the effect of over-the-counter (OTC) availability of loratadine on utilization and spending in a state Medicaid population without OTC coverage. Using a subset of nearly 100,000 enrollees before and after loratadine OTC availability, the specific objectives of this study were to: 1) evaluate product switching behavior; 2) describe non-sedating antihistamine utilization patterns; and 3) describe non-sedating antihistamine expenditures and their response to OTC availability. METHODS: The study was conducted retrospectively using paid pharmacy claims for a subset of Medicaid beneficiaries. Non-sedating antihistamine use was evaluated for two 12 month intervals encompassing July 1, 2001 through June 30, 2003. Within each interval, the rate of product switching between the first 5 months and last 5 months was evaluated. Trends in utilization and spending were tracked for the entire 24-month period. RESULTS: Beneficiaries using loratadine in the OTC availability interval were 2.4 (95% CI: 2.08–2.41) times more likely to switch to a different non-sedating antihistamine and 1.09 (95% CI: 1.08–1.12) times more likely to not have a non-sedating antihistamine claim than beneficiaries in the non-OTC availability interval. The largest gain in market share was observed for cetirizine, although desloratadine accounted for the largest switch rate from loratadine. During the first 12 months of the study, non-sedating antihistamine expenditures increased by nearly $28,000 per month. Despite availability of a less costly alternative, expenditures increased by $13,000 per month during the last 12 months. CONCLUSIONS: Although utilization and spending tapered slightly after the introduction of loratadine OTC, the majority of beneficiaries using loratadine switched to a covered alternative once the OTC product was on the market. Given the potential cost-savings associated with OTC loratadine (compared to the prescription only competitors) and the high likelihood of switching, it appears that state Medicaid programs should consider coverage of both prescription and OTC products.

INVESTIGATION OF THE DETERMINANTS OF ADHERENCE IN ASTHMA USING Q METHODOLOGY

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OBJECTIVE: To identify patient behaviors that affect adherence regarding asthma and its management using Q-methodology. New insight into patient attitudes may facilitate further development of interventions, which remove barriers affecting adherence in asthma. While many theoretical frames have been proposed, this is the first application of Q-methodology to this problem. METHODS: A literature search, and interviews with clinicians and patients were used to create a concourse of reasons for non-adherence in asthma. The raw set of ideas in the concourse were defined, clarified and combined into more mean-
ingful statements to form a Q-set. Statements in the Q-set were pilot tested for understanding and redundancy in a small group of asthma patients. Thirty-eight statements were included in the final Q-set. Forty-five study respondents ranked ordered the set of statements by a structured command called the condition of instruction. The resultant pattern of distribution of statements formed a Q-sort. After the Qsorts were formed, by-person factor analysis was conducted to find clusters of Qsorts with shared similarities or common attitudes. RESULTS: Five subjective attitudes were identified that may influence adherence with asthma regimens. 1) respondents did not want to be dependent on their medication and would rather take medication once a day; 2) respondents did not like others knowing they took medication and thought they were taking too much medication; 3) respondents did not feel they were sick and thought they did not need medication if they removed triggers from their home; 4) respondents did not believe their medications worked and had other priorities than to worry about their asthma; and 5) respondents did not believe they were taking too much medication. CONCLUSION: Interventions to improve adherence can be targeted to the characteristics of patients defined in the factors from the Q-analysis.

PAA16

PREDICTORS OF SELF-REPORTED ADHERENCE IN PATIENTS WITH ASTHMA

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OBJECTIVE: To examine the relationship between patient, disease, and treatment variables and self-reported compliance with asthma controller medications. METHODS: This was a secondary analysis from a cross-sectional study of adults with asthma enrolled in a managed-care organization (MCO). Data were obtained from a mailed questionnaire and the MCO's patient/claims databases. Compliance was reported using the 4-item questionnaire developed by Brooks, et al. and scored as a mean of the responses, with 5 meaning highest compliance. Independent variables included age, gender, race, education, number of comorbidities, years with asthma, health-belief questions, social support, income, number of MDI instructors, inhaler technique, perceived physician access, and other priority treatments. Social support, income, number of comorbidities, years with asthma, and health-belief questions were found to be significant predictors of self-reported adherence.

PAA17

THE ASSOCIATION BETWEEN ADHERENCE, ASTHMA CONTROL, GENERIC AND DISEASE SPECIFIC QUALITY OF LIFE INSTRUMENTS IN ASTHMA

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OBJECTIVE: Prior studies have investigated the association between generic health related quality of life (HRQOL) and adherence. The objective of this study is to assess the association between medication adherence HRQOL using disease specific in addition to generic instruments. METHODS: As part of a larger study a convenience sample of adult ambulatory asthma patients were recruited from community pharmacies in GA, USA. Adult asthma patients identified to participate in the study were asked to complete a self-administered HRQOL survey. Patients were asked to complete generic (Short Form—SF-12, Health Utilities Index3—HUI3, EuroQol Index—EQ5D, EuroQol visual analogue scale—EQVAS) and disease specific (Juniper’s mini-Asthma Quality of Life Questionnaire—AQLQ) HRQOL metrics. Adherence was measured using Morisky’s instrument. Asthma control was assessed using Juniper’s Asthma Control Questionnaire (ACQ, objective measure) in addition to a self assessment (5-point Likert Scale, subjective measure). SF-12 was assessed using mental and physical summary scores (MCS and PCS, respectively). RESULTS: Data were available on a convenience sample of 36 patients (25 female: 11 male) with an average age of 44.8 years. Spearman correlation between ACQ and self assessed asthma control was high (r = 0.825, p < 0.001). Excluding PCS, spearman correlations between asthma control metrics (subjective and objective) and HRQOL measures were moderate to high in the predicted direction (r = 0.52 to 0.822). However, correlations between adherence and HRQOL measures were not significant. Quick relief beta-agonist use was also highly correlated with ACQ (r = 0.67, p < 0.01) and moderately with HRQOL instruments in the predicted direction. CONCLUSION: Overall, our study findings show no association between adherence and HRQOL, supporting the results by Cote and colleagues (2003) that factors other than medication compliance are important in explaining HRQOL. Asthma control is a potentially important variable in predicting HRQOL in asthma patients.

PAA18

THE ASSOCIATION BETWEEN MEASURES OF HEALTH STATE UTILITIES, QUALITY OF LIFE AND WILLINGNESS TO PAY IN ASTHMA

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OBJECTIVE: The objective of this study is to assess the association between health state utilities, HRQOL and willingness to pay. METHODS: As part of a larger study a convenience sample of adult ambulatory asthma patients were recruited from community pharmacies in the state of Georgia, USA. Adult asthma patients identified to participate in the study were asked to complete a self-administered HRQOL survey. Patients were asked to complete generic (Short Form—SF-12, Health Utilities Index3—HUI3, EuroQol Index—EQ5D, EuroQol visual analogue scale—EQVAS) and disease specific (Juniper’s mini-Asthma Quality of Life Questionnaire—AQLQ) HRQOL instruments. SF-12 was assessed using mental and physical summary scores (MCS and PCS, respectively). Willingness to pay (WTP) was assessed using the payment card approach for two scenarios: a hypothetical asthma cure and a treatment. RESULTS: Majority