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 rank 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 Q-sorts were formed, by-person factor analysis was conducted to find clusters of Q-sorts 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 want to be dependent on their medication and believed 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, patient-perceived severity, guideline-derived severity, and three health-related quality of life scores, the Asthma Quality of Life Questionnaire (AQLQ) summary and the physical (PCS) and mental (MCS) component summaries of the SF-36. Multivariate regression analysis was used to determine the independent variables with the strongest relationship to self-reported compliance. Stepwise backward-elimination was used, with the final model consisting of variables with a $p < 0.05$. **RESULTS:** The 573 respondents were primarily Caucasian (89.5%) and female (71.0%), with an average age of 40.5 ± 12.4 years (mean ± SD) and average asthma duration of 18.3 ± 14.2 years. The mean compliance scale score was 3.7 ± 1.1, with 84.6% indicating some level of noncompliance (score < 5). The final model had an adjusted R^2 of 0.26 and included 6 independent variables. Better adherence was associated with longer duration of asthma, more MDI instructors, lack of depression, stronger beliefs in the benefits of treatment and trigger avoidance, and greater perceived severity of asthma. **CONCLUSIONS:** A complex set of beliefs, perceptions, and experiences constitute the variables associated with compliant medication-taking behavior. Future longitudinal studies should include these variables to determine the predictive strength of the model.

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

of respondents were female (70%), with an average age of 50.6 years and incomes < $40,000 (n = 70). Preference scores for HUI3, EQ5D and EQVAS were 0.62, 0.64, and 0.66 respectively. Average score for AQLQ was 4.46 and for norm based PCS, and MCS, 40.07 and 46.94, respectively. Patients reported to be WTP US$89 and US$62 per month for an asthma cure and treatment, respectively. Pearson r correlations between generic HRQOL instruments (HUI3, EQ5D and EQVAS) and AQLQ were moderate to high in the predicted direction (r = 0.434 to 0.689, p < 0.01). PCS and MCS scores correlated moderately with preference based measures (r = 0.306 to 0.628, p < 0.05). WTP for an asthma treatment was moderately correlated with AQLQ and its dimensions (p < 0.05). **CONCLUSION:** Study findings show a preference based disease specific measure was a better predictor of WTP than a non preference based metric. This can be explained by additional sensitivity of a disease specific measure and the underlying utility framework purported to underlie WTP and utility measures.

PAA19

CONSUMER SATISFACTION WITH ASTHMA TREATMENT—WHAT MATTERS?

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OBJECTIVE: To estimate which (input) factors influence patients' satisfaction of asthma treatment and what impact each factor has on the overall satisfaction. A secondary objective is to look how outcome variables, as compliance/adherence and health-related quality of life (HRQL), and are connected with the overall satisfaction. **METHODS:** To be able to estimate which factors that are determining patient satisfaction with asthma treatment a questionnaire regarding features of the drug, the physician, the nurse, the availability of the centre, compliance, and health related quality of life was administrated. A total of 599 patients with asthma, aged 18–65 years, from 17 centres in Sweden completed the questionnaire. A Patient Satisfaction Index (PSI) was estimated and each factors impact on the overall satisfaction was analysed. The statistical technique applied for this analysis was Partial Least Squares (PLS), which is well suited for structural equation modelling when the focus is on identifying the most important characteristics. **RESULTS:** The two most important factors for the patients' overall satisfaction (PSI) of asthma treatment are the drug and the physician (both have a regression coefficient of 1.7). The nurse and the availability of the health centre are, although statistically significant, of less importance. The most important factor for compliance is the drug, where the ease of usage, and absence of side effect was estimated having a higher impact for compliance then the price and the effect of the drug. However, it is interesting to note despite showing a high PSI patients' still state low HRQL. **CONCLUSIONS:** The most important factors in the treatment of asthma from the patients point of view are the drug and the physician.

PAA20

PREFERENCE SCORES FROM ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS) PATIENTS

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OBJECTIVE: Preference scores are needed for cost-effectiveness analyses that are particularly important for assessing expensive technologies such as intensive care therapies for ARDS patients. Preference data for ARDS patients can be generated using secondary analysis of descriptive HRQOL data, but it is not known which preference algorithm is to be preferred. Our objective was to compare two methods for deriving preference scores of ARDS survivors from SF-36 scores, one Quality of Well-Being based—Fryback et al.(1997) and the other Health Utilities Index based-Nichol et al. (2002) with directly rated Visual Analogue Scale (VAS) preference. Agreement between these approaches and their validity relative to other HRQOL measures were examined. **METHODS:** Data were collected from 43 ARDS survivors identified from three major hospitals in Twin Cities, Minnesota, from 1993 to 2001. The questionnaire included the VAS, the SF-36, Center for Epidemiologic Studies-Depression, life satisfaction and happiness, and Karnofsky Performance Index. Repeated measures ANOVA and post-hoc t-tests were used to analyze differences among preference scores. The intra-class correlation coefficient (ICC) was employed to assess agreement between the two scores. Spearman rank correlation coefficients (r) were used to measure the correlation between these preferences and other health outcomes. **RESULTS:** The mean (SD) preference scores were 0.603 (0.24), 0.632 (0.09), and 0.679 (0.18) for VAS, Fryback and Nichol methods, respectively. The agreement for VAS & Nichol was higher than that for Fryback & Nichol with ICCs of 0.7744 and 0.7247, respectively. Agreement for VAS & Fryback was poor with ICC of 0.4895. The Fryback score showed poor correlation with SF-36 Mental Component Summary score, life satisfaction and happiness (r < 0.40); the Nichol and VAS preferences had higher correlations with these measures. **CONCLUSIONS:** Choice of preference algorithm impacts both the mean preference and its validity. In ARDS, the Nichol approach may be preferred.

BLOOD RELATED STUDIES

BLOOD RELATED STUDIES—Cost Studies

PBR1

THE ECONOMIC BURDEN OF ANEMIA IN AN INSURED POPULATION

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OBJECTIVES: Anemia is a common hematological disorder characterized by reduced hemoglobin concentration due to various causes. Conservative estimates suggest that 3.4 million individuals in the US are anemic (National Center for Health Statistics). Despite data on anemia prevalence and associated outcomes, little is known about the impact of anemia on health care utilization and costs. The National Anemia Action Council initiated this study to examine medical costs associated with anemia. **METHODS:** The study used retrospective administrative claims data (facility, professional, outpatient pharmacy) from MEDSTAT Group's MarketScan Databases for patients newly diagnosed with anemia, including up to 12 months follow up. Predisposing conditions were identified using ICD-9-CM diagnosis codes for chronic kidney disease (CKD), human immunodeficiency virus (HIV), rheumatoid arthritis (RA), inflammatory bowel disease (IBD), congestive heart failure (CHF), and solid tumor cancers. Descriptive analyses compared costs between anemic patients and a random sample of non-