it was easy to use, the screens were easy to read, and that they could sign on and move through the questions with no difficulty. Subjects from the Spanish-speaking countries had the lowest reported difficulty turning the device on, with higher levels of difficulty observed by the interviewers in China, who reported "somewhat" for two of the three respondents. Interviewers observed that the majority (n=15) could "easily" or "very easily" use the device. **CONCLUSIONS:** Given the consistent ease-of-use findings in these diverse, device naïve subjects across 7 countries and the emphasis on subject training in clinical trials, it was determined that usability testing with future translations was unnecessary.

PRS73
A COMPARISON OF THE RELIABILITY AND VALIDITY OF THE FOUR-ITEM AND SIX-ITEM NISCI SYMPTOM SUMMARY SCORES

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OBJECTIVES: The Nighttime Symptoms of COPD Instrument (NiSCI), developed through qualitative research with patients, includes six symptom items: coughing, wheezing, shortness of breath, difficulty bringing up phlegm, chest congestion, and tightness in the chest. A symptom severity score is computed based on these items. In situations where patient burden is a major consideration, a smaller set of items may be preferable. Clinicians identified coughing, wheezing, shortness of breath, and difficulty bringing up phlegm as the most relevant for COPD patients. Exploratory psychometric analyses were conducted for the symptom summary score based on these four items compared with all six items. **METHODS:** Psychometric properties of the four-item versus six-item summary scores were examined using phase 3 clinical trial data from a random split-half sample. Symptom summary scores were tested for: internal consistency using Cronbach's Alpha; test-retest reliability using Intraclass Correlation Coefficients (ICC) and Concordance Correlation Coefficients (CCC); convergent validity using Spearman Rank Order Correlation Coefficients; and known-groups validity using ANOVA and Scheffe's test for pair-wise comparisons. **RESULTS:** Patients (n=832) were aged 40–93 years (mean 63.78 ±-9.07 [SD]) and 51% were male. Both scores were internally consistent and valid. Cronbach's alpha was slightly higher for the six-item symptom summary (0.85) versus the four-item symptom summary (0.78). ICC and CCC scores were 0.85 for the six-item, and 0.84 for the four-item symptom summary scores. Likewise, construct validity and known-groups validity were similar for both scores (p>0.05). **CONCLUSIONS:** The NiSCI symptom summary score based on four items has similar psychometric properties to the six-item symptom summary score. Both scores have measurement properties suitable for use in clinical trials. Further work will test the psychometric properties of the instrument administered with four items.

PRS74
HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN PATIENTS WITH IDIOPATHIC PULMONARY FIBROSIS

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OBJECTIVES: Idiopathic pulmonary fibrosis (IPF) is a progressive disease characterized by declining lung function, leading to debilitating limitations on activity which may negatively impact HRQOL. However, HRQOL data in this population are limited. The primary objective was to evaluate HRQOL in IPF using measures from the Patient Reported Outcomes Measurement Information System (PROMIS). The secondary objective was to examine the association between key symptoms and HRQOL. **METHODS:** Individuals with IPF were recruited via patient advocacy organizations to complete an online survey consisting of PROMIS-29 health profile, PROMIS-Dyspnea, dyspnea measured by Modified Medical Research Council Dyspnea Scale (MMRC), self-reported cough, and cough subscale of the ATAQ (A Tool to Assess Quality of life)-IPF. PROMIS-29 scores have mean=50, SD=10 in the US general population; PROMIS-Dyspnea scores are referenced to a chronic obstructive pulmonary disease (COPD) sample. **RESULTS:** The 275 survey participants showed worse mean PROMIS-29 scores than the general population in all measured domains (mean value: anxiety=63.9; depression=61.9; fatigue=60.1; pain=62.6; sleep disturbance=55.8; physical function=36.2; social role=42.2). Dyspnea severity was associated with worse mean PROMIS-29 scores (all p<0.05). PROMIS-Dyspnea (mean=58.7) and Functional Limitations Due to Dyspnea (mean=58.4) scores were worse than the COPD reference population. Cough severity was associated with worse HRQOL measured by ATAQ-IPF. Reliability of PROMIS-29 scores exceeded 0.65 and were moderately correlated with measures of similar constructs. A limitation of the study is that data drawn from a sample from advocacy organizations might not be generalizable to the entire IPF population. **CONCLUSIONS:** Patients with IPF report substantial deficits in HRQOL, particularly with respect to physical function, anxiety, pain, depression and fatigue. Patients suffering from dyspnea and cough had poorer HRQOL. These deficits should be monitored in clinical practice and evaluated in investigational trials aiming to improve the HRQOL of IPF patients.

PRS75
ASTHMA AND COPD IN SPAIN: QUALITY OF LIFE AND HEALTH RESOURCES CONSUMPTION

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OBJECTIVES: To analyze the impact that asthma and chronic obstructive pulmonary disease (COPD) have on patients Health Related Quality of Life (HRQOL) and on health resources consumed by the Spanish Health System. **METHODS:** Data obtained from the last Spanish National Health Survey (SNSHS) 2011-12, on adult population (> 15y), identifying patients with a diagnostic of asthma or COPD. Descriptive statistic analysis was carried out, specially focused on self-reported HRQOL (EQ-5D-5L) and health resources utilization. The EQ-5D results were translated into QALYs, with the social tariffs validated in Spain. Other demographic

factors, potentially related with the mentioned respiratory diseases prevalence, as age, sex, smoking habits were analyzed. Four groups were compared: 1) asthma patients, 2) COPD patients, 3) patients with other chronic conditions, and 4) global Spanish population. **RESULTS:** Data from 21,007 adults was recorded. Prevalence of asthma was slightly above COPD (5.4% vs 4.7%), and 47.2% were suffering from chronic diseases. Asthma patients were younger than those with COPD (51y vs 61y, as an average, respectively). Concerning EQ-5D results, the dimensions mainly affected either in COPD or asthma were, respectively, pain/discomfort (53.7% / 38.7%), mobility (42% / 27.4%), usual activities (34.4% / 21.8%), and depression/anxiety (32.4% / 25.4%). Based on the EQ-5D questionnaire, the QALYs calculation were 0.75 for COPD and 0.90 for asthma patients, the latter results were similar to the other chronic conditions and to the global population. Health resources in COPD patients were significantly higher than in the other 3 groups analyzed, considering office visits (GPs/Specialists), hospitalization and emergency unit visits during the last year. **CONCLUSIONS:** Patients diagnosed with asthma have a similar HRQOL compared to the rest of the population, but COPD patients have it worse. COPD is also associated with a higher health resources consumption, which implies a relevant impact on the Spanish National Health System.

PRS76
HEALTH RELATED QUALITY OF LIFE AMONG YOUNG SMOKERS

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OBJECTIVES: As young students are more prone to smoking and associated dangers it affects their health related quality of life (HRQoL). This study was done to assess the HRQoL and other associated factors affecting HRQoL among smokers and non-smokers who are students. **METHODS:** In this exploratory study a pilot tested questionnaire was used to collect information regarding young students, demographics, BMI, food habits, alcohol consumption, family history of smoking as well as family history of diseases. For health related quality of life measurement both descriptive and visual analogue score (VAS) of EQ 5D 5L questionnaire ware used. The data collected was analyzed using SPSS 16.0.0. The test of significance was done by using Chi Square test for checking the associated habits and Mann Whitney U test is done to check the significance of association between HRQoL and smoking and other associated habits. **RESULTS:** Total 126 students were included in the study. The age was 22.9±2.17 (Mean±SD) and BMI was 22.03±4.27 (Mean±SD) and all of them were residing in an University town. 63 % of the students were non-vegetarians and 44.8% were consuming alcohol at least once in a month. The mean EQ 5D visual analogue score of the studied population was found to be 83.3±11.5 (Mean±SD). The Chi square test showed the association between smoking with family history of smoking, alcohol consumption and soft drinks consumption (p< 0.001, 0.001 and 0.05 respectively). Mann Whitney U test showed as significant difference in the VAS scores among smokers and non-smokers (p<0.05). **CONCLUSIONS:** Health Related Quality of Life is severely compromised by smoking, hence there is an urgent need to create awareness among young students.

PRS77
HEALTH RELATED QUALITY OF LIFE AND HEALTH CARE UTILIZATION IN PRIMARY CARE PATIENTS WITH MODERATE/PERSISTENT SEVERITY ASTHMA

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OBJECTIVES: The aim of this study is to evaluate the health related quality of life (HRQoL) and health care utilization in primary care (PC) patients with asthma treated with beclomethasone/formoterol. **METHODS:** This study analyzed the HRQoL and health care utilization from a cohort of 65 patients over 6 months. Inclusion criteria were patients aged 18 years and older with moderate/severe persistent asthma (GINA criteria) treated with beclomethasone/formoterol at least 1-3 months before the inclusion in the study. Sociodemographic variables such as age, sex, duration of disease, severity of asthma, concomitant pathology were evaluated. The evaluation of the HRQoL were measured with the Asthma Quality of Life Questionnaire (AQLQ), and two generic questionnaires, EuroQol-5D and SF-36. The evaluation of the health care utilization included visits to PC, visits of care nursing and visits to accident and emergency (A&E) department and admissions. Statistical analysis: average ± standard deviation (SD); frequency and proportions. Inferential statistics in terms of average HRQoL and health care utilization were calculated using T-Student, Chi-square and ANOVA. **RESULTS:** Average patients were female (60%), aged 49 years old (SD 2.16) with disease duration of 92 months (SD 18.34). The average health care utilization was: 3.43 (SD 0.35) visits to PC and 1.42 (SD 0.29) visits to nursing; analytical: 0.63 (SD 0.09); chest x-ray: 0.38 (± 0.08); ECG 0.32 (SD 0.08). The average of exacerbations without hospital admission was 1.09 (SD 0.19) and the A&E department visits of PC related with asthma was 0.43 (SD 0.11). Statistically significant differences (p <0.05) and clinically significant between the beginning and end of the study on all forms of quality of life measured in these patients were found measured with AQLQ, EuroQol-5D and SF36. **CONCLUSIONS:** Beclomethasone/formoterol improved HRQOL in patients with asthma representing a good cost/utility relationship.

PRS78
HEALTH-RELATED QUALITY OF LIFE AMONG TUBERCULOSIS PATIENTS IN PAKISTAN: A CROSS SECTIONAL STUDY USING WHOQOL-BREF

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OBJECTIVES: The aim of this study was to assess impairment in health-related quality of life (HRQoL) of pulmonary tuberculosis (PTB) patients in Pakistan. This study also evaluated utility of various socio-demographic and clinical factors that

are directly and indirectly linked with HRQoL of TB patients. **METHODS:** A prospective cross-sectional study was conducted at a tertiary care hospital in a province of Pakistan, the Punjab. Data was collected by using WHOQOL-BREF questionnaire (Urdu version, pretested for reliability and validity) by means of face-to-face interviews and where possible by gender-based focus group sessions. In addition, facilitators also used few open-ended questions in order to get patients' demographic and socioeconomic data. Participants were also asked to share their personal experiences of being diagnosed and treated with TB and what impact it had on their life style. All obtained data were analyzed using descriptive and inferential statistics. **RESULTS:** The overall Cronbach's alpha coefficient of the revalidated WHOQOL-BREF questionnaire was 0.785. The confirmatory factor analysis also provided an acceptable fit to a four-factor model in the studied sample. The scores for negative feelings, blue mood, depression, living place, personal relationships and sex life were significantly different in the psychological health and social relations domains. Age, gender and physical exercise were also significantly associated with the HRQoL of the patients. **CONCLUSIONS:** The WHOQOL-BREF was reliable and valid in the assessment of the HRQoL of TB patients in Pakistan. Despite the ability to cure TB, there was a significant impact on HRQoL of the TB patients. Till today, much attention is spent on curative and preventative mechanisms whereas the impact of TB on HRQoL is often neglected.

PRS79
SYSTEMATIC LITERATURE REVIEW ASSESSING DATA ON THE BURDEN OF ALLERGIC RHINITIS FROM A COST AND QUALITY OF LIFE PERSPECTIVE
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OBJECTIVES: To assess published data on perennial allergic rhinitis/house dust mite allergic (PAR) patients and seasonal allergic rhinitis/grass pollen allergic (SAR) patients in order to establish the burden of allergic rhinitis (AR) and allergic asthma from both a quality of life (QoL) and cost perspective. **METHODS:** A systematic literature review was conducted using Medline and Embase in eight pre-specified countries for the time period of January 2000 to January 2014. Search terms were related to QoL and/or cost. A total of 2963 abstracts and titles were identified. 50 abstracts met predefined criteria and provided data for calculations and collation. **RESULTS:** Based on the RQLQ, the overall QoL of PAR patients was significantly worse than that of SAR patients (2.73 ± 0.12 cf. 2.04 ± 0.18, p≤0.001). In general, practical problems (mean: 3.80 ± SE: 0.08) and activities (mean: 3.70 ± SE: 0.11) were the most affected domains. Measured by the physical component score from the SF-36 questionnaire, the overall QoL of PAR patients was worse (p=0.002) than that of SAR patients (49.06 ± 1.26 cf. 64.19 ± 7.89). For both PAR and SAR patients, domains measured by the SF-36 showed that vitality (mean: 59.95 ± SE: 3.24) was the most affected domain. Based on RQLQ, allergy immunotherapy improves eye symptoms, nasal symptoms, activities and practical problems the most in grass allergic patients. Direct comparison of total direct and indirect costs was complicated by differences in individual costs assessed among studies, however, the primary burden of costs is indirect and caused by high absenteeism and presenteeism. **CONCLUSIONS:** The QoL and economic burden of AR was substantial in the countries included in this review. However, limitations regarding the number of studies per country, heterogeneity between studies, and the lack of presented data have restricted the conclusions that could be drawn.

PRS80
PROSPECTIVE STUDY ON QUALITY OF LIFE (QOL) OF BRONCHIAL ASTHMA PATIENTS IN A TERTIARY CARE TEACHING HOSPITAL
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OBJECTIVES: To determine the Quality of Life (QoL) of bronchial asthma patients in a tertiary care teaching hospital at baseline and at follow up. **METHODS:** The study was conducted for a period of 6 months among 100 bronchial asthma patients, with and without co-morbidities, admitted to the pulmonary and medicine wards in the university hospital after obtaining the ethical clearance. The quality of life was assessed using Asthma Quality Of life Questionnaire (AQLQ). Patients were followed up after 4weeks from the date of discharge. Statistical analysis was performed using SPSS version 20. **RESULTS:** The mean age of the study population was 53.30±14.59 having 61% of the patients as females. Data was analyzed by Wilcoxon signed rank test. The total score of Qol at follow up (5.94 ±0.76) showed an improvement with a P value <0.0001 (wilcoxon signed rank t test) when compared with baseline (3.92 ± 1.04). A significant improvement in symptoms was seen at follow up (6.05 ± 0.82) from baseline (3.93 ± 1.14). The activity limitation improved with a P value < 0.0001 (Wilcoxon signed rank t test) from baseline (4.00 ± 1.08) to follow up (5.92 ± 0.83). At follow up (5.97 ± 0.82) the emotional function showed an enhancement on comparing with baseline (3.92 ± 1.14). The environmental stimuli showed no significant changes at baseline (3.66 ± 1.29) and follow up (3.84 ± 1.34). **CONCLUSIONS:** The results of the study suggests that clinical pharmacists have a major role in improving patient knowledge and thereby significantly improve the quality of life of the patient.

PRS81
IMPACT OF NON-CONSENTED SWITCH AND SUBSEQUENT SWITCH IN ASTHMA MEDICATION: QUALITATIVE STUDY OF PATIENT PERSPECTIVE IN THE UK
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OBJECTIVES: Patient satisfaction with asthma treatment is associated with better adherence and achievement of treatment goals. While medication changes are sometimes instigated for clinical or financial reasons, changes without patients' knowledge or involvement ('non-consented switch' [NCS]) can impact symptom control and patient-health care provider (HCP) relationships. This study explored experiences of patients who had a NCS and subsequently requested and received a second switch (SS). **METHODS:** Interviews were conducted with 13 UK adult asthma

patients recruited through an agency, Twitter and Asthma UK's website. Participants had experienced a NCS and a SS <3 years previously. Medication history and Asthma Control Test (ACT) scores were collected. Interviews were audio-recorded, and thematically analysed. **RESULTS:** The sample was 69% Caucasian, with six males and seven females, and a mean age=47. Most were working full time or retired, and had many years since asthma diagnosis (mean=22 years). NCS were related to reliever (n=7), preventer (n=4) or both (n=2) medications with the most common NCS from one brand to another (n=4). Participants reported negative feelings, difficulty using the medication and ineffective symptom control. Most participants used the NCS medication <6 months (range <24 hours–2 years). The SS for most was a return to their original pre-NCS medication (n=11). Although most found getting their SS straightforward, this required at least two HCP visits for half the sample, and took up to two months to obtain. Most expected symptoms to improve following the SS but nine participants still had sub-optimal ACT scores. Lasting impacts included damaged relationships with HCPs, strong views about NCS and concern about NCS reoccurrence. **CONCLUSIONS:** Failure to inform and involve patients in medication changes can have lasting impacts. It is important to note that NCS can incur costs associated with rejection of medicines and additional consultations, thus negating any attempt at cost saving.

RESPIRATORY-RELATED DISORDERS – Health Care Use & Policy Studies

PRS82
EVALUATION OF SELECTED KEN-DRGS IN GREEK PUBLIC HOSPITALS: THE DEGREE TO WHICH THEY REFLECT ACTUAL EXPENDITURE AND AVERAGE LENGTH OF STAY
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OBJECTIVES: To evaluate the degree to which the officially pre-determined cost and average length of stay (ALoS) per selected KEN-DRG reflect actual resource use and to investigate other factors (e. g. size, type and location of hospital) correlated with charges and ALoS. **METHODS:** Data were from the Health Regions data base and included discharges, ALoS, and charges in NHS Hospitals for the selected KEN-DRGs. Predetermined ALoS and cost per KEN-DRG were derived from Gazette 946/27/03/2012. Continuous variables did not follow normal distribution, so non parametric methods (Spearman's correlation coefficient, Kruskal-Wallis test and Mann-Whitney test) were used. A two sided p-value ≤ 0.05 was considered statistically significant. **RESULTS:** Higher length of stay compared with the officially pre-determined was found for Chronic Obstructive Pulmonary Disease (COPD) with complications (10.8 vs 9 days), Bronchitis & Asthma with complications (5.8 vs 4 days), Bronchitis & Asthma without complications (2.7 vs 2 days) and Breast Cancer with complications (7.9 vs 5 days). Consequently, officially pre-determined cost for Breast Cancer with complications (€965), Bronchitis & Asthma with complications (€792) and COPD with complications (€1,446) represents less than 90% of total hospital charges (total actual average charge: €1,186; €929; €1,634 respectively). However, for the rest of the DRGs, under study, there were none or limited additional hospital charges. For all KEN-DRGs, size and population density was positively correlated with total charges (r_s=0.12, p=0.018; median for Athens =863 & semi-urban=752 p=0.09 respectively). Moreover, for Bronchitis & Asthma with and without complications, population density was found to be positively correlated with ALoS (median for urban areas=5.1 and semi-urban=4.7; p=0.09 and median for urban areas=3 and semi-urban=2.5; p=0.03 respectively). **CONCLUSIONS:** The introduction of KEN-DRGs was a useful first step to modernize the hospital reimbursement system. However, further revisions are required in order for KEN-DRGs to become more useful.

PRS83
PATTERNS OF ASTHMA TREATMENT UTILIZATION IN NEWLY DIAGNOSED ELDERLY PATIENTS ARE INCONSISTENT WITH ASTHMA MANAGEMENT GUIDELINES
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OBJECTIVES: Asthma is under-diagnosed and under-treated in elderly, and utilization of asthma medications in this population is not well characterized. This study describes utilization patterns of asthma medications in newly diagnosed ≥50 patients. **METHODS:** Medicare enrollees are followed for 12 months after first asthma diagnosis between Q1 2004- Q3 2012 (ICD-9-CM code: 493*). Treatment pattern analysis was applied to initiators of asthma medications. Patients with >1 prescription of second-line therapy following exposure to first-line therapy are considered therapy switchers or augmenters. Patients with history of chronic obstructive pulmonary disease are excluded (ICD-9-CM codes: 490, 491*, 492*, 494*, 495* & 496). **RESULTS:** Among 126,176 elderlies with asthma, 24,021 initiated asthma therapy within 12 months of asthma diagnosis (70% women, median age 70 years). 319 (1.3%) continued therapy with one drug class (first-line therapy); 13,940 (58%) discontinued first-line therapy; 3,469 (14.4%) switched to another drug class (second-line therapy); and 6,293 (26.2%) added second-line therapy (augmented). About 34% of patients initiated therapy with inhaled short-acting beta-agonists (SABA); majority of them either discontinued SABA or added a controller medication. 19% of elderly patients started with oral corticosteroids after asthma diagnosis, 77% discontinued them and 12% switched to another asthma controller. Among controller medications, inhaled corticosteroids (ICS) /long-acting beta-agonists (LABA) combination therapy, ICS monotherapy, and leukotriene antagonists respectively accounted for 19%, 12%, and 11% of treatment initiators. The majority of these anti-