

## PRS2

**PRESCRIPTION PATTERNS IN COPD PATIENTS IN A GERMAN SICKNESS FUND POPULATION**

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**OBJECTIVES:** To investigate into the prescription patterns of COPD patients. **METHODS:** Rx claims data were analyzed for the period from 2001 to 2003. COPD patients were selected from claims data, if they were at least 45 years of age and had at least one diagnosis of COPD or emphysema (ICD-10 J43 and J44) and/or one Rx of a drug for obstructive airway diseases (ATC code R03) and had no indications of an allergic disease (e.g., Rx of antihistamines). The percentage of beneficiaries with defined Rx patterns (e.g., combination of bronchodilators) was analyzed per quarter starting with the quarter of inclusion of each beneficiary. **RESULTS:** 34,440 COPD patients were selected, of whom 28,769 received prescriptions of the predefined drug classes. Inhaled corticosteroids (ICS) and short acting beta agonists were prescribed to most of the beneficiaries (42.8 and 40.1%, resp., within three years). Regarding the prescription patterns in quarterly periods, ICS and long acting bronchodilators were identified as being the most often prescribed combination (up to 19% of the beneficiaries) followed by long acting bronchodilators (up to 11% of the beneficiaries). Strikingly, the percentage of beneficiaries without any Rx of a drug for obstructive airway diseases was very high. In patients selected by diagnosis, the percentage of beneficiaries without medication varied between 29 and 57%, whereas for those selected exclusively by drug Rx the percentage ranged from 45 to 71%. **CONCLUSION:** Our findings demonstrate that the beneficiaries receive prescriptions for long acting bronchodilators and ICS, either as mono or as combination therapy. In many cases of COPD, however, there is no long-term drug treatment. Further research should find out whether this means adequate treatment, regarding the different severity levels of the disease, or indicates insufficient therapy.

## PRS3

**COST ANALYSIS OF FOUR TREATMENT STRATEGIES IN THE MANAGEMENT OF MODERATE-TO-SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE: AN APPLICATION ON NON-PARAMETRIC BOOTSTRAP**

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**OBJECTIVES:** To evaluate and compare direct health care costs associated with four alternative treatment strategies used in patients with moderate-to-severe chronic obstructive pulmonary disease in Italy. **METHODS:** Data on resource consumption were collected alongside 12-month, multinational, randomised, double-blind, placebo-controlled trial that compared four treatment strategies: budesonide/formoterol combination in a single inhaler, budesonide as a single therapy, formoterol as a single therapy and placebo. Economic analysis was conducted on patients from 6 European countries. The prospective was that of Italian NHS; national charges and prices were used to evaluate resource consumption. Average total cost per patient per year and its confidence intervals was assessed in each group with bootstrap percentile method. Differences between groups were tested with bootstrap-Z method. **RESULTS:** Overall sample included 272 patients (mean age = 65.3 years) equally distributed in four treatment groups. The patients treated with budesonide/formoterol combination in a single inhaler tended to

consume less health care resources in terms of hospital days and emergency room visits than patients treated with single drugs. Average total cost per patient per year was €1763 in group treated with budesonide/formoterol combination in a single inhaler, €1436 in budesonide group and €2725 in the formoterol group. There was no statistically significant difference between the alternative treatment strategies. **CONCLUSION:** Present cost analysis suggests that its introduction in the management of patients with moderate-to-severe chronic obstructive disease doesn't increment consumption of health care resources when compared to single drug alternatives.

## PRS4

**INHALED CORTICOSTEROIDS AND BRONCHODILATORS FOR SEVERE AND VERY SEVERE COPD PATIENTS: COST-EFFECTIVENESS AND HEALTH CARE BUDGET IMPACT IN ITALY**

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Current practice guidelines for the treatment of COPD recommend the use of combined inhaled corticosteroids and long-acting bronchodilators in severe and very severe patients (GOLD stages III and IV). **OBJECTIVES:** To analyze the economical and clinical impact of this recommendation, the affordability of its widespread application, as well as the relative pharmaco-economic performance of the available options for severe and very severe COPD in Italy. **METHODS:** Published data on the Italian COPD population were fitted in a disease progression model based on a Markov chain representing severity stages and death. Alternative therapeutic options (salmeterol/fluticasone—S/F—formoterol/budesonide—F/B—salmeterol alone—S—fluticasone alone—F—and control—C) were represented as competing arms in a decision tree. Efficacy data from international trials were expressed in terms of risk reduction. Clinical parameters used were number of exacerbations and symptom-free days. Direct and indirect costs were considered and valued according to current prices and tariffs. Analyses were conducted from Italian National Health Service, societal and patient perspectives with time horizons of 1, 5, and 10 years and life-long. **RESULTS:** The yearly total direct cost of treating COPD patients in Italy is estimated in approximately €7 billion, with a mean cost/patient/year around €2450. Mean survival of the cohort is 11.5 years. The C and F strategies are dominated (i.e. are associated with worse outcomes and higher costs) by all alternatives. S/F and F/B are the most effective strategies, with a slight clinical superiority of S/F, but they are also marginally more expensive than S. Incremental cost/effectiveness of S/F vs. S is €679.5/avoided exacerbation and 3.3 Euro/symptom-free day. **CONCLUSIONS:** The recommended use of combined inhaled corticosteroids and long-acting bronchodilators for severe and very severe COPD patients, as compared with current practice, has the potential of improving clinical outcomes without increasing health care costs.

## PRS5

**PHARMACOECONOMIC EVALUATION OF TIOTROPIUM IN THE TREATMENT OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN SPAIN**

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**OBJECTIVES:** Chronic obstructive pulmonary disease (COPD) has a prevalence of 9.1% in Spain. Exacerbation is one of the