multiplied with 2004 UK unit cost. A total of 1505 COPD patients with post FEV1% pred < 50% were included (roflumilast 755, placebo 750). 62% were taking inhaled corticosteroids. RESULTS: In the total group, COPD-related costs from a societal perspective were £1635 (roflumilast) and £1400 (placebo). From a payer’s perspective this was €1385 and €1253, respectively. The overall rate of mod/seg COPD exacerbations in the trial was low and no differences existed between roflumilast (0.96) and placebo (1.06). In a subgroup of patients with very severe COPD (n = 223), placebo was associated with a higher exacerbation rate (1.7 exacerbations/patient/year) and roflumilast was associated with 35% fewer exacerbations. This lower exacerbation rate was associated with €1001 lower COPD-related treatment costs. In the subgroup of patients with high health care resource use prior to the study (n = 549) the roflumilast group showed 0.41 fewer exacerbations per patient per year, which translated into an ICER of £804 per mod/seg exacerbation avoided. CONCLUSION: These data suggest that roflumilast, like many newly introduced therapies, increases the overall cost of therapy for COPD; however, this increase was partly offset by savings. Furthermore, in this study, roflumilast was found to be cost saving in very severe patients.

THE COST-EFFECTIVENESS OF DRUG THERAPY IN COMMUNITY-ACQUIRED PNEUMONIA AND THE IMPACT OF ANTIMICROBIAL RESISTANCE IN GERMANY

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OBJECTIVE: The incidence of community-acquired pneumonia (CAP) caused by drug resistance has increased dramatically in recent years. The aim of this analysis was to analyse the impact of antimicrobial resistance on the cost-effectiveness of different antibiotic classes (beta-lactams, macrolides, fluoroquinolones) in patients with CAP in Germany. METHODS: A decision analytic model was developed for mild-to-moderate CAP outpatient treatment. Treatment algorithms incorporated follow-up after treatment failure due to resistance or other reasons. First-line treatment included moxifloxacin (MXF), beta-lactams (AMX), or macrolides (ROX); second-line treatment used a different antimicrobial class. In contrast to existing cost-effectiveness models in CAP class-specific resistance profiles were included in the model. This allows for the analysis of the impact of antimicrobial resistance on the cost-effectiveness in addition to standard outcomes like clinical failure, hospitalisation rates and total costs. Input data were derived from surveillance studies, from literature and expert opinion. Total costs were estimated using standard sources and a third-party payer perspective in Germany. RESULTS: Total cost were £240.60 (MXF), £250.59 (ROX), and £268.91 (AMX). First-line clinical failure, second-line treatment, and hospitalisation rates were lower for MXF as compared to the other treatment options. First-line MXF treatment dominated all other treatments. Antimicrobial resistance accounted for 53% (AMX), 72% (ROX) and 2% (MXF) of all clinical failures and 37% (AMX), 56% (ROX) and 1% (MXF) of all hospitalisations. CONCLUSIONS: Antimicrobial resistance has a significant impact on the cost-effectiveness of empirical treatment of CAP. The first-line use of moxifloxacin in CAP is a dominant strategy even in a country with a low level of resistance like Germany.

COSTS OF COPD EXACERBATIONS IN POLAND (RESULTS OF THE PILOT STUDY)

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OBJECTIVES: Exacerbations are the key drivers of the costs of chronic obstructive pulmonary disease (COPD). This was the pilot study of patients with COPD aimed at evaluating direct and indirect cost of exacerbations under usual clinical practice in primary and secondary care form societal perspective. METHOD: It was observational, multicenter study with participation of 73 subjects with moderate or severe COPD, defined according to the current GOLD criteria. Patients presenting at the selected health care centres were included into the study in the sequential manner, if they fulfilled the inclusion criteria. Exacerbations were divided into three different severity types according to Anthonisen N.R. classification. The management of exacerbations followed the usual clinical practice. RESULTS: The average monthly cost of maintenance therapy of COPD was ca. PLN 180. The average direct health care cost per exacerbation was PLN 4002 (95% CI = 5357; 4503) and PLN 438 (95% CI = 326; 570) in secondary and primary care respectively. In secondary care, the drug acquisition and oxygen therapy cost represented 18.3% of total direct costs, diagnostic tests costs accounted for 14.5%, the other hospital care and post-discharge follow-up visit costs 67%. Costs varied considerably with the severity of the exacerbation as well as the duration of COPD. In primary care the cost structure was as follows: diagnostic tests and medical devices 47.5%, drug acquisition costs 41% and doctors visits 11.4%. The average indirect costs per exacerbation were PLN 232 and PLN 141, in secondary and primary respectively. (EUR 1 = PLN 3.85; year 2006). The average reported number of COPD exacerbations in previous year was 3. CONCLUSION: Exacerbations of COPD are costly. Cost of exacerbation managed in secondary care is 9-fold higher than in primary care. Prevention of moderate-to-severe exacerbations, requiring hospitalization could be very cost-effective strategy.

CONSEQUENCES FOR DRG-IMPLEMENTATION IN GERMANY:

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OBJECTIVES: In 2004, diagnosis-related groups (DRGs) had been implemented for the reimbursement of hospitals instead of daily lump sum. We analysed the effect of DRG-implementation on direct costs of hospitals on the basis of in-patient treatment of community-acquired pneumonia (CAP). METHODS: This open, prospective observational study was divided into two parts. First part was performed between October 2002 and July 2003, the second in 2005. In-patients suffering from CAP were enrolled. The perspective of hospital management was applied for calculation of costs for drug acquisition, non-medical therapy, diagnostic procedures, hotel and staff. The quantity aspect of treatment was documented by the physicians. Information on the costs per measure was provided by the hospital controller. RESULTS: In 2002/2003, 319 patients (cohort A) were documented in 9 hospitals. In 2005, 322 patients (cohort B) were documented in 4 hospitals. Additionally 1276 patients from 2002/2003 and 1033 patients from 2005 were documented in the pilot hospitals. The mean cost of hospitalisation was €15,837 (2002/2003) and €19,671 (2005). This rise was driven by increased costs for room and board, drugs and intra-hospital services. These increased costs were to a large extent offset by decreased costs for extrahospital services. The in-hospital costs could predominantly be attributed to increased costs for drugs. Conclusions: Differently from in-patient care in Germany, costs for hospitalisation are not determined by DRG. The effect of DRG-implementation should be observed more closely in future.