simulate the progressive course of COPD and its impact on quality adjusted life years (QALYs) in moderate to severe patients. Effectiveness was based on initial FEV1 increase included by using patient level improvement in one or more disease severity stages (according to GOLD guidelines) and annualized risk for exacerbation as observed in a 1-year head-to-head randomized controlled trial (GLOW2). Initial FEV1 increase during the first year was followed by a constant decline in FEV1 in subsequent cycles. Based on list prices, annual drug costs were 3'825 Swedish krona (SEK)/447 EUR for glycopyrronium and 5'040 SEK/589EUR for tiotropium. Direct and indirect maintenance and exacerbation costs as well as utilities were extracted from published literature. Primary outcomes were QALYs and societal costs over 3 years, discounting future costs and benefits at 3%. Both one way and probabilistic sensitivity analysis have been performed. **RESULTS:** Over 3 years, glycopyrronium was found to be dominant (i.e. less costly and more effective) compared with tiotropium. Treatment with glycopyrronium resulted in a minor QALY gain of 0.005 compared with tiotropium. Total costs per patient were estimated at 73'752SEK / 8'630 EUR for glycopyrronium and 79'357 SEK /9'286 EUR for tiotropium, resulting in an average cost saving of 5'605SEK /656 EUR per patient after 3 years. Univariate sensitivity analyses showed that base-case results were robust and probabilistic sensitivity analyses resulted in 99% of generated samples with glycopyrronium to be dominant. **CONCLUSIONS:** From a Swedish societal perspective, glycopyrronium was estimated to be cost-effective compared with tiotropium based on the progressive course of COPD and risk for exacerbation in moderate to severe patients as observed in the head-to-head study GLOW2.

PRS34

COST-EFFECTIVENESS ANALYSIS OF CARBAPENEMS IN TREATMENT NOSOCOMIAN PNEUMONIA IN UKRAINE

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OBJECTIVES: To conduct a cost-effectiveness analysis of carbapenems use (imipenem, meropenem, and doripenem) in treatment nosocomial pneumonia. **METHODS:** Cost-effectiveness analysis based on decision-tree model was conducted from patient's (out-of-pocket drugs costs) and state (drugs costs and hospitalization expenses) perspectives. The input data on therapy duration and drugs' doses were retrieved from randomized controlled trials and clinical standards. The drugs doses were equal to: 2.0g /day from imipenem/cilastatin, 3.0g /day for meropenem, and 1.5g/day for doripenem. The model considered that in the case of drugs effectiveness the treatment continued till successful outcome, and in a case of non-effective treatment, the second line therapy (vancomycin or colomycin depending on type of infection) was applied. The data on infections resistance and empirical effectiveness of antibiotics were retrieved from the largest microbiologic study conducted in Ukraine. **RESULTS:** The lowest cost- effectiveness ratio correspond to the initial therapy with imipenem/cilastatin (CER 910$/1158$ vs. 1280$/1648$ for meropenem and 1317$/1712$ for doripenem from state and patient's perspectives accordingly). **CONCLUSIONS:** Thus, empiric therapy with meropenem increases the costs of medical treatment by 29 %, with doripenem – by over 35 %. Sensitivity analysis of the results of calculations versus changes of level of MRSA-resistant and carbapenem-resistant strains demonstrated reliability of the received results.

PRS35

COST-EFFECTIVENESS ANALYSIS OF PALIVIZUMAB AS A PROPHYLAXIS FOR RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTION IN HIGH-RISK LATE PRETERM INFANTS IN THE NETHERLANDS

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OBJECTIVES: To determine the cost-effectiveness of palivizumab for the prevention of serious lower respiratory tract infection requiring hospitalization caused by RSV compared to no prophylaxis in high-risk infants born at 33-35 weeks of gestational age (wGA) according to the Dutch RISK model. **METHODS:** A decision tree model was developed using data from published literature, palivizumab clinical trials, the Dutch RISK score model, official price/tariff lists and Dutch national population statistic. The comparator was no prophylaxis. The primary perspective of the study was that of the society in The Netherlands. Time horizon was lifetime. The cost valuation is based on the direct health care costs, direct nonmedical costs and indirect costs. Costs were assessed in 2012 Euros. The costs and utilities are discounted by 4% and 1.5%, respectively, from the second year onwards, and no discounting is applied in the first year. **RESULTS:** The base case results show that the use of palivizumab leads to an additional cost of € 4,116, whereas the use of palivizumab leads to a gain of 0.201 life years and 0.265 QALYs. Although the use of palivizumab increases the costs compared with no prophylaxis, palivizumab-treated patients experienced more QALYs and a gain in life years. Subsequently, palivizumab results in an ICER of € 15,520 per QALY gained compared to no prophylaxis. The ICER in cost per LYG is € 20,440. **CONCLUSIONS:** This analysis showed that palivizumab was cost-effective as a prophylaxis against RSV infection requiring hospitalisation in high-risk late premature infants compared to no prophylaxis. Extensive sensitivity analyses and explored scenarios underline the robustness of the demonstrated base case cost-effectiveness.

PRS36

COST-EFFECTIVENESS ANALYSIS OF GLYCOPYRRONIUM BROMIDE IN THE TREATMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN SPAIN

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OBJECTIVES: To assess the cost-effectiveness and cost-utility of glycopyrronium bromide versus tiotropium bromide in Chronic Obstructive Pulmonary Disease (COPD) patients, from the Spanish National Health System perspective. **METHODS:** A Markov model was developed to compare glycopyrronium bromide and tiotropium therapies. Progression of a COPD patient cohort was simulated for a 5-year time horizon (3 months-cycle duration). The health states included were defined according to the severity of COPD: mild, moderate, severe, very severe and death (absorbent). Three additional sub-states: without exacerbation, mild and severe exacerbation were considered. The effectiveness of treatment options and utilities for each health state were taken from the literature. Only direct health care costs were considered. Disease management and exacerbation costs were obtained from the literature. Drug costs were calculated based on ex-factory prices with mandatory 7.5% rebate. All costs were updated to €2012. A 3% annual discount rate on costs and health outcomes was applied. Incremental ratios in terms of cost per life-year gained (LYG) and cost per quality-adjusted life-year gained (QALY) of the most effective therapy versus the comparator were calculated. One-way sensitivity analyses were performed modifying the following parameters: time horizon (10 years, lifetime), discount rate (0%, 5%), drug costs (±10%, ±20%) and utilities (±10%). Probabilistic sensitivity analysis (PSA) was also performed. **RESULTS:** At 5 years, glycopyrronium bromide accounted a total cost of €2,225.18 compared to €2,374.81 accounted for tiotropium bromide. Glycopyrronium bromide yielded higher health benefits (4,321 LYG and 3,388 QALY) than tiotropium bromide (4,315 LYG and 3,377 QALY). In all one-way sensitivity analyses performed and in 100% of PSA simulations (1,000 iterations), glycopyrronium bromide compared to tiotropium bromide remained as a dominant strategy. **CONCLUSIONS:** Glycopyrronium bromide therapy in COPD patients is associated to less costs and higher health benefits than tiotropium in Spain.

PRS37

INHALED CORTICOSTEROIDS (ICS) IN TREATMENT OF MODERATE AND SEVERE ASTHMA IN RUSSIAN FEDERATION – COMPARATIVE PHARMACOECONOMIC STUDY

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OBJECTIVES: We conducted this pharmacoeconomic study to compare mometasone furoate (M/F), fluticasone propionate (F/P) and budesonide (BUD) in treatment of moderate and severe asthma. **METHODS:** Initially we conducted indirect comparison of efficacy and safety of studied therapies through the review of clinical data publications. We used cost minimization and cost effectiveness analysis for the pharmacoeconomic research. In the study we considered the direct costs of the three ICS and additional costs of β2-adregenic agonist (salbutamol). We made calculations of costs for the most common treatment regimens in Russia: M/F 400 µg 1 dose once a day and F/P 125 µg 2 doses twice a day; M/F 400 µg 1 dose twice a day and F/P 250 µg 2 doses twice a day; M/F 200 µg, 400 µg 1 dose twice a day and BUD 200 µg 2 doses twice a day. **RESULTS:** The review of clinical data demonstrated that M/F has similar efficacy to F/P and superior efficacy to BUD. The three ICS have similar safety profile. Use of M/F presents 10105 RUR (316 USD) in direct annual per patient costs for the treatment of moderate asthma and 20210 RUR (632 USD) for severe asthma. Cost minimization analysis showed, that the considered treatment regimens of M/F are cost effective compared to F/P 125 µg and 250 µg. M/F will save the health care system 28 to 50 USD per patient annually, though these results are price sensitive. Cost effectiveness analysis demonstrated that M/F has favorable CER compared to BUD: for 1% of FEV1 increase M/F 200 µg is 12 USD, M/F 400 µg is 24 USD and BUD is 32 USD. These results are insignificantly price sensitive. **CONCLUSIONS:** M/F is the most cost effective of the three ICS as demonstrated by the results of cost minimization and cost effectiveness analyses.

PRS38

THE COST-EFFECTIVENESS OF DRY POWDER ANTIBIOTICS FOR THE TREATMENT OF PSEUDOMONAS AERUGINOSA IN PATIENTS WITH CYSTIC FIBROSIS

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OBJECTIVES: To evaluate the cost-effectiveness of colistimethate sodium dry powder for inhalation (DPI) and tobramycin DPI versus nebulised tobramycin for the treatment of Pseudomonas aeruginosalung infection in patients with cystic fibrosis. **METHODS:** We developed a state transition model based on transitions between strata of lung function measured in terms of Forced Expiratory Volume in 1 Second (FEV_1) % predicted. Health states representing post-lung transplantation and dead are also modelled. The model was informed by systematic reviews of evidence concerning potential relationships between intermediate and final outcomes. The model assumes that treatment impacts on FEV_1which manifests as changes in health-related quality of life. No survival benefit is assumed due to the absence of robust evidence. Model parameters were informed by two RCTs and best available evidence from the literature. Resource costs associated with drug acquisition, management of exacerbations and nebuliser maintenance were drawn from reference sources and expert opinion. Additional analyses of Patient Access Scheme (PAS) price discounts offered by the manufacturers of both DPI products were also undertaken. **RESULTS:** Colistimethate sodium DPI is expected to produce fewer QALYs than nebulised tobramycin. Based on its list price, nebulised tobramycin is expected to dominate colistimethate sodium DPI. When the PAS is incorporated, the ICER for colistimethate sodium DPI versus nebulised tobramycin is expected to be approximately £288,600 saved per QALY lost. Based on its list price, the ICER for tobramycin DPI versus nebulised tobramycin is expected to be approximately £124,000 per QALY gained. When the proposed PAS is included, tobramycin DPI is expected to dominate nebulised tobramycin. **CONCLUSIONS:** Under their list prices, neither DPI product is likely to represent good value for money given current UK cost-effectiveness thresholds. The price discounts significantly improve the economic attractiveness of both products. The cost-effectiveness of the DPIs against other nebulised antibiotics remains unclear.

PRS39

EMPIRICAL THERAPY FOR RESPIRATORY TRACT INFECTIONS IN AN ERA OF INCREASING ANTIMICROBIAL RESISTANCE: A DECISION AND COST ANALYSIS

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