and severe exacerbations were also evaluated and the costs were set for one single event. **RESULTS:** The total cost of mild COPD was €26.22, moderate COPD €30.26, severe COPD €92.04 and for the very severe COPD €267.64 for 1 patient/3 months. Expenses for bronchodilators also vary between different stages of COPD, for mild COPD it represented €17.44, moderate COPD €109.54, severe COPD €219.58 and for very severe COPD €206.15. Cost of treating exacerbations were set for one event - for moderate exacerbation €67 and for severe exacerbation €1060.27. **CONCLUSIONS:** In the management of COPD the most expensive are the costs of hospitalization, outpatient care and symptomatic treatment. The most costly is the management of the very severe COPD and severe exacerbation. This survey can be used as the source for cost inputs in pharmacoeconomic studies.

PRS41

COST-EFFECTIVENESS OF CONJUGATE PNEUMOCOCCAL VACCINATION IN ROMANIA

Preda AL[1], Moise M[1], Delgleize E[2], Leeuwenkamp OR[3]
[1]*GlaxoSmithKline, Bucharest, Romania,,* [2]*GlaxoSmithKline Vaccines, Wavre, Belgium,,* [3]*Eclipse, Tervuren, Belgium*

OBJECTIVES: The objective was to analyze the cost-effectiveness of a national immunization program with pneumococcal conjugate vaccine (PCV): 10-valent pneumococcal non-typeable *Haemophilus influenzae* protein D conjugate vaccine (PHiD-CV) and 13-valent pneumococcal conjugate vaccine (PCV-13) in Romania. **METHODS:** A published age stratified, deterministic, and static cohort model is used. This model highlights changes in cost and quality adjusted life years (QALYs) over time. Serotype specific disease incidence, age stratified disease incidence, mortality in the population, vaccine costs and resource utilization costs were obtained from a General Practitioner reports database and epidemiological sources. The model compared identical immunization programs involving PHiD-CV and PCV-13 vaccines taking the payer perspective. A cohort of 201,104 Romanian infants was followed for four years. Same net indirect protection for invasive pneumococcal disease (IPD) was assumed for both vaccines. **RESULTS:** With 80% vaccine uptake and 2+1 vaccination schedule, PHiD-CV dominated PCV-13 assuming price parity. Vaccination with PHiD-CV versus PCV-13 resulted in an offset for the health care budget of £22,948 (the main driver of this difference is the decrease in Acute Otitis Media (AOM) related costs – with a total of 4,663 cases prevented) and a total of 23 QALYs gained. Sensitivity analyses revealed robustness of the model results, confirmed the dominance of PHiD-CV over PCV-13 and substantiated model outcome driven by incremental efficacy of PHiD-CV in conjunction with high incidence AOM. **CONCLUSIONS:** According to the model, implementation of PHiD-CV vaccination program for infants in Romania will offer substantial benefits in terms of cost savings and improved health compared to an identical vaccination program involving PCV-13. PHiD-CV's potential to better prevent AOM translates into incremental benefits and dominance of PHiD-CV over PCV-13 given that their impact on IPD is similar.

PRS42

COST-EFFECTIVENESS OF A COPD DISEASE MANAGEMENT PROGRAM IN PRIMARY CARE: THE RECODE CLUSTER RANDOMIZED TRIAL

Boland MRS[1], Kruis A[2], Tsiachristas A[1], Assendelft W[2], Gussekloo J[2], Blom C[3], Chavannes N[2], Rutten van-Molken M[1]
[1]*Erasmus University Rotterdam, Rotterdam, The Netherlands,* [2]*Leiden University, Leiden, The Netherlands,* [3]*Stichting Zorgdraad Foundation, Oosterbeek, The Netherlands*

OBJECTIVES: Disease management programs for chronic obstructive pulmonary disease (herein, COPD-DM) are currently implemented on a broad scale in the Netherlands. However, the evidence about their cost-effectiveness is still inconclusive. We aimed to conduct a cost-effectiveness analysis of a COPD-DM program in primary care in the Netherlands, called RECODE. In RECODE, a multidisciplinary primary care team was trained in motivational interviewing to improve life style, setting-up individual care plans, early recognizing and managing of exacerbations, and implementing clinical guidelines. In addition, clinical decision making was supported by audit and feedback reports provided by an ICT program and reimbursement of physical reactivation by a physiotherapist was provided. **METHODS:** In a two-year cluster-randomized controlled trial (1086 COPD patients, 40 clusters), the COPD-DM program was compared to usual care. As part of this trial we conducted a cost-effectiveness analysis to relate the effect of the COPD-DM on intermediate and final health outcomes to the costs from a health care and a societal perspective. Detailed self-reported health care utilization data were collected during the trial-period. **RESULTS:** The 2-year intervention costs of the training for professionals, the ICT, and the audit and feedback reports were estimated to be €324 per patient. Excluding these costs, the intervention group had €584 (95% CI €86 to €1,046) higher health care costs and €645 (95% CI €28 to €1,190) higher costs from the societal perspective compared to the usual care group. Health outcomes were similar in both groups, except for 0.04 (95% CI -0.07 to -0.01) less quality-adjusted life-years in the intervention group. **CONCLUSIONS:** RECODE was not cost-effective during the 2-year follow-up period. This is most likely due to the fact that the interventions targeted professionals instead of patients and were suboptimally implemented, the relatively mild COPD population, and the national reforms in COPD care that affected the usual care group.

PRS43

COST EFFECTIVENESS OF BEDAQUILINE FOR THE TREATMENT OF MULTIDRUG-RESISTANT TUBERCULOSIS

Wolfson L[1], Walker A[2], Hettle R[3], Lu X[1], Kambili C[4], Murungi A[5], Knerer G[6]
[1]*Janssen Pharmaceutica, Beerse, Belgium,* [2]*Heron Evidence Development, Ltd., Luton, UK,* [3]*PAREXEL Consulting, London, UK,* [4]*Janssen Global Services, Raritan, NJ, USA,* [5]*Janssen-Cilag UK, High Wycombe, UK,* [6]*University of Southampton, Southampton, UK*

OBJECTIVES: To evaluate the cost-effectiveness of adding bedaquiline to the intensive phase of background regimens (BR) of drugs for multidrug-resistant tuberculosis (MDR-TB) in the United Kingdom (UK). **METHODS:** A cohort-based Markov model was developed to estimate the incremental cost-effectiveness ratio of bedaquiline plus BR (B+BR) versus BR alone (BR) in the treatment of MDR-TB in the UK, over a 10-year horizon. A National Health Service (NHS) and personal social services perspective was considered. The effectiveness of treatment was evaluated in terms of Quality Adjusted Life Years (QALYs) and Disability Adjusted Life Years (DALYs). Data were sourced from a phase II, placebo controlled trial of bedaquiline, NHS reference costs, and the literature. Costs and effectiveness were discounted at a rate of 3.5% per annum. Probabilistic and deterministic sensitivity analysis was conducted. **RESULTS:** The total discounted cost per patient on B+BR was £107,123, compared with £116,616 for BR. The total discounted QALYs per patient were 4.85 for B+BR and 3.81 for BR. The addition of bedaquiline to BR resulted in cost-savings of £9,493 and an additional 1.04 QALYs pp over a 10-year period, and is therefore considered to be the dominant (less costly and more effective) strategy over BR. B+BR remained dominant versus BR in the majority of sensitivity analyses, with a 74% probability of being dominant versus BR in the probabilistic analysis. **CONCLUSIONS:** In the UK, bedaquiline is likely to be cost-effective and cost-saving, compared to the current standard of care for MDR-TB under a range of scenarios. Cost-savings over a 10 year period were realized from reductions in lengths of hospital stay, which offset bedaquiline drug costs. Bedaquiline remained cost-saving in several sensitivity analyses, highlighting the certainty surrounding the results of the model. These results also indicate that the B+BR regimen can provide significant social economic benefits versus the BR only regimen.

PRS44

COST-EFFECTIVENESS ANALYSIS OF UMECLIDINIUM BROMIDE COMPARED TO TIOTROPIUM BROMIDE FOR SYMPTOMATIC PATIENTS WITH COPD IN THE UK

Ismaila A[1], Roberts G[2], Punekar YS[3], O'Leary M[2]
[1]*GlaxoSmithKline, Research Triangle Park, NC, USA,* [2]*Double Helix, London, UK,* [3]*GlaxoSmithKline, Uxbridge, UK*

OBJECTIVES: To evaluate the long-term cost-effectiveness of umeclidinium bromide 62.5 mcg OD (UMEC) compared to tiotropium bromide 18 mcg OD (TIO) for the maintenance treatment of COPD from the UK National Health Service perspective **METHODS:** We utilized a recently developed, internally and externally validated linked equations COPD Cohort disease progression model. The treatment effect, expressed as change from baseline in forced expiratory volume in one second (FEV1) at 12 and 24 weeks estimated from a Bucher method indirect treatment comparison (ITC) analysis following a systematic review. UMEC price was set at parity price of £33.5/month to TIO. Model outcomes included exacerbations, life years, quality adjusted life years (QALYs) and costs/QALY. The time horizons investigated ranged from one to 20 years (lifetime) on a sliding one-year increment. Costs, survival, and QALYs after the first year were discounted at a rate of 3.5%. Health care costs were obtained from NHS reference costs (2011-12). Sensitivity analyses were performed to evaluate the robustness of the model to variations in the underlying input parameters and assumptions. **RESULTS:** The ITC estimated change from baseline in trough FEV1 of 18.06mL (95%CI: -19.11, 55.23, p=0.341) at 12 weeks and 3.97mL (95%CI: -38.30, 46.25, p=0.854) at 24 weeks for UMEC compared with TIO. At price parity, UMEC dominated TIO with incremental QALY of 0.0009, incremental life years of 0.0001 and cost reduction of £4.54. The sensitivity analyses suggested that variation in main parameters will not alter the behavior of the comparison between the two treatments. **CONCLUSIONS:** At price parity to TIO, UMEC may be considered as a cost-effective treatment alternative for maintenance bronchodilator treatment to relieve symptoms in patients with COPD in the UK.

PRS45

COST EFFECTIVENESS OF UMECLIDINIUM/VILANTEROL (UMEC/VI) COMBINATION THERAPY AMONG SYMPTOMATIC COPD PATIENTS

Punekar YS[1], Roberts G[2], Ismaila A[3], O'Leary M[2]
[1]*GlaxoSmithKline, Uxbridge, UK,* [2]*Double Helix, London, UK,* [3]*GlaxoSmithKline, Research Triangle Park, NC, USA*

OBJECTIVES: UMEC/VI is a long acting muscarinic agent (LAMA) and long acting beta agonist (LABA) combination therapy. This study evaluated the cost-effectiveness of UMEC/VI compared to tiotropium (18µg) from the UK National Health Service perspective. **METHODS:** A linked equations cohort model developed using the patient level data from ECLIPSE study and validated using patient level data from TORCH study was used. The baseline patient characteristics were derived from UMEC/VI phase IIIa clinical programme and included symptomatic COPD patients. The treatment effect expressed as change from baseline in forced expiratory volume in one second (FEV_1) at 24 weeks was estimated using 3 tiotropium comparator phase IIIa trials and was assumed to last for at least 52 weeks following treatment initiation. Model outcomes included exacerbations, life years, quality adjusted life years (QALYs) and costs/QALY. The timeframe for the analysis was patient lifetime and the discount rate for costs and outcomes was 3.5%. The price of UMEC/VI was varied to estimate the points at which it would be cost effective compared with the current standard of care tiotropium. Health care costs were obtained from NHS reference costs (2011-12). **RESULTS:** The random effects meta-analysis estimated treatment benefit of 92.17ml (95% CI: 61.52, 122.82; p<0.001) in FEV_1 for UMEC/VI compared with tiotropium. A lifetime model resulted in 0.009 fewer moderate-severe exacerbations per year on UMEC/VI. At parity price (£33.5/month), UMEC/VI dominated tiotropium with a probability of 0.81 for being cost effective at £30,000/QALY threshold. The incremental cost effectiveness ratios were £11,080 and £22,178 at 5% and 10% price premium to tiotropium, respectively. **CONCLUSIONS:** At an appropriate price, UMEC/VI may be considered as a cost-effective treatment alternative for symptomatic patients with COPD.

PRS46

COST EFFECTIVE ANALYSIS OF DRY POWDERED INHALERS VERSUS METERED DOSE INHALERS OF SALBUTAMOL FOR ASTHMA IN RURAL SECONDARY CARE HOSPITAL OF SOUTH INDIA

Vigneshwaran E, Maddirevula MR, Dharmareddy L, Thamineni R, Kadapala PR, Golla M, Yiragamreddy PR
Raghavendra Institute of Pharmaceutical Education and Research, Anantapur, India