A500 VALUE IN HEALTH 18 (2015) A335-A766

(r = 0.09 with Spearman and Pearson tests). CONCLUSIONS: There is a decrease in the COPD hospitalizations after the introduction of the new inhaled medicines and increase in their cost due to increase in the cost of services.

PSR3 DUAL Bronchodilation with QVA149 in Patients with Severe and Very Severe COPD – Are There Incremental Benefits for Portuguese Patients and for the Portuguese NHS When Compared with Current Treatment Options in Portugal

Carasso J,1 Viraia D,2 Cardoso 2
1Novartis Farma Portugal, Porto Salvo, Portugal, 2Novartis Farma – Produtos Farmacêuticos S.A., Porto Salvo, Portugal

OBJECTIVE: Long-acting β-agonists (LABAs) and long-acting muscarinic antagonists (LAMAs) have shown efficacy in preventing exacerbations in patients with COPD. Though these agents are effective in the treatment of COPD, deterioration in the patient’s health status can persist and therefore there is a need for improved treatment outcomes. In the SPARK trial, dual bronchodilation with QVA149 demonstrated advantages in reducing the risk of COPD exacerbations in severe and very severe patients when compared to single bronchodilation with tiotropium. The objective of this study was to estimate the clinical benefits and the budget impact associated with the use of indacaterol 110 μg/glycopyrronium 50 μg (QVA149) instead of tiotropium 18 μg, in severe and very severe COPD patients (GOLD C and D) in Portugal. METHODS: A cost-consequence model was developed using the SPARK study data to derive treatment outcomes associated to the use of QVA149 instead of tiotropium. Primary outcomes of interest were COPD exacerbations and direct cost for the NHS. Treatment outcomes and costs were estimated for a 1 year Local data was used to identify the target population, resource use and overall treat- ment costs. RESULTS: It is estimated that there are 11,239 GOLD C and D patients treated with tiotropium. Assuming that 20.5% of COPD patients see their primary care doctor with complaints about symptoms and exacerbations 2,304 of those patients could be treated instead with QVA149. After 1 year of treatment with QVA 149 it is estimated that patients will experience 1,291 fewer exacerbations with a reduction of 7% in the overall treatment cost compared to tiotropium. CONCLUSIONS: Symptom control in COPD is essential and evidence shows that dual bronchodilation with QVA149 brings benefits when compared to tiotropium. The use of QVA149 in symptomatic patients instead tiotropium may improve treatment outcomes and reduce overall costs for the Portuguese NHS.

PSR3A CAN QVA149 IMPROVE SHORT TERM OUTCOMES IN PATIENTS WITH COPD WITHOUT INCREASING THE OVERALL TREATMENT COSTS FOR THE PORTUGUESE NHS? OPTIMIZING TREATMENT OUTCOMES WITH A RESPONSIBLE USE OF LIMITED RESOURCES

Carraça J,1 Medin E,1 Estrella LG,1 Carrasco J,1 Viraia D,2 Cardoso 2
1Novartis Farma Portugal, Porto Salvo, Portugal, 2Novartis Farma – Produtos Farmacêuticos S.A., Porto Salvo, Portugal

OBJECTIVE: In the LANTERN study QVA149 significantly reduced the rate of moderate or severe exacerbations by 31% (p=0.048) over Salmeterol/Fluticasone (SFC). The evidence suggests that the use of QVA149 can optimize treatment outcomes in patients with mild-to-severe COPD but at what cost to the Portuguese NHS? This study objective was to quantify the potential clinical benefits and the budget impact associated with the use of QVA149 and SFC in the treatment of Portuguese patients with moderate-to-severe COPD with few or no exacerbations. METHODS: A cost-consequence model was developed using the LANTERN study data to derive treatment outcomes for QVA149 and SFC. Primary outcomes of interest were COPD exacerbations (total, moderate and severe) and direct cost for the Portuguese NHS. Treatment outcomes and costs were estimated for 1 year time horizon. Local data was used to identify the target population, resource use and overall treatment costs. RESULTS: It is estimated that there are 73,739 GOLD B patients diagnosed and treated in Portugal and 34,778 of those patients are treated with SFC and could be eligible for QVA149. We have used utility data with QVA149. After one year of treatment with QVA149 it is estimated that these patients may experience 6,608 fewer exacerbations (4,869 fewer moderate/severe) with a total treatment cost saving of €8,524,307 versus SFC treatment. CONCLUSIONS: The analysis suggest that once a day QVA149 can provide better treatment outcomes in patients with COPD with fewer treatment costs for the Portuguese NHS when compared with twice a day benefits and the treatment of moderate-to-severe COPD with few or no exacerbations.

PSR3B THE POTENTIAL SOCIETAL COST BENEFITS OF INCREASING PATIENT SATISFACTION BY USING AN INHALER WITH IMPROVED FEATURES COMPARED TO Tiotropium HANDIHaler® IN THE MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN THE UK

Nicola J,1 Torriven S,1 Comberaii U,1 Miles R,1 Greeney MFP,2 Howard D,1 Pitch A1
1Teva Pharmaceuticals Europe BV, 8, Amsterdam, The Netherlands, 2Adelphi Values Ltd, Bullington, UK.

OBJECTIVES: Spiriva® Handihaler® (tiotropium) is available in a single capsule dry powder inhaler (DPI) for the treatment of COPD. As exacerbations and hospitalisations represent important drivers of health-care costs and morbidity, it is important that priority should be given to interventions aimed at delaying the progression of disease, preventing exacerbations, and reducing the risk of comorbidities to alleviate the clinical and economic burden of disease. The potential societal cost benefits of improving treatment outcomes, due to improved characteristics of an inhaler were investigated. METHODS: The eligible adult population was based on confirmed COPD diagnoses in UK, with the proportion of patients receiving Spiriva® Handihaler® based on a national impact research data. The annual number of work days lost due to COPD was based on data from the UK. The monetary value of a productive day was based on the average monthly salary in the UK. A conservative assumption was made that the increase in the number of work days lost due to COPD would be approximately 1%.

PSR4 COST-EFFECTIVENESS OF UMECLIDINUM/VILANTEROL IN SYMPTOMATIC COPD SPANISH PATIENTS

Miravitelles M,1 Gallidt J,1 Huerta A,2 Villacampa A,3 Carcedo D,2 Garcia-Rio F1
1Hospital Universitari Vall d’Hebron, CIBER de Enfermedades Respiratorias, Barcelona, Spain, 2Hospital Universitario de Cruces, Bilbao, Spain, 3GlaxoSmithKline, Tres Cantos (Madrid), Spain, 4Oblique Consulting, Barcelona, Spain, 5Hospital Universitario La Paz, Madrid, Spain

This investigation was sponsored by GSK. The authors had full access to the data and take responsibility for its integrity. The corresponding author had final responsibility for the decision to submit for publication.

PSR4A UPDATING MEDICATION COSTS FROM A REAL-LIFE COST-EFFECTIVENESS EVALUATION OF BUDESONIDE/FORMOTEROL MAINTENANCE AND RELIEVER THERAPY IN ASTHMA MAINTENANCE AND RELIEVER THERAPY IN ASTHMA (MIRT) STUDIES

Carrasco J1, Viriato D2, Cardoso 1
1Hospital Universitari Vall d’Hebron, CIBER de Enfermedades Respiratorias, Barcelona, Spain, 2Hospital Universitario de Cruces, Bilbao, Spain, 3GlaxoSmithKline, Tres Cantos (Madrid), Spain, 4Oblikue Consulting, Barcelone, Spain, 5Hospital Universitario La Paz, Madrid, Spain

METHODS: The evidence suggests that the use of QVA149 can optimize treatment outcomes in patients with mild-to-severe COPD but at what cost to the Portuguese NHS? The study objective was to quantify the potential clinical benefits and the budget impact associated with the use of indacaterol 110 μg/glycopyrronium 50 μg (QVA149) instead of tiotropium 18 μg, in severe and very severe COPD patients (GOLD C and D) in Portugal. METHODS: A cost-consequence model was developed using the SPARK study data to derive treatment outcomes associated to the use of QVA149 instead of tiotropium. Primary outcomes of interest were COPD exacerbations and direct cost for the NHS. Treatment outcomes and costs were estimated for a 1 year Local data was used to identify the target population, resource use and overall treat-ment costs. RESULTS: It is estimated that there are 11,239 GOLD C and D patients treated with tiotropium. Assuming that 20.5% of COPD patients see their primary care doctor with complaints about symptoms and exacerbations 2,304 of those patients could be treated instead with QVA149. After 1 year of treatment with QVA 149 it is estimated that patients will experience 1,291 fewer exacerbations with a reduction of 7% in the overall treatment cost compared to tiotropium. CONCLUSIONS: Symptom control in COPD is essential and evidence shows that dual bronchodilation with QVA149 brings benefits when compared to tiotropium. The use of QVA149 in symptomatic patients instead tiotropium may improve treatment outcomes and reduce overall costs for the Portuguese NHS.

PSR4B COST-EFFECTIVENESS ANALYSIS OF THE FIXED COMBINATION INDACETEROL/ GLYCOPRORYNON VS. TIOTROPium AND SALTERMETRol/ FLUTiCASONe IN THE MANAGEMENT OF COPD IN GREECE

Gerrits N,1 Kroussoulou M,1 Moutsikis I,2 Panetti P,3 Reipoloulou P3
1University of Peloponnese, Corinth, Greece, 2Novartis Hellas, Metamorfosis, Greece, 3Democritus University of Thrace, Alexandroupoli, Greece

OBJECTIVES: This study aimed to estimate the cost-effectiveness of the fixed-dose combinations indacaterol/glycopyrronium 85/43 μg (IND/GLY) against tiotropium 18 μg (TIO) and salmeterol/ fluticasone 50/500μg (SFC) in the management of patients with COPD in Greece. METHODS: A microsimulation model was developed in MS Excel. Efforts were made to get the best levels of evidence from the international literature (SHINE & ILLUMINATE studies) and mortality data from the WHO database. Distribution of patients by GOLD severity stage, maintenance costs and costs associated with severe/ non-severe exacerbations were taken from published Greek studies. Unit costs were taken from officially published sources (Price Bulletin, reimbursement list, DROs). The study perspective was that of the Social Insurance Fund; costs and outcomes were discounted at 3.5%; outcomes are reported over time horizons of one, three, five and 10 years and over a lifetime. Cost base year was 2014. Deterministic and probabilistic sensitivity analyses were conducted to test robustness of model results. RESULTS: Treatment of COPD with IND/GLY is associated with increased efficacy both against SFC (additional life years [LYs]: 0.19, additional quality-adjusted life-years [QALYs]: 0.13) and TIO (additional LYs: 0.22; QALYs: 0.16) Although IND/GLY has a higher pharmaceutical cost (additional €2,626 vs. SFC; additional €2,679 vs. TIO), all other component costs (maintenance costs, severe and non-severe exacerbation costs are reduced, resulting in a reduction of total costs by €1,654 compared with SFC and €7,126 compared with TIO. The sensitivity analyses confirmed that IND/GLY was dominant in the majority of iterations, with a probability of being cost effective at a willingness to pay of €10,000 per QALY gained, and €50,000 per QALY gained, respectively. CONCLUSIONS: IND/GLY was found to be a dominant treatment strategy compared to SFC and TIO for the management of patients with COPD in Greece, which could lead to savings for the healthcare system.
OBJECTIVES: Umeclidinium/vilanterol (UMEC/VI) is a novel fixed dose combination of a long-acting muscarinic (LAMA) and a long-acting beta agonist (LABA). The objective of this analysis was to evaluate the incremental cost-effectiveness ratio (ICER) of UMEC/VI compared with Tiotropium (TIO), from the Spanish National Health System (NHSS) perspective. METHODS: A previously published linked equations model based on the epidemiological longitudinal study ECLIPSE was used. Patients included were COPD patients with a post-bronchodilator forced expiratory volume in one second (FEV1) <70% and presence of respiratory symptoms measured with mMRC dyspnoea scale (mMRC >2). Treatment effect, expressed as change FEV1 from baseline, was estimated from a 24 week-head-to-head phase III clinical trial comparing UMEC/VI with TIO and was assumed to last 52 weeks following treatment initiation (maximum duration of UMEC/VI clinical trials). Spanish utility values were derived from a published local observational study. Unitary healthcare costs (€) were derived from a Spanish local published study. Sensitivity analyses (PSA) were performed. RESULTS: UMEC/VI produced additional 0.03 QALY and 590€ versus TIO, leading to an ICER of 21,475€/QALY. Conclusions: UMEC/VI is cost-effective compared to TIO in COPD patients from the Spanish NHSS perspective.

PRS43 COST-EFFECTIVENESS OF TIOTROPIUM VS GLYCOPRYPRONID IN MODERATE TO VERY SEVERE COPD IN SPAIN

Introduction: Tiotropium, Spiriva Handihaler, is a well-established bronchodilator, LAMA (long-acting anti-chronic), for the treatment of moderate to severe COPD. Clinical evidence from the SPARK trial suggests that TIO is superior to glycopyrrone (GLY) in terms of change in FEV1 from baseline, was estimated from a 24 week-head-to-head phase III clinical trial comparing UMEC/VI with TIO and was assumed to last 52 weeks following treatment initiation (maximum duration of UMEC/VI clinical trials). Sensitivity analyses (PSA) were performed. RESULTS: UMEC/VI produced additional 0.03 QALY and 590€ versus TIO, leading to an ICER of 21,475€/QALY. Conclusions: UMEC/VI could be considered as a cost-effective treatment alternative compared with TIO in symptomatic COPD patients from the Spanish NHSS perspective.

PRS44 ECONOMIC EVALUATION OF FLUTICASONE PROPIONATE/FORMOTEROL FUMARATE DISKUS VS FLUTICASONE/SALMETOROL AND Budesonide/Salmeterol IN SPAIN

Martinez-Moragon E1, Delgado J1, Ojea P2, Pérez del Llano L4, Antón C5, Martín C5, Collar JM6

1Hospital Dr. Peto, Valencia, Spain, 2Hospital Virgen Macarena, Seville, Spain, 3Clinica Dres. Ojeda, Madrid, Spain, 4Complexo Hospitalario Lucas Augusti, Lugo, Spain, 5Universidad Francisco de Vitoria, Pauzlo de Alarcon (Madrid), Spain, 6Mundipharma Pharmacoeconomic, S.L., Madrid, Spain

OBJECTIVES: To estimate the Cost-Effectiveness of Fluticasone propionate/ Formoterol fumarate (FFF) versus Fluticasone/Salmeterol (FS) and Budesonide/Salmeterol (BDF) in the treatment of adult patients with moderate to severe asthma from the perspective of the Society in Spain. METHODS: A Markov model was used to estimate the effectiveness of each treatment option. The model considers that patients can transition between five states: Successful control, Sub-optimal control, Frequent exacerbation (FE), Severe (SE) and Death (D). The cost per QALY gained was calculated. The model was validated by comparing the results with a similar model developed by the National Institute of Clinical Excellence (NICE) in England. RESULTS: The cost per QALY gained was €12,985/QALY for the FFF option, €14,786/QALY for the FS option, €14,786/QALY for the BDF option. Conclusions: FFF therapy is likely to be cost-effective 99% and 57% of the time (for QALY and hospitalization outcome, respectively). The analysis was robust to assumptions of follow-up visits frequency and patients’ gender. The model’s uncertainty analysis has high probability of being more cost-effective than the usual care management for both male and female subgroups. Further investigation is necessary to ensure that implementing this decision does not exceed the overall national healthcare expenditure.

PRS45 COST-EFFECTIVENESS ANALYSIS OF Budesonid Easylhae in the Treatment of Asthma in Children in the Russian Federation

Kulikov A, Kilinannova E

OBJECTIVES: To investigate the cost-effectiveness of Budesonid Easylhae is a cost – effective treatment option in the Russian Federation, compared to Pulmicort Turbuhaler. METHODS: Information search was conducted in the public domain. Pharmacoeconomic analysis was performed with ‘cost – effectiveness analysis’ and direct cost analysis were performed. RESULTS: The information search performed in the course of this study yielded outcomes of the Budesonide Easylhae and Pulmicort Turbuhaler therapies in the treatment of asthma that used two effectiveness criteria - an improvement in lung function (peak expiratory flow – PEF) and decreasing the number of asthma exacerbations. These results are described in the publication of T. Vanto 2004. Then was calculated the direct cost of the various medications per patient and the cost of the two clinical practices. RESULTS: The results from the cost-effectiveness analysis showed that the number of asthma exacerbations were utilized as the effectiveness criterion.

PRS46 ECONOMIC EVALUATION OF RESPIRATORY MEDICATION THERAPY ADHERENCE CLINIC (RMTAC) ON ASTHMA PATIENTS IN MALAYSIA

Yong YV, Shafie AA, Tan M, Chew W, Eklund O1, Afzal F2, Borgström F1, Ojanguren ME3, Crespo C3, Baldwin M4

1Quantify Research, Stockholm, Sweden, 2Boehringer Ingelheim Norway, Asker, Norway, 3Clínica Dres. Martínez-Moragón E1, Delgado J2, Ojeda P3, Pérez del Llano L4, Antón C5, Martín C5, Collar JM6

OBJECTIVES: To evaluate the long-term cost-effectiveness of RMTAC (an adjunct pharmaceutical asthma management) vs. usual physician care clinic by using decision analytic model. METHODS: A Markov cohort model was developed. The economic evaluation was based on a lifetime horizon and cycle length of one month, from the healthcare provider’s (Ministry of Health) perspective, with the outcomes assessed in terms of cost per QALY gained and cost per hospitalization averted. Probabilities of asthma control-adherence states from RMTAC database, costs from national sources, utilities using standard gamble method on Malaysia’s asthma patients, and other inputs from secondary data sources were used in the probabilistic model. RESULTS: Over the life-time horizon, patients treated with RMTAC and GLY accumulated €41,129 and €40,063 respectively in direct costs (€2014). TIO generated more QALYs (7.77) compared to GLY (7.52). In incremental terms TIO gained 0.25 QALYs compared to GLY at an incremental cost of €1,066, resulting in a cost per QALY gained of €4,281 (cost and health outcomes discounted at 3% per annum). The results were mainly driven by the relative risk of severe exacerbations found in SPARK (RR GLY/TIO: 1.43 CI 1.05-1.97, P=0.02). CONCLUSION: From the societal perspective, RMTAC of €12,985 to the Pulmicort Turbuhaler group. In the last stage, effectiveness parameters were obtained. They made 36 283,878 and 47 116,55€ for improvement in lung function. AIME: 1 477,438 and 3 059,96€ for the number of asthma exacerbations respectively. CONCLUSIONS: As a result of the cost – effectiveness analysis was demonstrated that Budesonide Easylhae therapy was the dominant treatment option, being associated with lower cost per effectiveness unit when improvement in lung function and decline in the number of asthma exacerbations were utilized as the effectiveness criterion.