glycemic control, leading to a reduced incidence of diabetes-related complications, including renal disease, cardiovascular disease, ophthalmic and diabetic foot complications. Liraglutide was associated with increased direct costs (EUR 56,628 versus EUR 52,450), driven by the acquisition cost of liraglutide. However, this was partially offset by the reduced cost of treating diabetes-related complications. Based on these estimates, liraglutide was associated with an incremental cost-effectiveness ratio of EUR 10,436 per QALY gained versus sitagliptin. CONCLUSIONS: Liraglutide 1.8 mg was projected to improve clinical outcomes over sitagliptin as a result of reduced incidence of diabetes-related complications. Liraglutide is likely to be cost-effective from a health care payer perspective in Spain.

**PDB70**

**COMPARING THE PROJECTED COST PER HBA1C REDUCTION OF EXENATIDE QV VS LIRAGLUTIDE 1.8 MG FOR THE TREATMENT OF TYPE 2 DIABETES MELLITUS USING ALTERNATE DATA SOURCES**

Chamberland C., Felber E., Hooijdonk R., Hemels M., Schultz M., Kjellberg J., Hemels M. 1

1Janssen Cilag, Birkerød, Denmark, 2IMS Health, London, UK, 3Zefirina Farmas AB, 4Janssen A/S

OBJECTIVES: To evaluate the efficiency, in terms of incremental cost-effectiveness ratio (ICER), of exenatide once weekly (EQW) compared with liraglutide (LIRA) in people with type 2 diabetes (T2DM) who are taking sulfonylurea (SU) and who are compared to treatment with glycated hemoglobin (HbA1c) levels of 80/20 for the 100 mg and 300 mg dosage respectively) versus the aforementioned setting from a societal perspective.

RESULTS: The previously published and validated IMS Core Diabetes Model was used to project life expectancy, quality-adjusted life years (QALYs) and total direct medical costs over 30 years from a societal perspective. Patient characteristics and treatment effects were obtained from Chinese subgroup in the A1chieve® observational study. After treatment with BIAsp 30 over 24 weeks, patients’ HbA1c decreased by 1.6%, rate of major and minor hypoglycemia decreased by 0.51 and 4.32 events per patient-year respectively. Treatment costs were based on insulin prices (35.10€ daily for human premix insulin and 36.11€ for BIAsp 30) and market retail prices in China. Management (concomitant medications, screening programmes, etc) and complication costs were obtained from Chinese published data in 2011 and adjusted to the price level of 2012 with the consumer price index. All costs and life expectancy were discounted at 3% annually. One-way sensitivity analysis was performed. RESULTS: Switching to BIAsp 30 from human premix insulin was associated with reduced total direct medical cost of CNY 79,628 (196,902 vs 276,530). Sensitivity analyses demonstrated robustness of the results. CONCLUSIONS: Switching to BIAsp 30 from human premix insulin was associated with improvements in life expectancy and QALYs, and was a cost-saving treatment strategy for people with T2DM in China.
OBJECTIVES: We conducted a cost-effectiveness analysis of two dipeptidyl peptidase-4 inhibitors, linagliptin and saxagliptin, used in combination with metformin for the treatment of Type 2 diabetes. METHODS: A decision tree model was developed using cost and effectiveness data for saxagliptin + metformin and linagliptin + metformin using published literature. Costs were evaluated using third party payer databases, including costs of drugs, physician visits, lab tests, hospitalization costs, and costs associated with adverse events. All costs were adjusted to 2013 dollars using consumer price index and were calculated for a period of one year. A one-way sensitivity analysis was performed by varying costs by 10% associated with drug treatment to evaluate the robustness of the model. RESULTS: The base-case analysis showed that saxagliptin was $298.99. Sensitivity analysis also indicated saxagliptin to be the cost-saving option. CONCLUSIONS: Saxagliptin in our study was found to be favored over linagliptin in combination with metformin for the treatment of Type 2 Diabetes. These results may help decision makers develop appropriate treatment options. Type 2 diabetes being a lifestyle disorder, further research by inclusion of indirect costs associated with the treatment options may help strengthen the results.

PDB76

WEIGHT GAIN, HYPOGLYCAEMIA AND COST-EFFECTIVENESS: WHAT DRIVES VALUE AMONG DIABETES TREATMENTS IN THE SHORT TERM

Gordon 1, Bell K 2, Shaw M 2, Ward T 2, McEwan P 1
1HEDO Consulting, Monmouth, UK; 2Bristol-Myers Squibb, New York, NY, USA

OBJECTIVES: Current treatment options for managing type 2 diabetes (T2D) have significant and varied effects upon patient weight and the incidence of hypoglycaemia. In the short term, and from the patient’s perspective, the absolute clinical effects of treatments are usually observed in the year succeeding therapy initiation. Consequently there has been a growing interest among payers and providers to understand the influence of weight and hypoglycaemia on the cost-effectiveness of T2D treatments. METHODS: With this in mind we developed an economic model that captured the quality of life and cost consequences associated with different oral treatment strategies over a 1 year time horizon, focusing on the effect of weight change and incidence of hypoglycaemia. We illustrate these issues in patients adding dapagliflozin (DAPA) or DPP-4 inhibitors (DPP-4i) to metformin mono-therapy (MET) using data sourced from the published literature. The model adopts a US societal perspective by including direct and indirect costs and benefits and US specific data where possible. RESULTS: The mean (95% CI) quality adjusted life year (QALY) difference in the DAPA vs. DPP-4i comparison (0.02: 0.75 vs. 0.73) was driven by the weight advantage of DAPA with no appreciable difference in expected costs ($34,846 vs. $38,392). DAPA was cost-effective with a cost per QALY gained estimate of $2,090. CONCLUSIONS: In the context of the current drug treatment landscape the driver of economic value in the short term seems likely to be a different weight lowering therapy initiation was weight reduction mediated through quality of life gains; whilst a lower incidence of hypoglycaemia was associated with cost offsets in medium, expenditure and quality of life gains, there was no appreciable difference in rates of hypoglycaemia, and hence hypoglycaemia did not drive cost-effectiveness between the two groups.

PDB77

SHORT-TERM ECONOMIC AND CLINICAL OUTCOMES OF CANAGLIFLOZIN COMPARED TO SITAGLIPTIN IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS (T2DM)

Lopez JM 1, Martin S 2, Ektare V 3, Patel D 3, Rupnow MP 3, Bottomen M 3
1Janssen Scientific Affairs, LLC, Barlan, NJ, USA; 2Pharmerit International, Bethesda, MD, USA; 3Pharmerit North America LLC, Bethesda, MD, USA

OBJECTIVES: Short-term cost per outcome analyses focusing on efficient attainment of desired health care outcomes, including quality measures can be useful decision-making tools for managed-care payers. Therefore, a simple cost-effectiveness model was developed to compare the short-term (i.e., 1-year) clinical and economic outcomes of treating hyperglycemia with canagliflozin versus sitagliptin in patients with T2DM. METHODS: Data on clinical efficacy and key adverse events (AEs) were obtained from a pooled analysis of 2 comparative trials of canagliflozin 300 mg/day versus sitagliptin 100 mg/day Wholesale drug acquisition costs were used. The total and diabetes-related cost savings associated with achieving (vs. not achieving) A1C<7% was specified as $5,055/year and $1,651/year, respectively, based on previously reported claims database analysis. Savings of $288/year associated with 1% decrease in weight, sourced from the literature was applied. AE-related costs (i.e. $105-$154/genital mycotic infections and $352/hypoglycaemia requiring third-party assistance) were used in treatment versus control analyses. RESULTS: Cost savings were achieved for patients treated with M+D and M+S using UKPBS 68 REs and $59,130 and $47,664 respectively using UKPBS 82 REs. Incremental differences between REs were less pronounced, incremental QALY per quality adjusted life year was $47,545 using UKPBS 68 compared to UKPBS 82 REs. CONCLUSIONS: The UKPBS risk equations are widely used in type 2 diabetes cost-effectiveness models. While the new equations predict appreciable differences in absolute costs and quality adjusted life years the incremental differences were negligible. Continuing with the current health economic evaluations using the new UKPBS82 equations appear unlikely to result in significantly different results compared with the UKPBS68 REs.

PDB80

ILLUSTRATING THE RELATIONSHIP BETWEEN THE NUMBER OF HYPOGLYCAEMIA EVENTS, EVENT RATE REDUCTION AND THE IMPACT ON ESTIMATES OF QUALITY OF LIFE IMPROVEMENT IN HEALTH ECONOMIC STUDIES

Vooi 1, McEwan P 2, Grant D 1
1Pharmaceutical Health Economics & Outcomes Research (PHEOR), Monmouth, UK; 2Micheal Egan, London, UK

OBJECTIVES: Independent studies have demonstrated that the health utility gain associated with the per-event avoidance of non-severe hypoglycaemia episodes (NSHE) varies according the baseline rate. Despite this many health technology assessments permit in using a mean per-event health utility. The objective of this study was to quantify the bias introduced into an economic evaluation when using an average (static) disutility compared to a baseline event rate adjusted (diminish) disutility. METHODS: We used a model based on the UKPDS 82 risk equations to predict events and has been updated to include the UKPBS 82 REs. The objective of this study was to compare cost-effectiveness (CE) results obtained via the UKPBS 82 and 68 REs. RESULTS: Quality adjusted life expectancy was 8.157 and 8.038 in patients treated with M+D and M+S using UKPBS 68 REs and 7.851 and 7.733 using UKPBS 82 REs. Total direct medical costs were $16,576 and $16,476 respectively for patients treated with M+D and M+S using UKPBS 68 REs and $59,130 and $47,664 respectively using UKPBS 82 REs. Incremental differences between REs were less pronounced, incremental QALY per quality adjusted life year was $47,545 using UKPBS 68 compared to UKPBS 82 REs. CONCLUSIONS: The UKPBS risk equations are widely used in type 2 diabetes cost-effectiveness models. While the new equations predict appreciable differences in absolute costs and quality adjusted life years the incremental differences were negligible. Continuing with the current health economic evaluations using the new UKPBS82 equations appear unlikely to result in significantly different results compared with the UKPBS68 REs.