years, of which 20% (1.86%) discontinued and the remainder used GH intermittently. A one-time identification of nonresponders with GH dose increase of 50% was assumed for 48,000 T1DM patients adopted this technology. Sensitivity analyses were performed to determine how changes in estimated values affected results. Sensitivity analyses showed that there is a potential cost saving of $26,689,000–$41,225,000 for the province in direct medical cost assuming all 48,000 T1DM patients adopted this technology. CONCLUSIONS: Use of CSII has demonstrated improved glycemic control compared to MDI. Long-term projections combining RCT data with the Diabetics Model was used to simulate the progression of type 2 diabetes and predict lifetime clinical outcomes and complication rates. As such, the annualized incremental cost and consequences of CSII versus MET was modeled to achieve near final height SDS of +0.18 vs. +0.13, respectively, and quality-adjusted life-years (QALYs) was modeled to achieve near final height SDS of +0.12). EQW was also associated with lower complication costs: Compared to sitagliptin and pioglitazone, EQW saved US$1654 (US$55,385 ± 0.18) vs. US$57,039 ± 0.16) per QALY. Treatment with saxagliptin + SU was associated with a reduction in AMI, amputations, cataract surgery, dialysis rates, and hypoglycemia. The results were robust to various assumptions concerning inputs and modeling parameters, with all ICERs < 50,000 PLN per QALY gained (GDP per capita for 2009 was 30,000 PLN or €7300, based on 1 PLN = EURS 0.243, June 2010). CONCLUSIONS: Saxagliptin is cost-effective as a second-line therapy in combination with MET or SU in T2DM in the Polish setting. The availability of saxagliptin will provide T2DM patients with an additional treatment option to insulin.

PDB38

ADDITION OF INCREtin-therAPY TO METForMIN IN TYPE-2 DIABETES MELLITUS (T2DM): COST-EFFECTIVENESS OF LirAGlutIDE VersUS SitAGlITIN FROM THE PERSPECTIVE OF THE GERMAN STATUTORY HEALTH INSURANCE (SHI)

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BACKGROUND: The novel incretin analogue, once-daily liraglutide, mimics the effects of endogenous glucagon-like peptide-1 (GLP-1) in normalizing glucose metabolism in T2DM patients (Pattley et al. 2010). OBJECTIVES: To compare, from a German payer's (SHI) perspective, the long-term clinical and cost-effectiveness of liraglutide (1.2 mg or 1.8 mg OD) versus sitagliptin (100 mg OD), in combination with metfor- min, in T2DM patients, based on data from the randomized clinical trial (RCT) by Pratley et al. 2010. METHODS: RCT data were used to populate the CORE Diabetes Model (CDM), calibrated to clinical study baseline characteristics and background mortality in a German diabetes population. Costing (direct costs only) was done from the SHI perspective for year 2009. A discounting rate of 3% was used to costs and clinical effects. For hypothetical cohorts of 1000 patients, each followed for 20 years, liraglutide or sitagliptin were assumed to be maintained for patients and patients were subsequently switched to insulin. Consequences (costs and effects) were projected over a 20-year time horizon. RESULTS: Estimated 20-year survival rates were higher for liraglutide 1.8 mg (41.1%) and 1.2 mg (40.3%) compared to sitagliptin 100 mg (39.5%), and cumulative costs were €47,436, €45,627, and €43,295, respectively. Base-case ICERs were €1736, per life year gained for liraglutide 1.8 mg (or €48703 for 1.2 mg) versus sitagliptin, and €20702 (or €20,870 for liraglutide 1.2 mg) per QALY gained. Sensitivity analyses, including longer time horizons, different risk of death (CDM base case, Framingham study, and UKPDS) cohorts, indicated robustness of findings. CONCLUSIONS: Long-term projections combining RCT data with the CDM indicate an acceptable trade-off cost-effectiveness of liraglutide compared to sitagliptin (both plus metformin) according to currently prevailing standards.

PDB39

EFFECT OF VARYING MODELLING ASSUMPTIONS ON THE COST-EFFECTIVENESS OF LIRAGLUTIDE 1.2 MG (AS A COMPONENT OF DUAL THERAPY) IN TYPE 2 DIABETES

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OBJECTIVES: To compare the effect of different sets of modeling assumptions on the cost-effectiveness of liraglutide 1.2 mg, as a component of dual therapy in type 2 diabetes. METHODS: Data from three published clinical trials were used as the basis of the modeling analysis, comparing: liraglutide 1.2 mg versus rosiglitazone 4 mg, both added to glimepiride (Marro 2009); liraglutide 1.2 mg versus glimepiride 4 mg, both added to metformin (Nauk 2009); and liraglutide 1.2 mg versus sitagliptin 100 mg, both added to metformin (Pratley 2010). The published and validated CORE Diabetes Model was used to simulate the progression of type 2 diabetes and predict costs (in 2009 Pounds Sterling (£)) and quality-adjusted life-years (QALYS) over...
patients’ lifetimes. Duration of treatment was assumed to be 5 years, before switching to a basal insulin regimen. Changes were made to the base-case assumptions. First, the utility change per BMI unit gained (in patients with a BMI ≥ 25 kg/m²) was decreased from –0.031 to –0.0061. Second, the treatment duration was increased from 5 to 10 years. All other variables were kept the same. RESULTS: In the scenario with rosiglitazone, liraglutide was associated with a base-case incremental cost-effectiveness ratio (ICER) of €626.22 per QALY gained, which increased to €754.55 with BMI utility changes and to €36,477 when the treatment duration was increased. Similar increases were observed with glimepiride (€33,257 [base case] to €38,348, BMI utility change) and €38,368 (10-year treatment) and statin/g (€9,851 [base case] to €14,616 [BMI changes] and €77,089 [10-year treatment]). CONCLUSIONS: Incremental cost increases and diminishing BMI utility changes and increasing treatment duration significantly impact on the cost-effectiveness of liraglutide compared to rosiglitazone. Liraglutide was shown to be a cost-effective intervention compared with both rosiglitazone and exenatide. Sensitivity analysis (QALYs increased by 0.112). The CORE Diabetes Register (13th Euro Abstracts A291)

PD040 THE ECONOMIC IMPORTANCE OF “METABOLIC MEMORY” IN THE TREATMENT OF TYPE 2 DIABETES MELLITUS (T2DM) IN SWEDEN

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OBJECTIVES: Analysis of the post-interventional follow-up of the UKPDS found that the benefits of intensive therapy persisted even 10 years after the trial, a finding consistent with “metabolic memory” (i.e., early metabolic status influences long-term outcomes). We assessed the potential impact of “metabolic memory” on the cost-effectiveness of intensive versus conventional care in Sweden. METHODS: WE used the International Diabetes Model (IDM) to simulate the health and cost consequences of “metabolic memory” from the perspective of the MAH, including the Swedish Health-care services payer. Method of analysis involved simulation model with a fixed time increment was used and set to a 40-year (life-) time horizon. RESULTS: Estimated 20-year survival rates were higher for liraglutide 1.8 mg once daily (36.8%) compared to exenatide 10 µg administered twice daily (35.6%), and cumulative costs were €466,308 (liraglutide) and €455,025 (exenatide), respectively. Base-case ICERs were €16,842 for liraglutide versus exenatide (ΔQALY gained), €11,921 for liraglutide minus exenatide (ΔQALY lost), and €11,616 for liraglutide versus exenatide per QALY gained. Sensitivity analyses indicated robustness of findings. CONCLUSIONS: Long-term projections combining RCT data with the CDM strongly suggest an acceptable cost-effectiveness of liraglutide compared to exenatide according to currently prevailing standards.

PD042 INCRETIN-THERAPY IN ADDITION TO METFORMIN AND/OR SULFONYLUREA FOR TYPE 2 DIABETES MELLITUS (T2DM): COST-EFFECTIVENESS OF LIRAGLUTIDE VERSUS EXENATIDE FROM THE PERSPECTIVE OF THE GERMAN STATUTORY HEALTH INSURANCE (SHI)

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BACKGROUND: Unlike most other antihyperglycemic drugs, glucagon-like peptide 1 (GLP-1) receptor agonists have a glucose-dependent action and promote weight loss. In a randomized clinical trial (RCT) over 26 weeks reported by Buse et al. (2009), the novel GLP-1 agonist liraglutide (1.8 mg OD) was found to be significantly more effective than exenatide (10 µg twice daily) in terms of HbA1c reduction. OBJECTIVES: To compare, from a German payer’s (SHI) perspective, the long-term clinical and cost-effectiveness of liraglutide (1.8 mg OD) versus exenatide (10 µg BD) in T2D patients, based on data from the randomised phase II study (Buse et al. 2009). METHODS: THE Core Diabetes Model (CDM) was applied using RCT data. The model was calibrated to RCT baseline characteristics and background mortality in a German diabetes population, applying epidemiological data from long-term studies including UKPDS and Framingham to project morbidity and mortality of T2DM. Unit costs for direct costs were applied from an SHI perspective for year 2009, a discounting rate of 3% was used for costs and clinical effects. For hypothetical cohorts of 1000 patients, each followed for 20 years, patients were assumed to be maintained on liraglutide and exenatide, respectively, for 5 years and subsequently switched to insulin. Costs and effects were projected over a 20-year time horizon. RESULTS: Estimated 20-year survival rates were higher for liraglutide 1.8 mg once daily (36.8%) compared to exenatide 10 µg administered twice daily (35.6%), and cumulative costs were €466,308 (liraglutide) and €455,025 (exenatide), respectively. Base-case ICERs were €16,842 for liraglutide versus exenatide (ΔQALY gained), €11,921 for liraglutide minus exenatide (ΔQALY lost), and €11,616 for liraglutide versus exenatide per QALY gained. Sensitivity analyses indicated robustness of findings. CONCLUSIONS: Long-term projections combining RCT data with the CDM strongly suggest an acceptable cost-effectiveness of liraglutide compared to exenatide according to currently prevailing standards.

PD043 LONG-TERM COST-EFFECTIVENESS OF LIRAGLUTIDE VS. SULFONYLUREA IN POLAND

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OBJECTIVES: To assess the long-term cost-effectiveness of treatment with liraglutide on T2DM patients, based on data from the randomised phase II study (Buse et al. 2009). METHODS: The extensively published and validated Core Diabetes Model was populated with the clinical data from LEAD 2: liraglutide + MET versus SU + MET. The analysis was performed from the polish health-care services payer’s perspective. A 20-year time horizon was chosen to reflect the costs and outcomes of diabetes as these are often only seen in the later stages of the disease. The analysis used health-state utility values from published sources to assess the effect of treatment on QALYs. The unit costs of treatment and complications were derived from published sources based on expert opinion survey and Polish official tariff lists for hospital services paid by public pay. All figures are shown in EURO (1 EURO = 3.9 PLN). RESULTS: QALYs increased with liraglutide 1.2 mg + MET versus SU + MET by 0.191. Total costs increased by €3,349 resulting in incremental costs per QALY of €17,365. The incremental cost-effectiveness ratio (ICER) for liraglutide 1.8 mg + MET versus SU + MET was estimated at €24,842 per QALY gained (QALYs increased by 0.207). Sensitivity analysis showed the results to be moderately changing when altering the key parameters and assumptions (for liraglutide 1.2 mg range from 12,944 to €30,275/QALY). CONCLUSIONS: Treatment with liraglutide is a cost-effective intervention, compared with sulphonylurea and is likely to represent good value for money in Polish setting.

PD044 THE COST-EFFECTIVENESS OF SAXAGLIPTIN VERSUS SULFONYLUREA (SU) IN THE TREATMENT OF TYPE 2 DIABETES MELLITUS (T2DM) IN GERMANY

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OBJECTIVES: This study evaluates the long-term economic consequences of saxagliptin versus sulfonylurea (SU) as second-line therapy when used in combination with metformin (MET) after failure of monotherapy treatment with MET, in patients with type 2 diabetes (T2DM). METHODS: A published discrete event simulation model with a fixed time increment was used and set to a 40-year (life-) time horizon. Disease progression was modeled using evidence from the UK Prospective Diabetes Study (UKPDS 68). The treatment sequence matched that of published guidelines, efficacy and safety data were derived from published sources. The model assumes that quality-adjusted life-years (QALYs) are affected by complications and hypoglycaemic events over a lifetime. As such costs and utility decrements for macrovascular events and mortality, and microvascular complications, and adverse events such as severe hypoglycaemia are included. Costs were specific to the German setting where SIs are generic. Costs and effects were discounted annually at 3%. The perspective of the national sick funds was taken, and recommendations from the Institute for Quality and Efficiency in Health Care (IQWiG) were considered. RESULTS: Treatment with saxagliptin + MET was