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OBJECTIVES: To evaluate the long-term cost-effectiveness of dapagliflozin versus a sulfonylurea (SU) or a dipeptidyl-peptidase-IV (DPP-4) inhibitor, when added to metformin, in Type 2 diabetes mellitus (T2DM) patients inadequately controlled on metformin in Greece. **METHODS:** The published and validated CARDIFF diabetes model, a lifetime micro-simulation model, was adapted to the Greek health care setting to determine the incidence of micro- and macro-vascular complications and diabetes-specific and all-cause mortality. Clinical inputs were derived from a 52-week randomized clinical trial and a network meta-analysis comparing dapagliflozin with SU and DPP-4 inhibitor, respectively, in combination with metformin. Local unit costs and utility data were retrieved from literature and assigned to model parameters to calculate total quality-adjusted life years (QALYs) and total costs as well as incremental cost-effectiveness ratios (ICERs).The analysis was conducted from the perspective of a third-party payer in Greece. Uncertainty surrounding important model parameters was explored with probabilistic sensitivity analysis (PSA). **RESULTS:** Over a patient's lifetime, dapagliflozin was associated with 0.488 (95% CI: 0.477-0.5) and 0.042 (95% CI: 0.03-0.054) incremental QALYs compared with SU and DPP-4 inhibitor, respectively, at additional costs of €5,149 (95% CI: €5,026-€5,272) and €755 (95% CI: €636-€874), respectively. These findings were mainly driven by the beneficial effect of dapagliflozin on weight, and its higher drug acquisition costs. The corresponding ICERs were €10,545 and €17,871 per QALY gained versus the treatment with SU and DPP-4, respectively. At the defined willingness-to-pay threshold of €34,000 per QALY gained, PSA results showed that treatment with dapagliflozin was estimated to have a 99% and 57.5% probability of being cost-effective relative to the SU and DPP-4 treatments. **CONCLUSIONS:** Dapagliflozin in combination with metformin was shown to be a cost-effective treatment alternative for patients with T2DM whose metformin regimen does not provide sufficient glycemic control in the current Greek health care setting.

PDB56

COST-EFFECTIVENESS OF DULAGLUTIDE 1.5MG ONCE WEEKLY FOR THE TREATMENT OF PATIENTS WITH TYPE TWO DIABETES MELLITUS IN SWEDEN

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OBJECTIVES: Dulaglutide 1.5mg once weekly is a novel glucagon-like peptide 1 receptor (GLP-1) agonist, for the treatment of type 2 diabetes mellitus (T2DM). The objective of this analysis was to estimate the cost-effectiveness of dulaglutide versus liraglutide 1.8mg and liraglutide 1.2mg for the treatment of T2DM in Sweden. **METHODS:** The IMS CORE Diabetes Model (CDM), a validated simulation model, was used to estimate expected costs and outcomes. The comparators investigated were liraglutide 1.8mg and liraglutide 1.2mg. In accordance with Swedish guidelines the analysis was conducted using a societal perspective including Swedish-specific direct and indirect costs over a lifetime time horizon. Comparative safety and efficacy data were derived from direct comparison of dulaglutide 1.5mg versus liraglutide 1.8mg from the AWARD-6 trial and from a network meta-analysis for the comparison of dulaglutide 1.5mg versus liraglutide 1.2mg. One-way and probabilistic sensitivity analyses were conducted to explore the sensitivity of the model to plausible variations in key parameters and overall uncertainty. **RESULTS:** Under base case assumptions, dulaglutide 1.5mg was found to be less costly and more effective versus liraglutide 1.8mg (total costs 1,032,258 SEK vs 1,045,927 SEK; total QALYS 8.062 vs 8.033 for dulaglutide 1.5mg and liraglutide 1.8mg, respectively) and liraglutide 1.2mg (total costs 1,048,832 SEK vs 1,051,224 SEK; total QALYs 8.016 vs 7.974 for dulaglutide 1.5mg and liraglutide 1.2mg, respectively). One-way sensitivity analyses demonstrated that dulaglutide 1.5mg remained dominant versus liraglutide 1.8mg given plausible variations in key input parameters. Results of the probabilistic sensitivity analysis were consistent with base case results. **CONCLUSIONS:** In the base case, the model found that dulaglutide 1.5mg was more effective and less costly than liraglutide 1.8mg and liraglutide 1.2mg for the treatment of T2DM in Swedish setting. Findings were robust to plausible variations in inputs. The introduction of dulaglutide 1.5mg may result in societal cost savings.

PDB57

DAPAGLIFLOZIN VERSUS A DIPEPTIDYL PEPTIDASE 4 INHIBITOR (DPP4) BOTH ADDED TO METFORMIN IN PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM): IMPACT ON HEALTH, QUALITY OF LIFE AND COSTS IN THE TURKISH CLINICAL SETTING

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OBJECTIVES: Dapagliflozin, a sodium-glucose-transporter-protein-2 (SGLT2) inhibitor, can serve as a treatment for type 2 diabetes mellitus (T2DM) in patients inadequately controlled on metformin mono-therapy. The relative health benefits and costs of dapagliflozin compared to a dipeptidyl-peptidase-4 inhibitor (DPP4), added to metformin, were assessed through a cost-effectiveness analysis (CEA) from a Turkish payer perspective. **METHODS:** For the current CEA, a micro-simulation disease model (CARDIFF) was used. Clinical inputs were derived from a systematic review and network meta-analysis, along with a long-term follow-up study for dapagliflozin. In addition, Turkish specific cost data were collected and applied. The model predicted micro-and macro-vascular complications based on the UKPDS equations. Total Quality-Adjusted-Life-Years (QALYs) and costs were calculated over a lifetime horizon. Deterministic, probabilistic sensitivity analyses and elaborate scenario analyses were performed. **RESULTS:** Compared to DPP4, dapagliflozin was associated with an incremental benefit of 0.590 QALYs (95% CI: 0.038; 1.232) and cost savings of TRY 494 (95% CI: TRY-1,727; TRY 889). Results were sensitive to changes in treatments' effect on weight and HbA1c, and in utility values related to weight changes. Dapagliflozin's higher health benefits and cost savings are mainly explained by its greater beneficial effect on weight, leading to higher QALYs and less drug costs for dapagliflozin patients. The lower treatment costs are related to the insulin treatment costs (i.e. subsequent line regimens) due to the lower weight of dapagliflozin patients observed over time, which eventually leads to lesser insulin dosage. **CONCLUSIONS:** Dapagliflozin is a cost-saving strategy with higher health benefits compared to DPP4, added to metformin, for Turkish T2DM patients inadequately controlled on metformin mono-therapy.

PDB58

A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS MODELS IN TYPE 1 DIABETES MELLITUS

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OBJECTIVES: Economic modelling in type 1 diabetes mellitus (T1DM) is complex and continuously evolving. The aim of this systematic review was to assess methodological capabilities of T1DM models. **METHODS:** A systematic search was undertaken in MEDLINE®, Embase®, and the Cochrane library to identify economic evaluation models in T1DM (English language until November 2014). The websites of HTA bodies in England, Canada, Australia, France, Germany, Scotland and Spain were also screened. Study inclusion was based on a pre-specified protocol and carried out by a team of reviewers and information scientists independently, and data was extracted focusing on methodological capabilities. **RESULTS:** 74 publications describing 13 unique models were identified. Most models employed a Markov structure, and all included microvascular complications while five included both microvascular and macrovascular complications. Patient-level (microsimulation) and cohort approaches were equally common. While naturally varying across models, the risk equations that simulated event rates were generally based on a small set of studies which are now more than 20 years old. Treatment-effects were simulated in several ways; the more comprehensive models used surrogate risk factors (mostly HbA1c) to modify the risk of complications, but other approaches included directly modifying complication rates, quality-of-life, and/or resource use. The most common adverse events included in the models were hypoglycemia and ketoacidosis. Although the details provided varied, five models explicitly reported probabilistic sensitivity analysis capabilities. **CONCLUSIONS:** There was considerable heterogeneity in the models, likely driven by varying intended uses. The sub-set of models clearly intended for cost-effectiveness applications used more sophisticated approaches to capturing uncertainty and were among the most comprehensive, tending to include both micro- and macrovascular outcomes and common treatment-related adverse events. These models are likely to provide the most useful set of model capabilities despite relying on aging risk equations.

PDB59

THE COST-EFFECTIVENESS OF CANAGLIFLOZIN (CANA) VERSUS DAPAGLIFLOZIN (DAPA) 10MG AND EMPAGLIFLOZIN (EMPA) 25MG IN PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) AS MONOTHERAPY IN THE UNITED KINGDOM

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OBJECTIVES: To estimate the cost-effectiveness of using CANA versus DAPA or EMPA, three agents that inhibit sodium glucose co-transporter 2 (SGLT2), as monotherapy from the UK NHS perspective. **METHODS:** The validated ECHO-T2DM model was used to estimate 40-year outcomes and costs associated with using CANA 100 or 300mg versus DAPA 10mg or EMPA 25mg. Data from a 26-week network meta-analysis (NMA) performed to support a NICE multiple technology assessment were used to populate the model with treatment effects for HbA1c, blood pressure, weight and rates of hypoglycaemic events (hypoglycaemia data for EMPA were not possible to report from the NMA). Changes in lipids and rates of adverse events (AEs) associated with SGLT2 inhibition (i.e., urinary tract infections, genital mycotic infections) were sourced from a CANA monotherapy trial; values for DAPA and EMPA were assumed the same as CANA 100mg (as was the hypoglycaemia rate for EMPA). Sensitivity analyses were also performed. **RESULTS:** In the base case, CANA 100mg dominated DAPA and EMPA with quality-adjusted life-year (QALY) gains of 0.033 and 0.015 and lower total costs of £69 and £3. CANA 300mg versus DAPA provided an estimated QALY gain of 0.075 and increased cost of £709, resulting in an incremental cost-effectiveness ratio (ICER) of £9,429. Versus EMPA, the ICER was slightly higher (£13,491), but still below the generally accepted threshold in the UK, with a QALY gain of 0.056 and an increased cost of £761. Sensitivity analyses supported these base case findings. **CONCLUSIONS:** Through an insulin-independent mechanism of action, agents that inhibit SGLT2 improve glucose levels, blood pressure, and weight, with a low inherent risk of hypoglycaemia. These results suggest that both CANA 100 and 300mg are likely to be cost-effective monotherapy options versus DAPA and EMPA in the UK.

PDB60

COST-EFFECTIVENESS ANALYSIS OF GESTATIONAL DIABETES MELLITUS SCREENING IN URBAN CHINESE SETTING

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OBJECTIVES: Gestational diabetes mellitus (GDM) is associated with elevated risk of severe perinatal complications and type 2 diabetes (T2DM). Screening and intervention is recognized as an effective way to reduce these risks. The prevalence rate of GDM was as high as 17.5% in China, which caused a huge economic burden. GDM screening and intervention was reported in many hospitals in China, however, lacking evaluation from an economic perspective up to now. The objective was to estimate the long-term cost-effectiveness associated with GDM screening in the urban Chinese setting to provide economic evidence for clinical practice and