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 1.8mg 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 QW VERSUS LIRAGLUTIDE 1.8 MG FOR THE TREATMENT OF TYPE 2 DIABETES MELLITUS USING ALTERNATE DATA SOURCES

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OBJECTIVES: Glucagon-like peptide-1 receptor agonists (GLP-1RAs), such as exenatide once weekly (EQW) and liraglutide (LIRA), are FDA-approved as treatment for type 2 diabetes mellitus (T2DM). Head-to-head studies and meta-analyses of these agents have reached different conclusions about their relative effectiveness. **METHODS:** We developed a decision-analytic model to evaluate the likely incremental cost-effectiveness of EQW versus LIRA 1.8 mg in T2DM patients, with effectiveness measured as reduction in glycated hemoglobin (HbA1c). The model structure tracks change in HbA1c and direct medical expenditure (drug, needle, adverse events [AEs]) over a 26-week time horizon, and allows patients to discontinue treatment due to AEs (nausea, diarrhea, vomiting, constipation, dyspepsia) after 1 or 3 months of therapy. Patients discontinuing treatment are assumed to return to their baseline HbA1c. We compared the outcomes (cost per 1% and 0.2% reduction in HbA1c) of models populated with clinical data from a head-to-head 26-week randomized, controlled trial (DURATION-6) and a meta-analysis conducted by Scott and colleagues (2012). Drug costs and other utilization costs were based on wholesale acquisition costs and published sources. **RESULTS:** For the base case, the projected total 6-month cost of EQW versus LIRA was $2,444 and $3,054, respectively. Using data from DURATION-6 and meta-analysis, compared with EQW, LIRA had a projected incremental cost per 1% reduction in HbA1c (ICER) of $3,262 and $18,578 over a 6-month time horizon, respectively. Compared with EQW, the projected 6-month cost per 0.2% reduction in HbA1c for LIRA was $652 and $3,716 based on data from DURATION-6 and meta-analysis, respectively. **CONCLUSIONS:** The projected cost per 1% reduction in HbA1c was lower with EQW than liraglutide 1.8 mg at 6 months. The difference in projected cost per HbA1c reduction varies significantly depending on the trial-based data sources used. Real-world data are needed to resolve the current uncertainties.

PDB71

COST-EFFECTIVENESS ANALYSIS OF HCG AND HUMAN GONADOTROPINS IN MEN WITH HYPOGONADOTROPIC HYPOGONADISM IN THE CONTEXT OF AN ASSISTED REPRODUCTION PROGRAM

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OBJECTIVES: To evaluate the efficiency, in terms of incremental cost-effectiveness ratios (ICER), of human chorionic gonadotropin (hCG) and human gonadotropins, drugs used for male infertility due to hormonal disorder hypogonadotropic hypogonadism (HH), whose female partner has or doesn't have infertility problems, in the context of an assisted reproduction program. **METHODS:** Two different decision trees were developed to assess ICER of hCG and human gonadotropins. Firstly, hCG was compared to no treatment; secondly, human gonadotropins in combination with hCG were compared to hCG used alone. Effectiveness was measured as pregnancy and spermatogenesis respectively. Data were obtained from clinical studies, as well as efficacy of medical procedures. The proportion of couples, who needed fertility procedures, was determined according to experts' opinion. A ministry of health perspective was taken. Costs of medications were based on acquisition costs in 2012 Canadian dollars. Costs of medical procedures, as intrauterine insemination (IUI), in vitro fertilisation (IVF) and intra cytoplasmic sperm injection (ICSI) were based on 2012 fees of Québec's physicians. The time horizons adopted were based on the durations of drug treatment in clinical studies. **RESULTS:** The use of hCG in comparison with no treatment is cost-effective with an ICER of 20,915$CAN per man with HH for whom the partner got pregnant. Determinist sensitivity analyses showed that the ratio is more sensitive to the probability to use IVF or ICSI. In the second comparison, treatment with human gonadotropins is cost-effective with an ICER of 25,076$CAN per man that obtained spermatogenesis. Drug dosage is the element for which the ICER is more sensitive in the univariate determinist sensitivity analyses. **CONCLUSIONS:** Human gonadotropins and hCG are cost-effective for the treatment of men with HH. They can be reimbursed in the drug program for this indication with some restrictions about the duration of treatment.

PDB72

HEALTH ECONOMIC EVALUATION OF CANAGLIFLOZIN IN THE TREATMENT OF TYPE 2 DIABETES MELLITUS IN SWEDEN

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OBJECTIVES: To evaluate the cost-effectiveness of canagliflozin in dual therapy as add-on to metformin compared to sitagliptin and glimepiride, as add on to insulin (plus metformin) and in mono therapy compared to sulfonylurea in the Swedish setting from a societal perspective. **METHODS:** The IMS CORE Diabetes Model was used to evaluate the cost-effectiveness of canagliflozin (using a weighted average of 80/20 for the 100 mg and 300 mg dosage respectively) versus the aforementioned comparators using Swedish-specific data, where available. Direct and indirect costs were reported in 2012 Euro [1 Euro (€) = 8.91 Swedish Krona] and an annual discount rate of 3% was applied on costs and effects. **RESULTS:** With inclusion of indirect costs the cost-effectiveness analyses indicate that in dual therapy when compared to sitagliptin as add-on to metformin, canagliflozin appears to dominate sitagliptin with average cost savings of 718 € and an average QALY gain of 0.011 and as add-on to metformin canagliflozin appears to dominate sulfonylurea with average cost savings of 600 € and an average QALY gain of 0.063. As add-on to insulin canagliflozin appears to dominate placebo with an incremental cost saving of 3339 € and an incremental QALY of 0.054. In mono therapy canagliflozin is cost-effective compared to sulfonylurea with an incremental cost-effectiveness ratio (ICER) of 1838 € per QALY. Probabilistic analysis of the four comparisons suggests a likelihood of above 50% of canagliflozin being cost-effective. Sensitivity analyses show that canagliflozin remains cost-effective when indirect costs were not included. **CONCLUSIONS:** Canagliflozin 100 mg and 300 mg (80/20 dose split) appears to be a cost-effective alternative to sitagliptin and glimepiride in dual therapy as add-on to metformin. Adding canagliflozin to insulin will be cost-effective compared with placebo. Canagliflozin is a cost-effective alternative to sulfonylurea in mono therapy.

PDB73

ECONOMIC EVALUATION OF BLOOD GLUCOSE POINT–OF–CARE TESTING IN THE INTENSIVE CARE UNIT

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OBJECTIVES: Point–of–care testing of blood glucose (BG–POCT) is essential for safe insulin infusion in critically ill patients. Costs associated with BG–POCT are considered substantial, especially when more frequent monitoring is needed as with strict glucose control aiming for lower BG–levels. The objective of this study is to estimate the incremental cost-effectiveness of a strict BG-POCT guideline versus a loose guideline, from a hospital perspective. **METHODS:** This is a secondary analysis of a guideline implementation project aiming for normal BG–levels in three intensive care units in The Netherlands[1]. A Markov model including health states 'target glucose', 'hyperglycemia', 'hypoglycemia', and hospital death was developed to compare expected costs, number of patients within target and number of life years saved before and after guideline implementation. **RESULTS:** The analysis included 1.321 and 2.175 patients 12 and 24 months before and after implementation of the guideline, respectively. The number of BG-POCT increased from 4.2 [2.6 – 6.7] to 8.7 [4.1 – 11.2] per patient per day. Costs for BG–POCT increased with 72%. When taking total hospital costs and clinical effects into account, implementation of the strict glycemic control guideline reduces hospital costs with €134 during total inpatient stay, as patients spend less time in hypo/hyperglycemic events and had shorter stays in ICU and hospital (–0.5 and –1.1 day, respectively). This translates into expected cost savings of €13 per additional patient in target glucose and €10 per additional life year saved. The model outcomes are most sensitive to changes in ICU length of stay. **CONCLUSIONS:** This health–economic analysis shows that additional costs of BG–POCT with implementation of a strict glucose control guideline are offset against savings generated by reduced hypo/hyperglycemic events and length of stay in ICU and hospital. [1] Schultz, M.J., et al. Minerva Anestesiol, 2012. 78(9): p. 982-95.

PDB74

COST-EFFECTIVENESS OF SWITCHING TO BIPHASIC INSULIN ASPART FROM HUMAN PREMIX INSULIN IN PEOPLE WITH TYPE 2 DIABETES IN CHINA

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OBJECTIVES: To evaluate long-term cost-effectiveness of switching from human premix insulin to biphasic insulin aspart (BIAsp 30) in people with type 2 diabetes mellitus (T2DM) in China. **METHODS:** 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 (n=1191) in the A_1chieve® observational study. After treatment with BIAsp 30 over 24 weeks, patients' HbA_{1c} decreased by 1.6%, rate of major and minor hypoglycaemia decreased by 0.51 and 4.32 events per patient-year respectively. Treatment costs were based on insulin doses (35.8 IU daily for human premix insulin and 36.1 IU 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. Costs and life years were discounted at 3% annually. One-way sensitivity analysis was performed. **RESULTS:** Switching to BIAsp 30 from human premix insulin was projected to reduce incidence of most diabetes-related complications, increase life expectancy by 0.732 years (13.457 vs 12.725) and improve quality-adjusted life years by 1.032 QALYs (9.487 vs 8.455) per patient. Although treatment and management costs increased by Chinese Yuan (CNY) 14,712 (52,329 vs. 37,617) and 1,857 (39,821vs. 37,964) respectively, complication costs reduced by CNY 96,198 (104,752 vs. 200,950); 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.

PDB75

COST-EFFECTIVENESS OF SAXAGLIPTIN AND LINAGLIPTIN IN COMBINATION WITH METFORMIN FOR TYPE II DIABETES: A DECISION-TREE ANALYSIS MODEL

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