9.06 QALY. The reason of utility cost was $1,006.03 and $2,331.98 respectively.

According to sensitivity analysis for drug costs and net benefit, NMA was considered alternative more cost-effective in all scenarios: Exchange $2, $7 + U$ 1.00 (jan/15).

CONCLUSIONS: Consider the similarity of the results obtained from the analysis of effectiveness and utility in comparing Glargine versus NPH at MDI level, it can be concluded that the difference remains only in the costs of treatment: Glargine costs are higher.

PDB48
THE COST-EFFECTIVENESS OF CANAGLIFLOZIN VERSUS SITAGLITIN AS THIRD-LINE THERAPY IN TYPE 2 DIABETES MELLITUS (T2DM) IN A CANADIAN SETTING
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OBJECTIVES: In Canada, the most commonly utilized oral third-line agent for patients with T2DM inadequately controlled on metformin (MET) and a sulfonylurea (SU) is sitagliptin (SITA). Canagliflozin (CANA), a novel agent that inhibits sodium glucose co-transporter-2 (SGLT2), has demonstrated HbA1c lowering as well, without increasing the risk of hypoglycemia. The objective of this analysis was to evaluate the cost-effectiveness of CANA 100 and 300 mg versus SITA 100 mg in patients inadequately controlled on MET + SU in the Canadian setting. METHODS: In accordance with the CATHD guidelines for economic evaluations, cost-utility analysis using ECHO-T2DM, a validated economic model, was done to simulate lifetime outcomes and costs of using CANA versus SITA in the third-line setting. Patient characteristics and treatment effects were sourced from a meta-analysis and a head-to-head study for the comparison of CANA 300 mg to SITA 100 mg. In the absence of a direct comparison of CANA 100 mg versus SITA 100 mg, relative treatment effects for this simulation were obtained from an indirect comparison via Bayesian network meta-analysis (NMA), with baseline patient characteristics sourced from a pooled analysis of two CANA trials (patients on background therapy with MET + SU) that contributed to the NMA. CONCLUSIONS: ECHO-T2DM was populated with costs and utilities and estimates relevant to the Canadian population. RESULTS: Using CANA 300 and 100 mg resulted in mean quality-adjusted life year (QALY) gains of 0.08 and 0.04, respectively, and lower costs of $2,035 and $981, respectively, compared to SITA over 40 years in patients failing to meet glycemic control of ≤7%. Therefore, CANA was more effective and less costly compared to SITA in the third-line setting. CANA used as a third-line agent added on to MET + SU background therapy may result in better quality of life outcomes and lower costs when compared to SITA (the most common third-line agent in Canada).

PDB49
A COST-EFFECTIVENESS ANALYSIS OF ALOGLIPTIN IN COMPARISON TO SITAGLITIN
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OBJECTIVES: The association between rare genetic disorders, hereditary fructose intolerance (HFI) or alpha-1 antitrypsin deficiency (A1AT), and type 2 diabetes (T2D) has not yet been investigated. Therefore, the objective of this undertaking was to evaluate the association between both genetic disorders and T2D using four large observational databases and adjust for ascertainment bias. Patients with a HFI diagnosis (ICD-9: 271.2) or A1AT diagnosis (ICD-9: 273.4) and T2D diagnosis (ICD-9: 250.x0 or 250.x1) were identified in the Truven MarketScan Claims Database (2002-2012), Optum Electronic Health Records (EHR) Database (2007-2012), and GE Centricity EHR Database (1995-2012). The association between both genetic disorders and T2D was compared to the association between T2D and seven negative control chronic diseases with no established relationship with T2D. RESULTS: The unadjusted association between both genetic disorders and T2D was positive and heterogenous (p<0.001) in all four databases. The unadjusted pooled odds ratio (OR) calculated using a random-effects model meta-analysis was 3.48 (95% CI: 2.21-5.46) for HFI and 2.71 for A1AT (95% CI: 1.75-4.20). After pooling all patients and adjusting for the negative controls using a random-effects model meta-analysis, it was found that HFI patients have a 73% increased odds of T2D (ratio of odds ratios [ROR]=1.73, 95% CI: 1.08-2.75) compared to patients with negative control diseases; the association was stronger when utilizing a fixed-effects model meta-analysis (ROR=2.19, 95% CI: 2.07-2.31). The adjusted association between A1AT and T2D was statistically significant in the fixed-effects (ROR=1.33, 95% CI: 1.27-1.40) and random-effects (ROR=1.35, 95% CI: 1.86-2.12) meta-analyses but not the random-effects model meta-analysis (ROR=1.35, 95% CI: 0.86-2.12). CONCLUSIONS: HFI and T2D were positively associated after adjustment for negative control chronic diseases in both meta-analysis models. Rare disease researchers using observational data to conduct comparability analyses can utilize negative controls and multiple datasets to account for ascertainment bias and database heterogeneity, respectively.

PDB50
THE COST-EFFECTIVENESS EVALUATION OF CANAGLIFLOZIN VERSUS DAPA GLIFLOZIN IN PATIENTS WITH TYPE 2 DIABETES MELLITUS INADEQUATELY CONTROLLED ON METFORMIN MONOTHERAPY IN SPAIN
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OBJECTIVES: The objective of this analysis was to evaluate the cost-effectiveness of CANA and dapagliflozin (DAPA) in dual and triple therapy. Pharmacokinetic and pharmacodynamic differences support these results. Specifically, CANA has been shown to reduce the renal threshold for glucose excretion more than DAPA 10 mg, resulting in ~25% greater 24-hour urinary glucose excretion. In addition, CANA 300 mg may transiently block intestinal SGLT1, delaying glucose absorption and reducing postprandial glucose. METHODS: The IMS CORE Diabetes Model was used to evaluate the cost-effectiveness of CANA 100 and 300 mg versus DAPA 10 mg using Spanish-specific utilities and cost data. Direct costs were reported in euros and an annual discount rate of 3% was applied to costs and effects. RESULTS: For the economic evaluation was 40 years to reflect the chronic nature of the disease. A randomised, controlled trial of CANA in dual therapy and an NMA were sourced for initial treatment effects. Results were compared with the willingness-to-pay (WTP) threshold reported for Spain (€30,000/QALY). RESULTS: CANA 100 mg dominated DAPA in dual therapy, with 0.061 quality-adjusted life years (QALYs) gained. CANA 300 mg was cost-effective compared to DAPA 10 mg in dual therapy with a cost-effectiveness ratio below the WTP threshold in Spain; QALYs gained were 0.084. CONCLUSIONS: These results suggest that adding CANA 100 or 300 mg instead of DAPA 10 mg patients inadequately controlled on metformin would result in more efficient use of healthcare resources in the Spanish setting.

PDB51
A COST-EFFECTIVENESS ANALYSIS OF DAPA GLIFLOZIN IN COMPARISON TO DIPETIDYL PEPTIDASE-4 INHIBITORS USING A META-ANALYSIS
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OBJECTIVES: Proper glycemic control reduces the frequency of microvascular and macrovascular complications in type 2 diabetes. Many patients require more than one medication to reach goal glycated hemoglobin (A1c) levels. The objective of this study was to assess the cost-effectiveness of dapagliflozin versus the dipeptidyl peptidase-4 (DPP-4) inhibitors in patients with type 2 diabetes. METHODS: This study was a meta-analysis. In the 10-year time horizon, a cost-effectiveness (CE) analysis was performed using the CEA technique. A decision tree was used to determine cost per additional percentage point for lowering the A1c from the health payer perspective. RESULTS: Dapagliflozin was more effective than DPP-4 inhibitors 4-inhibitors in lowering A1c levels and was associated with additional 0.076% change in lowering the A1c level after adjusting for covariates. Dapagliflozin was more expensive than the comparator at an annual cost of $3,470.40 while dipeptidyl peptidase 4 inhibitors had an annual costs of $3,405.60. The result of the CEA indicated that there was a cost $926 for each additional percentage point that the A1c was lowered by using dapagliflozin. CONCLUSIONS: Dapagliflozin was more effective than dipeptidyl peptidase 4-inhibitors in lowering A1c levels, yet it was also more expensive. Decision makers trying to decide whether or not to use these medications must be prepared to decide if the additional benefit is worth the cost.

PDB52
COST-EFFECTIVENESS (CE) ANALYSIS OF EMPAGLIFLOZIN 25MG VS EMPAGLIFLOZIN 10MG VS SITAGLITIN 100MG IN THE TREATMENT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) WHEN ADDING SITAGLITIN 10MG TO A MEXICAN PUBLIC INSTITUTIONAL CONTEXT
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OBJECTIVES: To evaluate the CE ratio of empagliflozin 25mg compared to sitagliptin 100mg when added to MET in patients with T2DM. METHODS: A discrete event simulation was developed for the life years (LY) gained with negative control chronic diseases in both meta-analysis models. The costs for the antidiabetic agents were based on published wholesale acquisition costs data for 2014. An incremental cost-effectiveness ratio (ICER) was calculated to determine cost per additional percentage point for lowering the A1c from the health payer perspective. RESULTS: Empagliflozin 25mg was more effective and more costly than sitagliptin 100mg. Compared to sitagliptin 100mg, empagliflozin 25mg had incremental cost-effectiveness ratio of $1,294.50, incremental QALYs of 0.084, and incremental NMBs of $3,470.40. RESULTS: Empagliflozin 25mg was more effective than sitagliptin 100mg. CONCLUSIONS: Empagliflozin 25mg is a cost-effective alternative to sitagliptin 100mg for the Mexican public institutional context.