socioeconomic, comorbidities and service year, patients receiving anti-diabetic medications were not associated with higher risk of diabetes compared to non-users (Odds Ratio [OR], 1.23; 95% confidence interval [CI], 0.94-1.62). We also found that exposure to specific anti-diabetic drugs were not related to the risk of developing diabetes metformin only [OR, 1.06; 95% CI, 0.69-1.64], sulfonylureas only [OR, 1.04; 95% CI, 0.78-1.40], insulin only [OR, 0.96; 95% CI, 0.61-1.52], up-titration of basal insulin [OR, 1.03; 95% CI, 0.60-1.77], or reduction of insulin [OR, 0.77; 95% CI, 0.41-1.45]. CONCLUSIONS: Use of anti-diabetic drugs, such asinsulins, metformin, sulfonylureas and thiazolidinedione, are not associated with an altered risk of diabetes among elderly.

PD9B
PREDICTORS OF GLYCEMIC CONTROL AND DIABETES-RELATED COSTS AMONG ADULT TYPE 2 DIABETES PATIENTS INITIATING THERAPY WITH LIRAGLUTIDE
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OBJECTIVES: Clinical studies suggest that adult type 2 diabetes (T2D) patients treated with the once-daily GLP-1 receptor agonist (RA) liraglutide 1.2 and 1.8mg achieve significant improvements in glycemic control and body weight with low risk of hypoglycemia. The objective of this study is to identify predictors that may explain the clinical and economic outcomes associated with liraglutide therapy in a real-world setting. METHODS: Using the MarketScan® Laboratory Database, A1C outcomes and diabetes-related costs were evaluated in T2D patients initiating liraglutide (index event) between January 2010 and June 2012. Patients (N=417) were required to have ≥1 post-index claim for liraglutide and valid A1C values at baseline and within ±45 days of the end of 6 months follow-up. Patients previously treated with GLP-1 RA or exenatide, or evidence of type 1 diabetes, pregnancy or gestational T2D, or diabetes at any time during the study period were excluded. Achievement of glycemic control (A1C <7%) and diabetes-related costs were evaluated at follow-up. Multivariable regression was used to determine the independent effect (p<0.05) predictors of glycemic control and diabetes-related costs. RESULTS: Factors associated with increased odds of achieving A1C<7% were early initiation (0-1 background oral anti-diabetics (OADs) vs ≥2 OADs; proportion of days covered (PDC)<70%), presence of a diabetes retinopathy or a disorder of lipid metabolism. Early initiation (0-1 background OADs vs ≥2) and higher out-of-pocket share of pharmacy costs were associated with significantly lower total diabetes-related costs at follow-up. Factors associated with increased odds of achieving ≥0.5 kg change in body weight (kg) were: index liraglutide dose (10µg and liraglutide 1.8mg (for CANA 300mg were greater versus exenatide 5µg, and similar versus exenatide 10µg), and titration targets (in strategy 2 the highest target was achieved). CONCLUSIONS: Early initiation and adherence to liraglutide (proportion of days covered (PDC)<70%), presence of a diabetes retinopathy or a disorder of lipid metabolism. Early initiation (0-1 background OADs vs ≥2) and higher out-of-pocket share of pharmacy costs were associated with significantly lower total diabetes-related costs at follow-up. Factors associated with increased odds of achieving ≥0.5 kg change in body weight (kg) were: index liraglutide dose (10µg and liraglutide 1.8mg (for CANA 300mg were greater versus exenatide 5µg, and similar versus exenatide 10µg), and titration targets (in strategy 2 the highest target was achieved).
PDB15

COMPARATIVE EFFICACY AND SAFETY OF ANTIDIABETIC DRUG REGIMENS ADJUNCTIVE TO DAPTOMER, METFORMIN, AND THIAZOLIDINEDIONE THERAPY IN TYPE 2 DIABETES

Saulsberry W.J., Zaccaro E., Much of the difference was driven by the ability to titrate to CANA 300 mg for addi-

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OBJECTIVES: Type 2 diabetes is a progressive disease and most patients experience deterioration in glycemic control over time necessitating use of the combination therapy that sulfur of insulin. Network meta-analyses (NMAs) have found that CANA 300 mg lowers HbA1c more than DAPA in dual and triple therapy. Mechanistic differences support these results. Specifically, CANA 300 mg has been shown to reduce the renal threshold for glucagon secretion in more than DAPA 10 mg, resulting in 25% greater 24-hour urinary glucose excretion. In addition, unlike DAPA, CANA 300 mg may transiently block intestinal SGLT1, delaying glucose absorption and reducing postprandial glucose.

This study evaluates differences in time in initial initiation using CANA versus DAPA in people with type 2 diabetes (≥7.0% at baseline) and triple therapy. Insulin initiation was delayed by 1.8 years on average for CANA titrated to goal (5.1 years) versus DAPA (3.3 years). Much of the difference was driven by the ability to titrate to CANA 300 mg for additional glycemic control. These findings suggest that treatment with CANA versus DAPA could delay insulin initiation by 55% in both dual and triple therapy. This difference may translate into delays in undesirable health outcomes and the financial burden associated with injectables in practice.

PDB18

EFFICACY AND SAFETY OF INSULIN ANALOGUES COMPARED TO HUMAN INSULIN PREPARATIONS IN PATIENTS WITH TYPE 1 DM: SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: The use of insulin analogues for the treatment of type 1 diabetes mellitus (T1DM) is common; however, the real evidences on their efficacy and safety are limited. The aim of this study was to compare the efficacy and safety of insulin analogues with human insulin in the treatment of T1DM. METHODS: Search of the literature was conducted with the databases PubMed, Lilacs, and Cochrane (RCTs) available in PUBLMED, LILACS, CENTRAL (accessed February 2014), including critical and gray literature search. The meta-analysis was performed using Review Manager® 5.2 software using random effects model. Outcomes considered were: concentra-

PDB19

METFORMIN AND INTENSIVE LIFESTYLE INTERVENTION FOR PRE-DIABETES - SYSTEMATIC REVIEW OF Efficacy

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OBJECTIVES: Individuals with an A1C between 5.7% and 6.4%, impaired fasting glucose (from 100mg/dl [5.6mmol/l] and 125mg/dl [6.9mmol/l]) or impaired glucose tolerance (oral glucose tolerance test [2-hour] between 140mg/dl [7.8mmol/l] and 199mg/dl [11.0mmol/l]) classified as having prediabetes are at increased risk for development of diabetes. The aim of this study was to compare the efficacy and safety of insulin analogues with human insulin in the treatment of T1DM. RESULTS: A total of 36,673 published articles were reviewed. 35 studies were included: 14 studies compared glargine with NPH, 02 (Glargine vs. Detemir), 08 (NPH vs. Detemir), 04 (regular insulin vs Aspart), 06 (regular insulin vs Lispro) and 01 (Regular Insulin vs. Glulisine). The insulin analogues showed no differences (p<0.05) compared to human insulin preparations in relation to HbA1C (except Aspart vs regular insulin: favored Aspart) and occurrence of hypoglycemic episodes (except Detemir vs NPH: favored Detemir). Glargine, Detemir and Lispro compared to human insulin preparations showed slightly improved fasting or post-prandial blood glucose concentrations, however this outcome had no ability to influence the overall glycemic control measured by HbA1C. Most studies showed poor methodological quality and conflicts of interest.

CONCLUSIONS: There is poor evidence for the recommendation of first-line therapy using analogues instead of human insulin preparations, which efficacy and long-term security is better known. The analogues for the treatment of T1DM should be better assessed on randomized clinical trials with good methodological quality, as well as on the basis of incidence data and observational studies in order to assess the long-term safety profile.

PDB21

TIME UNITS IN INSULIN INITIATION FOR CANAGLIFLOZIN (CAN) VERSUS DAPA GLIFLOZIN (DAPA) IN DUAL AND TRIPLE THERAPY FOR TYPE 2 DIABETES MELLITUS (T2DM) IN THE REAL WORLD

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TIME UNITS IN T2DM, treatment is often characterised by gradual intensification, ultimately requiring multiple daily insulin injections.

CANA and DAPA are agents with activity on SGLT2 that may delay the need for insulin. Network meta-analyses (NMAs) have found that CANA 300 mg lowers HbA1c more than DAPA in dual and triple therapy. Mechanistic differences support these results. Specifically, CANA 300 mg has been shown to reduce the renal threshold for glucagon secretion in more than DAPA 10 mg, resulting in 25% greater 24-hour urinary glucose excretion. In addition, unlike DAPA, CANA 300 mg may transiently block intestinal SGLT1, delaying glucose absorption and reducing postprandial glucose.

This study evaluates differences in time in initial initiation using CANA versus DAPA in people with type 2 diabetes (≥7.0% at baseline) and triple therapy. Insulin initiation was delayed by 1.8 years on average for CANA titrated to goal (5.1 years) versus DAPA (3.3 years). Much of the difference was driven by the ability to titrate to CANA 300 mg for additional glycemic control. These findings suggest that treatment with CANA versus DAPA could delay insulin initiation by 55% in both dual and triple therapy. This difference may translate into delays in undesirable health outcomes and the financial burden associated with injectables in practice.

In conclusion, when added to optimized metformin and TZD therapy, all noninsulin analogues showed no differences (p<0.05) compared to human insulin preparations in relation to HbA1C (except Aspart vs regular insulin: favored Aspart) and occurrence of hypoglycemic episodes (except Detemir vs NPH: favored Detemir). Glargine, Detemir and Lispro compared to human insulin preparations showed slightly improved fasting or post-prandial blood glucose concentrations, however this outcome had no ability to influence the overall glycemic control measured by HbA1C. Most studies showed poor methodological quality and conflicts of interest.

CONCLUSIONS: There is poor evidence for the recommendation of first-line therapy using analogues instead of human insulin preparations, which efficacy and long-term security is better known. The analogues for the treatment of T1DM should be better assessed on randomized clinical trials with good methodological quality, as well as on the basis of incidence data and observational studies in order to assess the long-term safety profile.