BACKGROUND: Chronic kidney disease (CKD) is highly prevalent in type 2 diabetes mellitus (T2DM) population. However, information regarding recent temporal trends and prevalence within key demographic subgroups are lacking. OBJECTIVES: To estimate the prevalence of CKD stages in T2DM over time and within demographic subgroups. METHODS: Individuals ≥18 years old with T2DM were identified from the US National Health and Nutrition Examination Survey (NHANES) 2007-2012 via either self-reported diabetes or antidiabetic medication use. Individuals with type 1 diabetes, pregnancy, and with missing serum creatinine lab value, age, gender, or race/ethnicity were excluded. CKD was staged based on KDIGO 2012 guidelines as: 1=estimated glomerular filtration rate (eGFR in ml/min/1.73m² via CKD-Epi equation) ≥90 with albuminuria, 2=60-89 with albuminuria, 3a=45-59, 3b=30-44, 4=15-29, 5=<15. Projected national estimates are reported using appropriate NHANES weights to account for survey response bias and over-sampling. RESULTS: Of the 2,006 T2DM individuals, the overall age-adjusted CKD prevalence from 2007-2012 was 38.2% vs. 40.2% in 2007-2008, 36.9% in 2009-2010, and 37.6% in 2011-2012. Most CKD patients were at early stages (77.5% for Stages 1 to 3a), with only 22.5% with moderate to severe CKD (Stages 3b to 5). Over the 3 survey cycles, the prevalence of Stage 3a increased while Stage 1 and 2 decreased. The prevalence of CKD in patients with T2DM was 25.7% in <65 years old, 58.7% in ≥65 years old, 40.0% in males, 38.7% in females, 43.5% in Blacks, and 41.5% in Mexican-Americans. The overall balance in adjusted analyses, only patients with a propensity score <1, Bell K., Thomson E., Lebani G., Sheikh A. 1

1Tuven Health Analytics, Bethesda, MD, USA, 2AstraZeneca, Fort Washington, PA, USA, 3Tuven Health Analytics, Cambridge, MA, USA

OBJECTIVES: This study compared hypoglycemia rates in patients with type 2 diabetes on metformin who augmented treatment with saxagliptin or glipizide. METHODS: This retrospective analysis utilized US healthcare claims data from the Truven Health MarketScan Research Databases. Data were from adults on metformin monotherapy who added saxagliptin or glipizide 5-20 mg/day between 1 August 2009 and 31 December 2010. Hypoglycemia event rates were compared during the 4 months after initiation of saxagliptin or glipizide. A hypoglycemia event was defined as a diagnosis of hypoglycemia on an outpatient or emergency room claim, a principal diagnosis on a hospital claim, or a glucagon injection during the 4 months after initiation of saxagliptin or glipizide. A hypoglycemia event was also considered to be the diagnosis of hypoglycemia on an outpatient or emergency room claim, a principal diagnosis on a hospital claim, or a glucagon injection in an outpatient setting. Analyses were adjusted for patient demographics and clinical characteristics using inverse probability propensity score weights and rate ratios were computed using a Poisson regression. To achieve maximal covariate balance in adjusted analyses, only patients with a propensity score ≤0.2 were retained for analysis. RESULTS: A total of 9,246 patients (1,567 taking saxagliptin, 7,679 taking glipizide) qualified. During 120 days of follow-up, there were 205 hypoglycemia events. Most of the hypoglycemia events (92.3%) occurred in the outpatient setting. There were no inpatient or emergency room hypoglycemia events in the saxagliptin cohort versus the glipizide cohort (1.74 vs. 4.18 per 100 person-years; p = 0.44). After applying inverse propensity score weights (N=8,241), the adjusted rate of hypoglycemia also was significantly lower in the saxagliptin cohort versus the glipizide cohort (1.74 vs. 4.18 per 100 person-years; p = 0.002; rate ratio = 0.42; [95% confidence interval = 0.24-0.71]). CONCLUSIONS: Treatment with saxagliptin was associated with a lower risk of hypoglycemia compared with glipizide 5-20 mg/day in a real-world database. These results add confidence to similar findings from clinical trials. 1, Bell K., Thomson E., Lebani G., Sheikh A. 3

1SJ college of pharmacy, chitturdu, India, 2University of Colorado, colorado, CO, USA, 3Markets Healthcare Solutions LLP (HEOR and RWE Consulting), Navi Mumbai, India

OBJECTIVES: Diabetics influences bone metabolism, but the relation of type 1 diabetes mellitus (T1DM) with bone mineral density (BMD) remains inconsistent across studies. The objective of this study was to perform a meta-analysis to estimate the longer term effects of T1DM on BMD measured by dual energy X-ray absorptiometry (DEXA) with the safety profile of oral diabetes drugs. Future research should evaluate the effect of changes in the safety profile of oral diabetes medication on patient outcomes.

DIABETES/ENDOCRINE DISORDERS – Cost Studies

PD33

WITHDRAWN

PD34

CHANGES IN THE SAFETY PROFILE OF ORAL DIABETIC MEDICATIONS APPROVED BY THE FDA

Al-Mutairi R., Seoane-Vazquez E.

MCPHS University, Boston, MA, USA

OBJECTIVES: Despite being the most efficacious blood glucose lowering therapy, the majority of patients on basal insulin do not achieve adequate glycemic control (HbA1c<7.0%), increasing the risk of complications. A patient-adjusted mealtime insulin-dosing algorithm was recently validated in a randomized clinical trial (AUTOMONY) and demonstrated statistically significant and clinically meaningful reductions in HbA1c (~1.0%). The goal of our study was to estimate the longer term economic outcomes of this clinical trial treatment effect in a representative sample of US patients with type 2 diabetes. METHODS: We utilized a validated Monte Carlo microsimulation model to compare patients initiating the AUTOMONY daily (QD) titration algorithm upon HbA1c drift to those delaying initiation. Outcomes modeled included mean HbA1c, diabetes-related complications, mortality, and associated costs over 10 years. Treatment effects were modeled from AUTOMONY clinical trial results. The setting for the economic analysis was representative of the care delivered within the general population of patients utilizing insulin within the US (NHANES). Sensitivity analyses included factors such as time horizon, discount rate, and baseline HbA1c. RESULTS: Patients initiating self-adjusted bolus titration upon HbA1c drift had better outcomes over the 10 years: decreases of ~1.3% in severe hypoglycemic events, ~2.8% in myocardial infarction or cardiac events, ~1.8% in stroke, ~0.9% in blindness, ~12.4% in lower extremity amputations, and ~1.7% in mortality. These patients were estimated to have a smaller increase in pharmacy costs.