PDB131

UNITS AND COSTS PER DAY PER CLAIM OF COMPARABLE INSULINS SUPPLIED TO MEDICAID PATIENTS

Ivanova JI[1], Foster S[2], Desai U[3], Hayes-Larson E[1], King S[3], Birnbaum HG[3], Swindle R[2]
[1]*Analysis Group, Inc., New York, NY, USA,* [2]*Eli Lilly and Company, Indianapolis, IN, USA,* [3]*Analysis Group, Inc., Boston, MA, USA*

OBJECTIVES: To compare units per day per claim (units) and costs per day per claim (costs) of comparable insulin products by Eli Lilly and Company (LLY) and Novo Nordisk (NN), adjusting for baseline patient differences, in state Medicaid claims data. **METHODS:** Claims for comparable LLY or NN insulin for patients with continuous coverage for ≥6 months before their first observed insulin claim (baseline) were identified from Missouri (MO: 1/1/2011-3/31/2012) and New Jersey (NJ: 1/1/2011-3/31/2013) de-identified Medicaid claims data. Units were calculated by multiplying total quantity per claim (in mL) by strength (1 mL=100 units) and dividing by total days supplied. Costs were calculated (for patients aged <65 years only, because drug costs for those aged ≥65 years are often covered by Medicare rather than Medicaid) by dividing the cost of a claim to insurers by total days supplied. Regression-adjusted units and costs were estimated using generalized estimating equation models, accounting for baseline demographics, select comorbidities, and antidiabetic medication use. **RESULTS:** Claims for 23,325 MO and 9,749 NJ Medicaid patients were analyzed. Compared with NN insulin users, LLY insulin users were significantly younger, had lower rates of comorbidities, and higher rate of baseline insulin use. The regression-adjusted units for all comparable LLY and NN insulins were similar, with the exception of significantly lower units for insulin lispro (MO only: 67.6 vs. 73.2, P=0.0009) and LLY human insulin regular vials (MO: 65.4 vs. 78.3, P<0.0001; NJ: 45.3 vs. 50.3, P=0.0365). The regression-adjusted overall cost was significantly lower for comparable LLY vs. NN insulin (MO: $5.7 vs. $6.1, P=0.0046; NJ: $4.6 vs. $5.5, P<0.0001). **CONCLUSIONS:** In both MO and NJ Medicaid, the units of comparable LLY and NN insulins in years evaluated were similar for patients with similar characteristics; however, the overall cost was significantly lower for comparable LLY vs. NN insulin.

PDB132

EXPENDITURE AND UTILIZATION TRENDS OF THE ANTIDIABETIC AGENTS IN QATAR (2007-2012)

Al-Badriyeh D[1], Fares H[1], Alokka M[1], Fahey M[2]
[1]*College of Pharmacy, Qatar University, Doha, Qatar,* [2]*Hamad Medical Corporation, Doha, Qatar*

OBJECTIVES: In Qatar, over 20% of the population has diabetes. While this is considerable and is associated with a high consumption of antidiabetic drugs, there does not seem to be any published reports discussing the utilization and expenditure of antidiabetics in Qatar. This project sought to assess the trends of utilization and expenditure of antidiabetic drugs at Hamad Medical Corporation (HMC), the major health provider in Qatar, over time. **METHODS:** The study was from the HMC perspective, retrospectively obtaining antidiabetics utilization and expenditure data from HMC drug utilization database (2007-2012). Defined Daily Doses were used as the utilization unit. Data were organized according to drug, drug concentration, drug class, hospital, and year. Descriptive statistics were used to illustrate distributions of variables, and cross-tabulation was used to provide comparison of frequency data, used to generate data tables and charts as appropriate. **RESULTS:** The utilization and expenditure of antidiabetic drugs increased over time. The increase in utilization seems to have been consistent with the increase in population. The expenditure trend however, is considerably higher. Sulfonylurea and biguanide drug classes were utilized the most, whereas Dipeptidylpeptidase-inhibitors were associated with the highest expenditure. Out of eight hospitals in HMC, Hamad General was the hospital that utilized drugs the most. This was consistent with antidiabetics expenditures at the different hospitals Of combination therapies in use, rapid-acting and intermediate-acting insulin combination was increasingly the most utilized. **CONCLUSIONS:** Expenditure trends are considerably over the increasing utilization and population trends, possibly indicating that the cost of drugs is not a priority consideration in drug selection and formulary inclusion at HMC.

PDB133

TREND OF THE UTILIZATION AND COST OF PRESCRIPTION MEDICATIONS AMONG DIABETES PATIENTS IN THE UNITED STATES: 1987 TO 2010

Zhuo X
Centers for Disease Control and Prevention, Atlanta, GA, USA

OBJECTIVES: Management of A1c (A), blood pressure (B) and cholesterol (C) levels is essential to reduce the risk of diabetic complications. In the past two decades, the results of landmark trials have led to increasingly aggressive treatment regimens and thus more intensive use of glucose-lowering, anti-hypertensive and lipid-lowering medications for patients. We examined the trends of the use and cost of the three types of drugs among diabetes patients in the U.S. between 1987 and 2010. **METHODS:** Using the 1987 National Medical Expenditure Survey (n=22538), and the Medical Expenditure Panel Survey in years 1997-98 (n=57652) and 2009-10 (n=44815), we estimated the utilization and expenditures of ABC-control-related prescription medications among self-reported diabetes patients at the 3 time points. Within each drug type, usage was measured by the number of medication classes patients received, the share of each class and the total number of prescription medication encounters. Cost was measured by the payments from all payers, and presented in 2012 dollars. **RESULTS:** Between 1987 and 2010, the number of glucose-lowering encounters per patient nearly doubled. Patients used more varied classes. Usage of insulins and sulfonylureas declined from 38.7% and 67% to 29.9% and 35% respectively; Usage of initially unavailable medication classes – metformin, thiazolidinediones and DPP-4 inhibitors – increased to 59.2%, 14.5% and 9.5%, respectively, in 2010. The patients that received ≥2 classes of glucose-lowering medications increased from 6% to 44%. Similar trends were observed for the other two drug types. The annual medical spending on glucose-lowering, anti-hypertensive and lipid-lowering drugs increased from $131 to $1,009, $62 to $647 and $146 to $449, respectively. **CONCLUSIONS:** Usage and cost of medications for ABC control among diabetes patients increased substantially in the past two decades. Future studies may consider the impact of these increases on adherence and long-term outcomes.

PDB134

THE IMPACT OF MEDICARE PART D ON DIABETES DRUG USE AND EXPENDITURES

Bonakdar Tehrani A
Virginia Commonwealth University, Richmond, VA, USA

OBJECTIVES: To determine the extent to which Medicare Part D affect diabetes drug use and expenditures among different racial groups in the United States. **METHODS:** The Medical Expenditure Panel Survey data files from 2001 to 2010 were used to examine changes in diabetes drug use and out-of-pocket expenditures after Part D implementation. I employ Difference-in-Difference (DD) methodology to compare racial differences in diabetes drug use and expenditures before and after 2006 for diabetic seniors who are covered by Part D. In other words, I compare people 65 years of age and older before and after Medicare Part D implementation to find the extent to which average diabetes drug use and expenditures have changed. **RESULTS:** The results demonstrate that after Part D implementation diabetes drug expenditures significantly decreased for all senior participants on average by $199, and average diabetes drugs filled during the year increased by 0.2 but was not significant. Although the results show that overall diabetes drug expenditures significantly decreased for minorities by $159, DD estimates show that Part D increases diabetes drug expenditures and decreases average diabetes drug use among minorities 65 years of age and older compared to whites by $42. **CONCLUSIONS:** The findings demonstrate that Medicare Part D significantly reduces out-of-pocket expenditures and increases diabetes drug use, however, African-Americans and Hispanics do not benefit from this reduction. In other words, Part D did not reduce racial disparities in diabetes drug expenditures. Additionally, Part D did not have any significant effect on diabetes drug use.

PDB135

CLINICAL AND DEMOGRAPHIC CHARACTERISTICS OF PEOPLE WITH TYPE 2 DIABETES MELLITUS (T2DM) INITIATING CANAGLIFLOZIN FROM A UNITED STATES MANAGED CARE SAMPLE

Martin S[1], Henk H[2], Chow W[1]
[1]*Janssen Scientific Affairs, LLC, Raritan, NJ, USA,* [2]*OptumInsight, Eden Prairie, MN, USA*

OBJECTIVES: Canagliflozin (CANA) is the first sodium glucose co-transporter 2 inhibitor to be approved to treat adults with T2DM in the US. This study describes the early prescription pattern of patients receiving CANA in routine clinical practice. Clinical and demographic characteristics as well as treatment history are summarized. **METHODS:** This retrospective cohort study used data from a large US health plan for commercial and Medicare Advantage enrollees with T2DM filling a prescription for CANA between market entry on April 1 and June 30, 2013. Analysis included demographics, first observed dosage, prescribing specialty, antihyperglycemic agents (AHAs) preceding a CANA prescription, and A1C level proximal to initiation, where available. The diabetes complications severity index (DCSI) was used to capture baseline health status. **RESULTS:** In this sample of patients receiving CANA (n=1088), 44% were female, geographically skewing toward the South (62%). The average age was 56 years. Approximately 48%, 30%, 5% of CANA prescriptions could be attributed to primary care physicians, endocrinologists, and other specialties, respectively, with the remainder unknown. The most common CANA dose was 100mg (71%). The mean (SD) number of other T2DM drug classes at baseline was 1.66(1.10) with oral AHA (41%) and GLP-1 (17%) being the most common pre-treatment monotherapies and oral AHA or GLP-1 plus insulin (31%) the most common pre-treatment dual therapy. For patients with available lab data (N=350), 32% had baseline A1C >9%, 38% had 7.5 to ≤9%, 20% had 6.5 to <7.5%, and 10% had <6.5%. The mean (SD) DCSI was 0.75(1.11); 56% had a zero DCSI value at baseline. **CONCLUSIONS:** This study characterizes patients treated in routine clinical practice immediately after CANA became available in the US. This early prescription pattern indicates CANA was prescribed by primary care physicians and endocrinologists across a range of A1C levels and following a variety of AHAs.

PDB136

MEDICATION USE AND TREATMENT PATTERNS OF GLUCAGON-LIKE PEPTIDE-1 RECEPTOR AGONIST THERAPY IN TYPE 2 DIABETES MELLITUS

Johnston SS[1], Nguyen H[2], Felber E[2], Cappell K[1], Nelson J[1], Chu BC[3], Kalsekar I[2]
[1]*Truven Health Analytics, Bethesda, MD, USA,* [2]*Bristol-Myers Squibb, Plainsboro, NJ, USA,* [3]*Truven Health Analytics, Santa Barbara, CA, USA*

OBJECTIVES: To compare medication use and treatment patterns of glucagon-like peptide-1 receptor agonists (GLP-1RAs) among type 2 diabetes mellitus (T2DM) patients newly initiating exenatide once weekly (exenatide QW), exenatide twice daily (exenatide), or liraglutide. **METHODS:** This administrative claims-based retrospective cohort study included patients if they had T2DM, were GLP-1RA-naïve, initiated a GLP-1RA between 2/1/2012-1/31/2013 (initiation date=index), were aged ≥18 years, and had continuous enrollment for 12 months before (baseline) to 6 months after index (follow-up). Outcomes included index GLP-1RA adherence (proportion of follow-up days covered, dichotomized at ≥90% vs. <90%) and non-persistence (switch to non-index GLP-1RA or gap ≥60 days in index GLP-1RA during follow-up). Multivariable regressions (logistic for adherence, Cox proportional hazards for persistence) compared outcomes among index GLP-1RAs, adjusting for potential confounders. Pre-specified sensitivity analyses were performed stratifying by liraglutide 1.2mg and liraglutide 1.8mg and among patients with ≥60 days' supply of their index GLP-1RA within ≤67 days after index (initial adherers). **RESULTS:** Samples included 4,041 exenatide QW, 4,586 exenatide, and 14,211 liraglutide patients. Compared with other GLP-1RAs, exenatide QW had significantly higher multivariable-adjusted odd ratios of index GLP-1RA adherence in all analyses (ranging from 0.299 [p<0.001] for exenatide vs. exenatide QW among initial adherers to 0.693 [p<0.001] for liraglutide 1.2mg vs. exenatide QW among initial adherers). The multivariable-adjusted hazard ratios of index GLP-1RA non-persistence var-