and a moderate increase in A10BD (Biluand sulfonylamides in combination) in 2001 (0.07) and in 2006 (1.41) in term of DID can be seen from this analysis. Financial expenditures for antidiabetics were (in 1996 (€7,72,000), in 2001 (€18,169,000) and in 2006 (€26,541,000). CONCLUSION: Inseparable components of the Slovak drug policy must be viewed realistically with regard to the antidiabetics’ consumption. Adherence to principles of diabetes mellitus treatment’s guidelines lead to fundamental short and long term financial savings within health care systems.

METHODS: Patients receiving various insulin formulations and mixtures throughout 2006 were investigated via a prescription transaction-level retrospective database that captured 50% of all retail dispensing activity within the U.S. Analyses focused upon the coverage gap and catastrophic coverage within standard beneficiaries regarding: 1) the number of patients entering; 2) the month of entry; and 3) medication expenditures. RESULTS: Overall, 324,430 Medicare beneficiaries received an insulin regimen in 2006, consisting of 41% dual-eligibles (n = 131,611), 32% low-income subsidiaries (n = 105,151), and 27% standard beneficiaries (n = 87,668). Across all coverage groups, oral antidiabetic agents and insulin comprised 66–72% of monthly drug expenditures. Of those potentially being exposed to a coverage gap, 46% reached the ‘doughnut hole’ (12% of all Part D beneficiaries) and 12% entered catastrophic coverage (3% of all Part D beneficiaries). Among the near 55,300 standard beneficiaries (63% of 87,668) enrolling in Part D by March 2006, prescription expenditures peaked in the month prior to entering the coverage gap, followed by an immediate 20–25% drop in the month thereafter. Decreased expenditures broadly corresponded to a decrease in the number of diabetes agents dispensed. CONCLUSION: This analysis found that 46% of all insulin-treated patients covered by the Medicare Part D standard benefit (12% of all Part D beneficiaries) were exposed to the coverage gap in 2006, characterized by a shifting of full financial responsibility to beneficiaries for outpatient medications. Entry was followed by a 20–25% decrease in expenditures and, more generally, in the number of diabetes agents received. These findings warrant continued evaluation of coverage policies and any subsequent cost-shifting or deferrals in care that may occur, particularly for chronic diseases.

OBJECTIVE: In the treatment of type 2 diabetes (T2D), achieving glucose control often requires multiple therapies. The class of antidiabetic agents called incretin mimetics offers an alternative mechanism to diabetes management. This work describes the baseline demographic and clinical characteristics of a T2D population in a primary care setting before they initiated treatment with the incretin mimetic, exenatide. METHODS: Patients were extracted from the General Electric (GE) electronic medical record (EMR) database from January 1, 2000 through June 30, 2007. Patients with T2D (diagnosis, oral antidiabetic drug prescription, two consecutive fasting blood glucose levels ≥126 mg/dL, or A1C ≥7.0%) were identified, as were those with at least one prescription for exenatide. Using these data, descriptive statistics were calculated for these populations. RESULTS: Of the 11,601 patients with a prescription for exenatide, nearly all had T2D (96%). A total of 7,325 of the patients with a prescription of exenatide were ≥18 years of age and had at least 395 days of records prior to the index date. Compared to the 510,623 T2D patients on other treatments with these same age and records restrictions in the GE EMR, those patients on exenatide were significantly heavier (204.2 lbs vs. 244.2 lbs (p < 0.001)) with higher BMI (32.9 kg/m² vs. 38.7 kg/m² (p < 0.001)). A larger percentage of the exenatide population was obese or extremely obese than the population on other treatments (89% vs. 61% (p < 0.001)). The portion of the exenatide population with baseline A1C ≥9.0 was higher than that of the population on other treatments (56% vs. 12% (p < 0.001)) and, compared to the total, exenatide patients had significantly higher mean A1Cs (7.2% vs. 8.1% (p < 0.001)). CONCLUSION: These results suggest that exenatide is being added to T2D treatment regimens in obese patients with relatively high A1C levels to achieve better diabetes control.

METHODS: Using the MarketScan Research Database, commercially insured patients were selected who initiated insulin therapy with analog or human insulins in combination) in 2001 (0.07) and in 2006 (1.41) in term of DID can be seen from this analysis. Financial expenditures for antidiabetics were (in 1996 (€7,72,000), in 2001 (€18,169,000) and in 2006 (€26,541,000). CONCLUSION: Inseparable components of the Slovak drug policy must be viewed realistically with regard to the antidiabetics’ consumption. Adherence to principles of diabetes mellitus treatment’s guidelines lead to fundamental short and long term financial savings within health care systems.

AN ASSESSMENT OF THE IMPACT OF THE COVERAGE GAP UPON MEDICARE PART D BENEFICIARIES UTILIZING INSULIN

Skrepnek GH1, Denarie MP2, Conner C3, Forma FM3
1University of Arizona, Tucson, AZ, USA, 2IMS Health Inc, Plymouth Meeting, PA, USA, 3Novo Nordisk Inc, Princeton, NJ, USA

OBJECTIVE: To assess the extent of, exposure to, and medication expenditure trends associated with insulin-treated patients reaching the Medicare Part D standard beneficiary prescription coverage gap (i.e., ‘doughnut hole’) and catastrophic coverage.

COMPARISON OF HEALTH CARE UTILIZATION AND COSTS IN TYPE 2 DIABETES PATIENTS INITIATING ANALOG AND HUMAN INSULINS

Margolis J1, Johnson BH2, Chu BC3, Forma F4, Alemayehu B5
1Thomson Healthcare, Washington, DC, USA, 2Thomson Healthcare, Cambridge, MA, USA, 3Thomson Healthcare, Santa Barbara, CA, USA, 4Novo Nordisk Inc, Princeton, NJ, USA

OBJECTIVE: Use of adjunctive insulin therapy with oral anti-hyperglycemic agents in patients with type 2 diabetes (T2D) has been growing in the US following demonstration in the U.K. Prospective Diabetes Study that intensive therapy regimens increased glycemic control and reduced microvascular complications. The primary objective in this study was to compare the effect of analog insulin with human insulin usage on all-cause and diabetes-attributable direct health care costs and utilization in patients with type 2 diabetes. METHODS: Using the MarketScan Research Database, commercially insured patients were selected who initiated insulin therapy with analog or human insulins during 2001–2005, had no insulin claims 12 months prior to starting therapy, and were stratified according to their therapy regimen in 2006, consisting of 41% dual-eligibles (n = 131,611), 32% low-income subsidiaries (n = 105,151), and 27% standard beneficiaries (n = 87,668). Across all coverage groups, oral antidiabetic agents and insulin comprised 66–72% of monthly drug expenditures. Of those potentially being exposed to a coverage gap, 46% reached the ‘doughnut hole’ (12% of all Part D beneficiaries) and 12% entered catastrophic coverage (3% of all Part D beneficiaries). Among the near 55,300 standard beneficiaries (63% of 87,668) enrolling in Part D by March 2006, prescription expenditures peaked in the month prior to entering the coverage gap, followed by an immediate 20–25% drop in the month thereafter. Decreased expenditures broadly corresponded to a decrease in the number of diabetes agents dispensed. CONCLUSION: This analysis found that 46% of all insulin-treated patients covered by the Medicare Part D standard benefit (12% of all Part D beneficiaries) were exposed to the coverage gap in 2006, characterized by a shifting of full financial responsibility to beneficiaries for outpatient medications. Entry was followed by a 20–25% decrease in expenditures and, more generally, in the number of diabetes agents received. These findings warrant continued evaluation of coverage policies and any subsequent cost-shifting or deferrals in care that may occur, particularly for chronic diseases.
were significantly lower compared to human insulin only patients ($20,709, p < 0.001) and those receiving both analog and human insulins ($28,679, p < 0.001). Inpatient visits, length of stay, emergency visits, and clinic visits were also significantly lower (p < 0.001) for analog-only patients. Hypoglycemia-related costs and utilization and overall diabetes-related utilization followed the same patterns. CONCLUSION: Patients receiving only analog insulin had higher insulin costs but lower post-index total health care costs and utilization, whether all-cause or diabetes-related, compared to patients receiving human insulin or a combination of analog and human insulins.

**PDB70**

**IMPACT OF ANEMIA ON HOSPITALIZATION COSTS IN PATIENTS WITH DIABETES AND CHRONIC KIDNEY DISEASE**

Laliberte F1, Bookhart B2, Corral M3, Duh M$^3$, Bailey R2, Lefebvre P1

1Groupe d’analyse, Ltee, Montreal, QC, Canada, 2Ortho Biotech Clinical Affairs, LLC, Bridgewater, NJ, USA, 3Analysis Group, Inc, Boston, MA, USA

**OBJECTIVE:** Anemia is a well known complication associated with CKD. However, there are little data regarding its association with hospitalizations. The purpose of this study was to investigate whether anemia is associated with increased hospitalization costs in patients with diabetes and chronic kidney disease (CKD).

**METHODS:** An analysis of medical claims and laboratory data between January 2000 and February 2006 from over 45 health plans contributing to the Ingenix Impact National Managed Care Database was conducted. Inclusion criteria were $\geq$2 hemoglobin (Hb) values, $\geq$2 claims (within a 90-day period) for diabetes mellitus preceding $\geq$1 claim for CKD and $\geq$2 glomerular filtration rate values of $<60$ mL/min/1.73 m², and not yet on dialysis. Patients were excluded if they had cancer or lupus, received organ transplantation or chemotherapy, or were treated for anemia with an erythropoiesis-stimulating agent or blood transfusions. An open-cohort design was used to classify patients into observation periods of anemia (Hb < 11 g/dL), within the K/DOQI treatment recommendations, and non-anemia, which allowed for changes in anemia status over time. Both univariate and multivariate analyses were conducted to compare periods of anemia and non-anemia for average yearly hospitalization costs.

**RESULTS:** A total of 708 patients with diabetes and CKD formed the study population. Mean age was 65 years; 44% women. Anemia was associated with a significant increase in hospitalization costs, with an unadjusted incremental yearly cost of $17,072 (anemia: $25,342; non-anemia: $8270; p < 0.001) relative to non-anemia. The majority of hospitalizations (57%) were related to cardiovascular disease, with anemia increasing the cost of cardiovascular-hospitalizations by $8647 (anemia: $13,723; non-anemia: $5076; p < .001). After controlling for covariates, anemia remained significantly associated with a hospitalization cost increase. CONCLUSION: The current study based on real-life practice data demonstrated that anemia in patients with diabetes and CKD was associated with a significant increase in hospitalization costs.

**PDB71**

**EVALUATION OF ECONOMIC OUTCOMES, ADHERENCE, AND GLYCEMIC CONTROL FOR DIABETIC PATIENTS IN A PHARMACIST-RUN MEDICATION MANAGEMENT PROGRAM**

Hanson KA1, Prasla K2, Godley PJ1, Tabor T1, Juan J1, Rascati KL3, Klein MS1

1Scott and White Health System, Temple, TX, USA, 2Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA, 3The University of Texas at Austin, Austin, TX, USA

**OBJECTIVE:** To measure the effects of a pharmacist-run medication management program on medication adherence, glycemic control, and total health care expenditures. **METHODS:** Scott & White Health Plan (SWHP) claims data were evaluated to identify high-risk diabetics aged 18–63 years, defined as those who demonstrate poor glycemic control (HbA1c >7.5%) and utilized $\geq$600 of prescription medications the year prior to study enrollment. A control group was identified who met the same inclusion criteria, but who were not invited to the program due to geographic constraints. Medical utilization costs were analyzed beginning one year prior to study enrollment and included inpatient, outpatient, emergency department, and prescription costs. Health system charges, standardized to 2006 dollars, were used as a surrogate for costs. Intervention costs were estimated from pharmacists’ wage rates. Medication adherence was calculated as medication possession ratio (MPR) of oral antidiabetic agents. HbA1c results were analyzed to determine glycemic control.

**RESULTS:** Analysis of 46 subjects and their matched controls one year after program implementation showed positive trends, although none of the results were statistically significant. The mean MPR for the intervention group increased from 0.69 to 0.79, while there was no change from a baseline of 0.64 for controls [p = 0.24]. Intervention patients demonstrated a greater improvement (9.5% to 8.2%) in HbA1c than controls (9.5% to 8.7%) [p = 0.15]. Although total monthly health care costs increased in both the intervention ($1448 to $1756; difference = $308 ± $2016) and control groups ($1089 to $1745; difference = $656 ± $2641) [p = 0.46], the increase was lower in the intervention group.

**CONCLUSION:** Patients in the intervention group trended toward better medication adherence and a greater decline in HbA1c than controls. We expect the trend of cost savings will continue and strengthen in the future due to long-term benefits associated with sustained glycemic control.

**PDB72**

**THE NEED FOR EARLIER INSULIN INITIATION AND INTENSIFICATION AMONG PATIENTS WITH TYPE 2 DIABETES: EVIDENCE FROM HEALTH CLAIMS AND LABORATORY DATABASE**

Sarpong EM1, Durden ED2

1Eli Lilly and Company, Indianapolis, IN, USA, 2Thomson Medstat, Cambridge, MA, USA

**OBJECTIVE:** Patient and provider “psychological insulin resistance” can contribute to a delay in initiation of insulin therapy in patients with type 2 diabetes (T2DM). Consequently, by the time patients initiate insulin, complications may have already developed. If patients initiate insulin but therapy is not intensified to reach glycemic goal (HbA1c 7%), the ability to prevent or delay complications may be compromised. The objective of this study was to determine differences in the incidence of complications of diabetes between patients with HbA1c <7% and those with HbA1c ≥7%. **METHODS:** US health claims and clinical laboratory data from 2003–2005 were used to identify and stratify patients by mean HbA1c (controlled 7% vs. sub-optimally controlled 7%) for analysis. Cohort was limited to...