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OBJECTIVES: As Type 2 Diabetes (T2D) progresses oral hypoglycaemic agents (OHAs) alone fail to maintain blood glucose control and insulin is required. LAPTOP was a multi-national study comparing the addition of once daily insulin glargine (IG, Lantus Solostar) to glimepiride and metformin with twice daily 30% regular/70% human NPH insulin (Actraphane 30) without any additional OHAs in 371 T2D patients over a 24 week period. IG plus OHAs was significantly more effective in lowering HbA_{1C} (−1.64% vs −1.31%). A cost minimisation analysis was undertaken using LAPTOP data to compare the costs of the 2 regimens. **METHODS:** The analysis was undertaken from a UK NHS perspective with prices from MIMS November 2010. Cost estimates were based on the use of non-proprietary OHAs and IG and biphasic insulin aspart (BIA, NovoMix 30 FlexPen) prefilled disposable injection devices. It was assumed a new needle, lancet and blood glucose test strip were used for each injection with a 2U priming dose of insulin before each injection. **RESULTS:** Costs were calculated over the 24 week study period. The total cost of drugs per patient on IG plus OHAs was slightly lower than BIA at £130 and £167 respectively despite no OHA use in the BIA group (final mean insulin doses at 24 weeks IG 28.2U and BIA 64.5U). The cost of needles, lancets and test strips was much lower for IG plus OHAs at £76 compared with £152 for the BIA group. Overall the cost per patient for 24 weeks for the IG plus OHAs group was £206 compared with £319 for BIA, a difference of 35%. Sensitivity analyses replacing disposable with reusable pens and BIA by other biphasic insulins gave similar results to the base case. **CONCLUSIONS:** In comparison with biphasic insulin the cost of IG plus OHAs was 35% less to achieve an equivalent reduction in HbA_{1C}.

PDB23

THE IMPACT OF TREATMENT MODIFICATION ON HEALTHCARE EXPENDITURE IN PATIENTS WITH TYPE-2 DIABETES INITIATING EXENATIDE BID OR INSULIN GLARGINE

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OBJECTIVES: To examine the impact of treatment modifications on healthcare expenditure for patients with type 2 diabetes (T2D) initiating exenatide BID (exenatide) or insulin glargine. **METHODS:** A retrospective database analysis comprised of adult patients with T2D who initiated exenatide (N=9197) or insulin glargine (N=4499) between 10/01/2006 and 03/31/2008 with 12 months pre- and 18 months post-index continuous enrollment. The 2 cohorts were 1:1 propensity score matched on baseline demographics, clinical, and resource utilization variables. Treatment modification was defined as the first event intensification, switching, or discontinuation of the index medication. The mean healthcare expenditures in all patients and those experiencing treatment modifications were estimated using multivariate regression. **RESULTS:** Baseline characteristics of patients on exenatide (n=3774) and glargine (n=3774) were well balanced after matching with mean age of 57 years, mean Deyo Charlson Comorbidity score of 1.6, and proportionately more males (54%) in both cohorts. Glargine-treated patients were 33% more likely to modify their treatment than exenatide-treated patients (Hazard Ratio [HR]: 1.33, p<0.0001). Compared to exenatide-treated patients, glargine-treated patients were more likely to intensify (HR=1.72, p<0.0001), or discontinue their treatment (HR=1.25, p<0.0001), but less likely to switch to new therapy (HR=0.71, p<0.0001). Mean healthcare expenditure was significantly lower for exenatide compared to glargine after 18 months (difference = $1667, p<0.0001). Exenatide-treated patients who continued their treatment had significantly lower expenditure of $1546 (p<0.005) and those who intensified their therapy also had significantly lower expenditure of $2472 (p<0.001). There were no significant differences in expenditure for patients who switched or discontinued their therapy. **CONCLUSIONS:** The likelihood of treatment modification and mean total healthcare expenditure varied for patients initiating exenatide or glargine in real-world settings. Exenatide-treated patients had lower mean healthcare expenditure compared to glargine-treated patients. Exenatide-treated patients who continued or intensified their therapy also had associated reduction in medical expenditure.

PDB24

DIRECT HEALTHCARE AND INDIRECT WORKLOSS COSTS ASSOCIATED WITH THE ADDITION OF ROSIGLITAZONE (RSG) VERSUS SITAGLIPTIN (STG) THERAPY TO METFORMIN (MET)

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OBJECTIVES: We compared healthcare resource utilization (HRU) and costs associated with add-on therapy of RSG versus STG to MET. **METHODS:** Type II diabetes mellitus patients, ≥18 years, initiating RSG or STG (first dispensing = index date) add-on therapy with MET were identified in the PharMetrics database (1999-2008). Patients were continuously enrolled for ≥6 months pre-index (baseline) and 12 months post-index, had ≥1 dispensing for MET in the 6-month pre-index period, did not use insulin or sulfonylurea, and were treated with RSG+MET before 05/01/2007 or STG+MET for ≥6 months post-index. All-cause and diabetes-related HRU and annual costs ($2008) were reported for the 12-month follow-up period. Workloss costs were estimated by applying hourly wage from the Bureau of Labor Statistics to missed work hours (hospitalization=8 hours; outpatient/emergency room [ER] visit=4 hours). Multivariate analyses were conducted, adjusting for baseline demographics, comorbidities, and costs. **RESULTS:** Compared to STG+MET cohort (N=1,660) at baseline, RSG+MET cohort (N=3,731) was younger (55 vs. 58 years) with fewer comorbidities (Charlson Comorbidity Index [0.26 vs. 0.34]), and had lower total costs (RSG+MET: $7,875; STG+MET: $9,412; cost difference=$1,536, p=0.0043). Frequency and costs of hospitalizations and ER visits were not different at baseline. In the 12 months post-index period, all-cause HRU and corresponding annual cost difference between RSG+MET and STG+MET cohorts was enlarged (RSG+MET: $8,443; STG+MET: $10,757; cost difference=$2,314, p<0.0001). After adjusting for covariates, the cost decrease associated with RSG+MET remained statistically significant (cost difference=$1,248; cost ratio=0.87; P=0.0120). Diabetes-related adjusted incremental cost saving of RSG+MET over STG+MET was $599 (cost ratio=0.83, P=0.0160). The adjusted workloss cost was also lower for RSG+MET compared to STG+MET (cost difference=$22, cost ratio=0.93; P=0.0120). **CONCLUSIONS:** Compared to the new DPP-4 agent STG combined with MET, RSG, a thiazolidinedione, combined with MET was associated with lower all-cause and diabetes-related direct healthcare costs and indirect workloss costs.

PDB25

COST OF ALL-CAUSE AND CARDIOVASCULAR DISEASE-RELATED HOSPITALIZATION IN PATIENTS WITH TYPE-2 DIABETES TREATED WITH EXENATIDE BID, SULFONYLUREAS, OR INSULIN: A RETROSPECTIVE ANALYSIS OF THE LIFELINK DATABASE

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OBJECTIVES: To assess the cost of all-cause or cardiovascular disease-related hospitalization in a real world setting among patients with type 2 diabetes prescribed exenatide, a GLP-1 receptor agonist, compared to patients treated with sulfonylureas or insulins. **METHODS:** Analyses included patients in the LifeLink™ database initiating a new prescription for a glucose-lowering agent between June 1, 2005 and March 31, 2009, without a prescription for the same agent in the prior 9 months. Patients were followed for 12 months. Intention-to-treat analyses of costs of all-cause and cardiovascular disease-related hospitalization (myocardial infarction, stroke, or coronary revascularization), adjusted for differences in >300 clinical and demographic characteristics, were compared using propensity-score-weighted methods. **RESULTS:** Mean age (SD) was 53 (8) for patients treated with exenatide (n = 14,400), 55 (12) for patients treated with sulfonylureas (n = 43,242), and 52 (12) for patients treated with insulin (n = 17,627); 43.4%, 53.5%, and 49.9% of patients treated with exenatide, sulfonylureas, and insulin were male, respectively. More patients treated with exenatide were obese (17.0%) than patients treated with sulfonylureas (7.4%) or insulins (10.5%). Patients treated with exenatide were more likely to have hyperlipidemia (67.9%) than patients treated with sulfonylureas (49.9%) or insulins (50.2%). Patients treated with exenatide had significantly lower mean (SD) all-cause hospitalization costs than patients treated with sulfonylureas ($2,725 + 16,463 Exenatide; $3,304 + 17,378 sulfonylureas; p <0.001) or insulin ($3,211 + 17,969 Exenatide; $4,849 + 21,110 insulin; p <0.001). Patients treated with exenatide also had significantly lower mean (SD) cardiovascular disease-related hospitalization costs than patients treated with sulfonylureas ($428 + 6,174 Exenatide; $566 + 6,047 sulfonylureas; p <0.05) or insulin ($470 + 6,841 Exenatide; $726 + 7,012, insulin; p <0.001). **CONCLUSIONS:** Exenatide treatment was associated with significantly lower costs for all-cause and cardiovascular disease-related hospitalization compared to treatment with sulfonylureas or insulin.

PDB26

ECONOMIC EVALUATION OF GLIMEPIRIDE AND GLIMEPIRIDE/METFORMIN FOR TYPE-2 DIABETES MELLITUS IN MEXICO

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OBJECTIVES: To perform an economic evaluation of the use of gliperimide (GMP) and the fixed-dose combination (FDC) of glimepiride/metformin (GMP/Met) in the treatment of patients with DM-2, from the Mexican Public Health System perspective. **METHODS:** Two Markov models were designed for reflecting different treatment sequences. Model 1 is for not controlled diet and exercise and metformin intolerant patients, where GMP is compared to glibenclamide (GBC) and thiazolidinedione (TZD). Model 2 is for patients which the lifestyle changed and the monotherapy with metformin was insufficient for reaching a level of HbA1c<7%, and a sulfonylurea/Met FDC is compared to TZD/Met. The direct costs of the drug treatment and the hypoglycemia episode were calculated. The dosage and efficacy of the oral antidiabetic agents and insulin were established based on the literature review and local practice. The unit costs were elicited from official sources. The time horizon was three years, divided in quarterly cycles. **RESULTS:** Therapy with GMP was dominant versus the treatment sequences which included a beginning therapy with thiazolidinedione. The savings after three years with GMP or GMP/Met instead of using TZD ranged from US$288.7 to US$632.1 per patient. Although GBC has a low cost, it is associated with an increase in the mortality rate and hypoglycemia events. A FDC of GMP/Met caused an incremental cost of 20% versus GBC and metformin separately. The average costs per additional life year obtain by using GMP instead of GBC ranged from US$3,074.9 to US$3,261.4. The probabilistic sensibility analysis shows that GMP and GMP/Met resulted as highly cost-effective in approximately 90% of the simulations. **CONCLUSIONS:** Glimepiride monotherapy (model 1) and the administration of GMP/Met (model 2) represent highly cost-effective health interventions regarding the use of glibencamide and it is dominant versus the use of thiazolidinedione.