Abstracts

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DIABETES

DIABETIC MANAGEMENT THROUGH ORAL GLUCOSE LOWERING AGENTS: TREATMENT PATTERN, COST AND UTILIZATION ANALYSIS
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OBJECTIVES: Assess the treatment progression of Type 2 diabetic patients taking glimepiride, glipizide xl, and/or metformin as initial monotherapy and the impact these agents have on the cost and utilization of health care services. METHOD: Medical and pharmacy claims data for 7,585 patients meeting inclusion criteria were collected from a national managed care database representing 6 million lives in 23 US health plans and 8 geographic regions over a 4 year period. Cohorts by agents were created based on diabetes type and initial treatment agent. Cost and utilization analysis included evaluation of patients by age, gender, geographic region, type of medical service and provider speciality. Diagnosis codes were used to differentiate between all health care services and disease related services. Treatment analysis evaluated treatment progression, compliance with therapy and dose progression. Treatment efficacy and practice patterns in five possible outcomes were defined for each cohort. RESULTS: The highest proportion of patients in each cohort remained on the initial therapy. Combination therapy was the most frequent therapeutic choice for patients failing monotherapy. Evaluation of the maximum daily dose (MDD) showed patients who were switched to an alternate agent of the same class reached 41–48% of MDD, a different class 49–57% MDD and combination therapy 57–72% MDD. Compliance was consistent. The combination therapy cohorts tended to have significantly higher (p < .05) pharmacy costs than the monotherapy cohorts. The study did not conclusively support differences in medical costs between the cohorts. CONCLUSION: Therapy in all cohorts changed before MDD of the original agent was attempted. Patients in each cohort progressed to insulin monotherapy without a recommended trial of combination agents. Although pharmacy and medical costs influence the total cost of diabetic care, there was no significant difference in medical costs identified. Cost differences were driven by pharmacy costs.
zone or rosiglitazone for at least 4 consecutive months between 1/1/1999 and 6/30/2000. RESULTS: All three TZDs show similar prescription patterns, even though both newer TZDs are approved as monotherapy and troglitazone was not. The combination of TZD and sulfonylurea occurred most commonly (troglitazone 28%, pioglitazone 26% and rosiglitazone 30%), followed by monotherapy (troglitazone 20%, pioglitazone 23% and rosiglitazone 23%). Combination with insulin (troglitazone 20%, pioglitazone 19% and rosiglitazone 16%) ranked third for all. CONCLUSIONS: Our results suggest that pioglitazone and rosiglitazone are prescribed in a manner similar to troglitazone. This suggests that physicians should be particularly vigilant for drug interactions between sulfonylureas and TZDs, as well as for additive drug toxicities between from these drugs. This analytic approach could be expanded to other drugs frequently used in patients with type II diabetes, particularly antihypertensives, drugs for congestive cardiac failure and antihyperlipidemics.

THE BURDEN OF ILLNESS OF DIABETES MELLITUS TYPE 2 IN GERMANY— A PILOT STUDY
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OBJECTIVES: A study was performed to assess the costs of diabetes mellitus type 2 considering costs for co-morbidities and diabetes related complications in Germany. The main objective of this cross-sectional study was to describe the cost structure of the treatment of diabetes mellitus type 2. The study focuses particularly on costs for oral antidiabetic treatment. METHODS: The resource utilization of a population of 201 diabetes mellitus patients with type 2 diabetes was retrospectively documented over a period of 2 years in a cross-sectional study. The documentation was performed by general practitioners (GPs) and diabetologists across Germany. Only direct costs were considered (perspective from statutory health insurances). Subgroups were analysed considering diabetes related macro- and microvascular complications. Costs were analysed taking the perspective of the statutory health insurance into consideration. RESULTS: Total costs of 201 patients suffering from diabetes mellitus type 2 amounted to DM 1,477,061 over a period of two years, which translates into DM 7,349 per patient. Costs per year were DM 3,674 with a maximum of DM 63,915. The largest cost-driving factor is the hospitalisation representing 34.1% of the total costs followed by drug acquisition costs (20.4%). Patients treated with insulin cause the 3.5 times higher costs than patients treated with oral drugs. The amount of costs also correlates with the complication status and the duration of diabetes. The lowest costs are caused by patients treated with oral antidiabetic drugs and/or diet and without complications. CONCLUSION: The highest costs were caused by patients with a high complication status, a long duration of diabetes and those treated with insulin. This result emphasises the necessity of an early treatment of diabetes mellitus type 2 preventing expensive diabetes related long-term complications e.g., myocardial infarction, stroke, diabetic foot lesion or dialysis.

COST-EFFECTIVENESS AND CARDIOVASCULAR RISK—AN ANALYSIS OF ROSIGLITAZONE COMPARED WITH OTHER ORAL HYPOGLYCEMIC AGENTS IN THE TREATMENT OF TYPE 2 DIABETES MELLITUS
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BACKGROUND: Avandia (rosiglitazone) is a novel insulin sensitizing agent. Compared with traditional therapies for type 2 diabetes mellitus (T2DM), it is as efficacious in lowering glycemic parameters with the additional benefit of improving insulin resistance (IR); both of these are linked to increased risk of cardiovascular (CV) events. An evaluation was conducted from a government payer perspective to explore the potential cost-effectiveness of Avandia compared with less costly generic agents, glyburide and metformin. METHODS: A Markov model was used to calculate direct medical costs and expected survival. The discount rate was 5%. Long-term outcomes were modeled based on clinical and epidemiologic studies and the 10 year UKPDS data. Costs were obtained from the manufacturer, literature, case costing and provincial sources. The base case analysis considered a 70 y.o. male with T2DM with a risk factor profile representative of the UKPDS cohort. Further analyses of patients with other combinations of CV co-morbidity were conducted to examine the range of cost-effectiveness. RESULTS: Avandia, compared to glyburide and metformin, is a potentially attractive option. In the base case Avandia was associated with the highest expected cost but also the greatest survival ($7,781 and 6.254 years); metformin the lowest cost ($3,655) and intermediate survival (6.181 years); glyburide was dominated by metformin ($3,667 and 6.1608 years); the incremental CE ratios for Avandia were $56,888 and $44,237 per LY gained vs. metformin and glyburide respectively. For patients with other clusters of risk factors, the CE ratios ranged from $6,886/LYG (4 additional CV risk factors) up to $59,947/LYG (0 additional risks). The sensitivity analyses showed that the base case results were robust. CONCLUSIONS: While acknowledging the limitations of modeling techniques, the results of this analysis suggest that Avandia, which addresses both dysglycemia and IR, may be a cost-effective alternative for T2DM compared to the conventional therapies.