OBJECTIVES: A telecommunications company, a founding member of the Leapfrog Group, undertook this study to evaluate its costs for retirees with Type-2 diabetes and the quality of care received. METHODS: Health care costs were evaluated for those with 6 months continuous enrollment prior to, and 12 months after, an initial Type 2 diabetes medical service noted in a claims database. Vascular complications (cardio-, cerebro-, micro- and peripheral) were grouped into a cohort hierarchy for analysis. Cost differences were estimated among groups adjusting for age, gender and severity of concurrent conditions. RESULTS: The mean age of the population (N = 9959) was 74.4 years; 50% were female. Adjusted annual costs for those without hospitalizations ranged from $4877 with no complications to $12,271 with four complications. For those with hospitalizations, adjusted annual costs ranged from $18,839 with one complication to $41,011 with 4 complications. Each group was significantly different (p < 0.001) from the no complication group. Average annual costs per beneficiary with/without hospitalizations were cardiovascular (excluding hypertension), $11,128/$22,952; hypertension, $7656/$17,927; stroke, $15,349/$25,333. No antidiabetic drug was present in 4360 (44%) beneficiaries in the 12-month period after the initial diabetes medical service. Of the 5599 prescribed an antidiabetic drug, 2072 (37%) received a sulfonylurea only; 913 (16%) received a sulfonylurea and metformin; 698 (12%) received metformin only; 566 (10%) received insulin only; and, 573 (10%) received a thiazolidinedione alone or in combination. CONCLUSIONS: Type-2 diabetes produces significant health care expenditures by an employer, its retirees and Medicare. Despite the generous prescription benefit, drug treatment patterns suggest misuse of agents with known adverse effects and underuse of agents with evidence-based therapeutic benefits. These results will support a targeted, evidenced-based, employer-sponsored intervention to improve quality-of-care and patient safety by focusing on drug treatment appropriate for the individual’s circumstances.

INCREASED HEALTH EXPENDITURES AMONG DIABETES PATIENTS ON INSULIN WITH HYPOGLYCEMIA

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OBJECTIVE: To quantify the effect of diabetes-related hypoglycemia on direct health care costs and utilization. METHODS: The sample consisted of 9162 privately insured patients that had at least 12 months of continuous enrollment between January 1, 1999 and December 31, 2001, and two or more prescriptions for diabetes-related medications within the same therapeutic class (insulin, sulfonylurea, or other oral diabetes-related medication) from Medstat’s Health Productivity and Management database. Patients were grouped into two cohorts: hypoglycemia or non-hypoglycemia depending on whether they incurred a diagnosis of hypoglycemia (ICD-9-CM 250.8, 251.1, 251.2). The sample was further sub-set to those with claims for insulin (N = 2664)—64% of the original sample. Data were gathered starting from the first evidence of a diabetes-related medication. RESULTS: The incidence of hypoglycemia did not vary significantly by age, insurance type, or region of the country. However, the hypoglycemia group had evidence of significantly increased comorbidity including renal disease (14% vs. 6%, p < 0.01), ophthalmic findings (42% vs. 30%, p < 0.01), and neuropathy (30% vs. 15%, p < 0.01), as well as a higher mean Charlson Comorbidity Index (1.20 vs. 0.75, p < 0.01). Hypoglycemia patients incurred on average twice as many hospitalizations (1.0 vs. 0.5, p < 0.01) and emergency room visits (0.8 vs. 0.4, p < 0.01) annually compared to insulin-users without hypoglycemia. Forty percent (40%) of the excess hospitalizations and 53% of the excess emergency room visits were associated with a hypoglycemia diagnosis. Hypoglycemia patients on insulin incurred twice the amount of overall health care expenditures ($28,049 vs. $14,019, p < 0.01) and three times the amount of diabetes-related health care expenditures ($14,590 vs. $5236, p < 0.01) compared to non-hypoglycemia insulin users. CONCLUSION: Hypoglycemia contributed significantly to medical care utilization and health care expenditures among patients using insulin. Analysis of the indirect costs among this population as well as investigation into hypoglycemia among diabetes patients on oral agents warrants further investigation.

THE ECONOMIC BURDEN OF TYPE 2 DIABETES MANAGEMENT BY ETHNIC GROUP IN THE TEXAS MEDICAID POPULATION

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OBJECTIVES: Diabetes disproportionately affects the poor and medically underserved minorities, populations typically served by State Medicaid programs. This study sought to assess the patterns of diabetes-related health care costs incurred by the Texas Medicaid program for Hispanics, African-Americans, and Caucasians with type-2 diabetes. METHODS: Treatment-naïve adult patients in 2000 were identified. Total costs were assessed in the 12-months following the initiation of therapy, defined as the first filling of a prescription following 6 months of no such prescription. Patient demographic and disease severity measures as well as county level variables were evaluated. To assess factors associated with treatment cost, bivariate and multivariate linear regression analyses were performed, where log transformed cost was used as a dependent variable. RESULTS: Resource utilization patterns and treatment costs of patients with type-2 diabetes differ among the race and ethnic groups studied. In the first year of diabetes management, total treatment costs for Hispanics ($7189) and ($6715) were substantially lower than for white patients ($8549). Although the difference in health care costs between Caucasians and African-Americans was mostly accounted for by demographic, clinical, and county level variability, the cost difference between Hispanics and Caucasians still persisted with regard to these factors. CONCLUSIONS: The immediate cost to care for patients with type-2 diabetes is substantial in this Medicaid population, regardless of race or ethnicity. Moreover, the differences in costs between the groups are substantial, suggesting that race- or ethnicity-related factors associated with persistence need to be addressed in optimizing early therapy.

COST-EFFECTIVENESS OF DULOXETINE VERSUS ROUTINE TREATMENT FOR PAINFUL DIABETIC NEUROPATHY IN A RANDOMIZED TRIAL FROM A SOCIETAL PROSPECTIVE

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OBJECTIVES: Painful neuropathy is a common complication of diabetic patients. The purpose of this study is to compare the cost-effectiveness of duloxetine to routine treatment in the