and acute leukemia (OR = 3.4), end-stage liver disease (OR = 2.8), renal failure (OR = 2.8), kidney transplant status (OR = 2.8), severe hematological disorders (OR = 2.4), decubitus ulcer of skin (OR = 1.9), congestive heart failure (OR = 1.9), pancreatic disease (OR = 1.7), and major depressive/bipolar/paranoid (OR = 1.7), peripheral vascular disease (OR = 1.6), and type 1 diabetes (OR = 1.4). Age, gender, and type of insurance were not significantly related to high charges. Conclusion: The most expensive DN patients spent over 50% of the total charges. The comorbidities of DN patients incurred significant treatment charges. Managing comorbidities is important for treating patients with DN.

WITHDRAWN

PDB40

PDB41

MEDICAL CARE OF PATIENTS WITH DIABETIC NEUROPATHY: IMPACT OF TYPE 1 DIABETES AND PRESENCE OF OTHER DIABETES-RELATED Complications

Zhao Y, Ye W, Boye KS, Holcombe J, Hall J, Bledsoe S, Swindle R
Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVE: Type 1 (T1D) and type 2 (T2D) diabetes are serious and costly medical conditions. Complications related to diabetes include diabetic neuropathy (DN), heart disease, kidney disease, visual impairment, depression, and amputation. Using claims data, we estimated the impact of T1D or any other diabetes-related complications on health care charges and utilization among DN patients. METHODS: Individuals who were 18–64 years old and continuously enrolled in a large US commercial plan between July 2004 and June 2006 were identified. The DN cohort was constructed by selecting patients with at least 1 DN diagnosis anytime between July 2004 and June 2005 (Year 1). We compared the prevalence of other diabetes-related complications by type of diabetes (T1D vs. T2D). Among DN patients with no or >1 other diabetes-related complications, we used multivariate regressions to assess the marginal contribution of T1D vs. T2D on Year 2 (July 2005 through June 2006) health care charges and utilization. RESULTS: The majority of DN patients (7720 out of 8665) had >1 other diabetes-related complications, and T1D accounted for 42% of the DN cohort. T1D patients had more co-morbid medical conditions than patients with T2D (7.6 vs. 6.1 among patients with no other diabetes-related complications; 13.4 vs. 10.3 among those with >1 other diabetes-related complications). The prevalence was higher for all other diabetes-related complications, except heart disease, among patients with T1D than patients with T2D. Controlling for comorbidities, patients with T1D or T2D had similar health care utilization among DN patients with no other diabetes-related complications; however, patients with T1D had significantly higher total medical charges than patients with T2D among those with >1 other diabetes-related complications. CONCLUSION: Many DN patients have T1D and other diabetes-related complications, which can have significant impact on health care charges and utilization.

PDB42

COST OF ILLNESS STUDY OF TYPE 2 DIABETES MELLITUS IN LATIN AMERICA

Gonzalez JC1, Einarson TR2, Walker JH3
1Merck Sharp & Dohme, Bogota, Colombia, 2University of Toronto, Toronto, ON, Canada, 3Brook University, Faculty of Business, St. Catharines, ON, Canada

OBJECTIVE: We previously developed an incidence-based Markov model to estimate the lifetime cost of type 2 diabetes (T2DM) in Colombia. Here, we adapted it to seven other countries, representing almost 77.9% of Latin America. To estimate the total direct and indirect lifetime costs of T2DM in Latin America. METHODS: The model was adapted to each country using country-specific epidemiologic rates and cost inputs. Due to the lack of centralized databases in this region, purchase power parity conversion factor was used. Costs in 2007 USD (adjusted using the Consumer Price Index) and outcomes were modeled over a 32-year time horizon using a 5% discount rate for both. We calculated the direct, indirect, and total cost/patient/year, then used epidemiological data to extrapolate to all persons with T2DM in each country. Costs were summed for the eight countries, then projected to Latin America, weighing by population estimates. RESULTS: Total direct costs for Latin America were $22.8 billion, indirect costs were $46.9 billion, for a total of $69.7 billion for 2007. Colombia had the lowest total cost/patient/year $847, although Venezuela had lowest direct costs ($254 versus $288) and Peru had lowest indirect costs ($547 versus $559); Mexico was highest ($1340/ patient/year); Brazil and Mexico were responsible for 63% of direct and 62% of indirect costs in Latin America. These costs differ from those estimated using a prevalence based model (direct = $10.7, indirect = $54.5, total = $65.2 billion). CONCLUSION: This study presents new tools to estimate the cost of illness for type 2 diabetes in Latin America. However, results must be considered as rough estimates and validations are required to verify them.

PDB43

DETERMINANTS OF THE ECONOMIC BURDEN OF DIABETES HOSPITALIZATIONS IN TENNESSEE

White-Means S1, Everett BL1, Brown LT1, Walker GD2, Dong Z1
1University of Tennessee Health Science Center, Memphis, TN, USA, 2University of Tennessee, Memphis, TN, USA

OBJECTIVE: Tennessee residents face a heavy economic burden of diabetes. Costs of hospitalization and treatment were $2.9 billion in 2003, with Tennessee ranking fifth among the 50 states in the prevalence of diagnosed diabetes. This study explores the factors influencing these high inpatient and outpatient hospital costs for patients with a primary diagnosis of diabetes in Tennessee. We hypothesize that total charges will be most associated with number or type of comorbidities, and also influenced by race/ethnicity, source of admission, and type of insurance. METHODS: This study utilized inpatient and outpatient files from the 2003 Tennessee Hospital Discharge Data. Regression models of log inpatient and outpatient charges were estimated for all hospitalizations with a primary diagnosis of diabetes (ICD-9 code: 250). RESULTS: As predicted, the most significant cost drivers were co-morbidities. A secondary diagnosis of diabetic ulcer added nearly $4800 to inpatient charges for diabetics, and a diagnosis of heart failure contributed an additional $2000. For outpatients, a secondary diagnosis of fluid balance disorders added $511 to total charges. Blacks, males, the elderly, and those insured by managed care plans had significantly higher inpatient charges (all p < 0.01). In contrast, blacks, females, and those with private insurance had significantly higher outpatient charges (all p < 0.01). CONCLUSION: To design strategies for decreasing the high cost of diabetic treatment, it is critical to understand the factors that induce increases in cost. The analysis revealed that of the seven most frequent co-morbidities, ulcers contributed most to the cost of diabetic hospitalizations. Complications of diabetic ulcers may have necessitated further or longer treatment, ultimately increasing charges. Thus, one strategy to reduce excessive costs of treatment is to focus on ulcer prevention among diabetics.