ences in costs between HbA1c groups were analyzed using a generalized linear model (GLM), controlling for demographics, patient severity, as well as comorbidities and complications.

RESULTS: In total, 79% of individuals in the analysis obtained good HbA1c (HbA1c of less than or equal to seven) control at some time during the post-period although only 59% of these individuals maintained this level of glycemic control for the duration of follow-up. Individuals in the fair (HbA1c greater than seven to less than or equal to nine) or poor (HbA1c greater than nine) groups had significantly higher diabetes related total medical costs compared to individuals with good glycemic control ($1641 v. $1372 per member per year [PMPY]; p < 0.05; $1705 v. $1372 PMPY; p < 0.05, respectively). CONCLUSIONS: Although initially successful at obtaining good glycemic control, a large percentage of individuals were unable to maintain such control. This is coupled with a finding of higher diabetes-related medical costs for individuals at sub-optimal levels of control. These results suggest that novel therapies which improve the capability of individuals to achieve and maintain glycemic control may have positive financial as well as health implications.

**PDB17**

**BURDEN OF ILLNESS ASSOCIATED WITH SYMPTOMS OF DIABETIC PERIPHERAL NEUROPATHY AND DIABETIC RETINOPATHY**

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OBJECTIVES: To evaluate the effect of symptoms of diabetic peripheral neuropathy (SDPN), diabetic retinopathy (DR) and co-morbid SDPN & DR (COMORB) among US adults ≥40 years old with diagnosed diabetes on several burden of illness (BOI) measures, including indirect costs and health care utilization, using the combined 1999–2000 and 2001–2002 National Health and Nutrition Examination Surveys (NHANES). METHODS: Included in the analysis were 850 NHANES respondents ≥40 years old classified as having diagnosed diabetes. Logistic regression models were used to assess the effect of SDPN, DR and COMORB on BOI. Model covariates included age, gender, race, education, insurance status, current smoking status, currently asthmatic, and history of cardiovascular disease, cancer, arthritis, COPD, hypertension and stroke. The conditions of interest were assessed based upon respondent self-report.

RESULTS: Using the combined 1999–2000 and 2001–2002 NHANES, it was estimated that, among US adults ≥40 years old with diagnosed diabetes, those with SDPN (OR = 2.27; 95% CI = 1.34, 3.85), DR (1.67; 1.08, 2.59) and COMORB (2.88; 1.28, 6.48) were each more likely to have four or more health care visits in the past year than those without the corresponding condition. Those with DR (1.81; 1.31, 2.50) and COMORB (2.07; 1.13, 3.77) were both more likely to have had at least one overnight hospital stay in the past year. Finally, those of working age (40–65) with SDPN (3.39; 1.66, 6.89), DR (3.08; 1.55, 6.11) and COMORB (4.51; 2.27, 8.96) were each more likely to be unable to work due to physical limitations. CONCLUSION: Among US adults ≥40 years old with diagnosed diabetes, SDPN, DR, and COMORB all appear to significantly increased BOI Future therapies that offer relief of both of these conditions may have significant benefits on indirect costs (such as lost work time) and direct measures of health care resource utilization.

**PDB18**

**ECONOMIC EVALUATION OF DRUG THERAPY AMONG DIABETES MILITUS PATIENTS IN OLABISI ONABANJO UNIVERSITY TEACHING HOSPITAL, SAGAMU, OGUN STATE, NIGERIA**

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OBJECTIVE: To carry out economic evaluation of drug therapy among diabetic patients. METHODS: The methodology was Cost of Illness Analysis. Out-Patients were considered. Drug review was carried out retrospectively for randomly sampled 37 case notes over one-year period. Demographic data were collected and number of hospital visits, fasting blood sugar and blood pressure at each visit, drugs prescribed at each visit. Cost components were the direct costs. These include the total cost of drugs over one-year period, personnel cost, diagnostic costs, and transport cost. Hospital cost of the drugs were used, cost per defined daily dose of each drugs was calculated as well as the total drug cost, taken the duration of therapy into consideration. Stop-watch-time studies and monthly earnings were used in the calculation of personnel cost. Since the study covers one year period (July, 2003–August, 2004) neither discounting nor inflation were considered in the analysis. RESULTS: Most of the patients were Type-II Diabetes Mellitus (n = 33; 89.2%) while Type-I (insulin required) were four (10.8%). In total, 83.8% were hypertensive. Total costs of drugs = N1,219,932.70 (US $7,713.81), Anti-diabetic drugs = N689,231.50 (US $4,923.82) (56.5%), Anti-hypertensive drugs = N530,701.20 (US $3,790) (44.5%), Transport = N30,696.70, Diagnostic = N56,400. Personnel = N53,340.40. Total Cost of Illness for one year for 37 patients = N1,360,369.80 (US $9,716.93). Total cost of treating 1000 patients = N1,360,369800.00 (US $9,716,930.00) aside indirect cost among others per year. Average cost per patient = N36,766.75 (US $262.62) (84.7% of N43,400.00 (US $310.0) per capital income in Nigeria). Range; N2,618.44 (US $18.70) and N268,572.81 (US $1918.38). N = Naira. CONCLUSION: Spending an average of 84.7% of per capital income to treat an illness annually is highly unfortunate as this further worsens the quality of life of such patients. This call for good understanding of the disease condition by the society to minimize the incidence while ensuring compliance and also for improved policy by government.

**PDB19**

**COLLECTION OF COST DATA FOR DIABETES COMPLICATIONS IN CANADA AND AUSTRALIA**

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OBJECTIVES: The aim of this study was to collect cost data on the complications associated with diabetes mellitus in Canada and Australia for use in a published, validated computer simulation model of the disease. METHODS: A search for costs data was performed in PubMed to identify peer-reviewed cost data in Canada and Australia published in the last ten years. Costs not identified in the literature were gathered from published government reports (sources included reports from the Provincial Ministry of Health in Ontario and Newfoundland). All costs were inflated to 2004 values. Major complication costs are presented. RESULTS: The costs of diabetes complications are well documented in Canada, but there is a paucity of published cost data for Australia. No Australian cost data were identified, and a specialist research program has been initiated to generate this information. In Canada, the event costs for non-fatal myocardial
infarction, stroke and angina were estimated to be CAD20,372, CAD36,356 and CAD1,480, respectively. Costs in subsequent years were CAD1304, CAD9587 and CAD1623, respectively. Congestive heart failure costs were estimated to be CAD2232. First year costs of end-stage renal disease (ESRD) ranged between CAD53,046 and CAD 95,550 depending on the type of dialysis. In subsequent years, ESRD costs were in the range CAD31,356 to 147,225. Major costs associated with neuropathy and foot ulcer complications included CAD1,140 for uninfected foot ulcer, CAD2,387 for infected ulcer, CAD8,529 for treatment of gangrene and CAD26,875 for amputation.

CONCLUSIONS: Cost data are available in Canada, but no published data were identified for Australia. These data are of central importance to modeling groups to allow the simulation of the long-term costs associated with diabetes and its complications, as well as the cost-effectiveness of treatments for this disease.

**PDB20**

COMPARISON OF THE COST TO REACH A1C TARGETS IN PATIENTS WITH TYPE-2 DIABETES MELLITUS ON ORAL ANTIDIABETIC AGENTS AND EITHER BIPHASIC INSULIN ASPART 70/30 OR INSULIN GLARGINE

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OBJECTIVE: To evaluate the annual direct pharmacy costs-per-patient for reaching the goal of an A1C of < 7.0% and ≤6.5% among patients with type-2 diabetes using oral antidiabetic agents (OADs) and either biphasic insulin aspart 70/30 (BIAsp 70/30) or glargine. METHODS: Data from a recent clinical study (INITIATE) demonstrated that over a 28-week period, significantly more insulin-naïve, type-2 subjects previously treated with OADs reached the American Diabetes Association target of A1C <7.0% with twice-daily BIAsp 70/30 + metformin (met) ± thiazolidinedione (TZD) compared to bedtime insulin glargine + met ±TZD (66% vs. 40%; p = 0.0002). Likewise, a statistically significant difference favoring BIAsp 70/30 was observed when assessing the two cohorts against the International Diabetes Federation target of A1C ≤6.5% (42% vs. 28%; p = 0.0356). The annual direct pharmacy costs for the insulin, metformin, and TZD (pioglitazone) were calculated using published AWP cost data within the US. RESULTS: Cost calculations were based on end-of-study mean daily medication doses of 0.82 IU/kg BIAsp 70/30 (mean weight: 95.7kg), 0.55IU/kg glargine (mean weight: 93.8kg), 1500mg metformin, and 30mg pioglitazone for subjects treated with TZD (32% in each arm). The mean costs-per-patient reaching A1C values of <7.0% were $5295 with BIAsp 70/30 and $6850 with glargine, and $8321 and $9786, respectively, for subjects reaching ≤6.5%. CONCLUSION: The mean annual direct pharmacy costs-per-patient were considerably lower using BIAsp 70/30 compared to glargine, indicating that BIAsp 70/30 is a better investment of health care dollars when aiming to bring type-2 patients to better control at clinically endorsed A1C targets.

**PDB21**

HEALTH CARE RESOURCE UTILIZATION AND COST IN TYPE-2 DIABETES PATIENTS RECEIVING COMBINATION SULFONYLUREA (SU) AND ROSIGLITAZONE (RSG): THE RESULT TRIAL

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The prevalence and cost of type-2 diabetes is significant in elderly patients. Improved glycemic control may be associated with better health outcomes and lower cost. OBJECTIVE: To analyze health care resource use and estimate cost of care over a two-year period in elderly patients (≥60 years) with type-2 diabetes receiving treatment with rosiglitazone (RSG) plus sub-maximal sulfonylurea (SU) combination therapy (n = 115) or progressive uptitration of the SU, glipizide (GLIP), (n = 110) in the Rosiglitazone Early vs. Sulfonylurea Titration (RESULT) clinical trial. METHODS: Treatment was individualized, targeting ADA defined goals, as appropriate, with uptitration required for FPG >180mg/dl to a max of glipizide 20mg bid and RSG 4mg bid. Patient self-reported hospitalizations, emergency room (ER) visits, and physician visits were prospectively collected for the duration of the trial. Health care utilization rates were reported and analyzed as rates per 1000 patient-days using Poisson regression models. National average unit costs were applied to estimate total direct medical cost, where appropriate costs were adjusted for the duration of therapy and expressed as cost per patient per month (PPPM). RESULTS: By the end of two years, disease progression (time to reach confirmed FPG ≥180mg/dl) was observed in only two patients (1.7%) randomized to RSG + GLIP, compared to 27 patients (24.3%) taking GLIP alone (p < 0.0001). In comparison with patients in the GLIP group, patients in the RSG + GLIP group had significantly fewer ER visits (p = 0.0006) and hospitalizations (p = 0.0263). There were no statistically significant differences in unscheduled physician office visits between the two treatment groups. Average PPPM costs were significantly lower for the RSG + GLIP group ($480) compared to the GLIP monotherapy group ($644) (p < 0.05). CONCLUSION: The addition of RSG to SU therapy was associated with a decreased use of medical resources, in particular hospitalizations and ER visits, and resulted in significant cost savings.

**PDB22**

LONG-TERM COST-EFFECTIVENESS OF INSULIN ASPART VERSUS SOLUBLE HUMAN INSULIN IN PATIENTS WITH TYPE 1 DIABETES IN THE UNITED KINGDOM

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OBJECTIVES: A clinical trial showed that intensive therapy with the rapid-acting insulin analogue insulin aspart (IAsp) was superior to soluble human insulin (SHI), both combined with NPH insulin as basal insulin, with respect to improving glycaemic control (baseline-adjusted difference in HbA1c of ~0.12%, p < 0.02). We investigated how this small but significant difference, together with other clinical parameters, would affect the long-term complications associated with diabetes, health care costs and cost-effectiveness in the UK setting. METHODS: The published and validated CORE Diabetes Model was used to predict long-term complications, improvements in life years gained (LYG), quality-adjusted life years (QALYs) gained, long-term costs and cost-effectiveness for IAsp versus SHI. Standard Markov/Monte Carlo simulation techniques were used to describe the incidence and progression of complications. Probabilities of complications and HbA1c-dependent adjustments were derived from the DCCT, other major clinical trials and population-based studies. Clinical inputs were taken from a six-month multinational, open-label, parallel-group trial in type-1 diabetes patients. Costs of treating complications in the UK (inflated to 2004 costs) and utility values were obtained from published