glutide than with sitagliptin based on data from a recently published 52-week clinical trial.

PDB5 COST-EFFECTIVENESS OF ADDING A PHARMACIST TO THE PRIMARY CARE TEAM FOR THE MANAGEMENT OF TYPE 2 DIABETES PATIENTS

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OBJECTIVES: To estimate the cost-effectiveness of pharmacist intervention (the enhanced care group-ECC) relative to primary care physicians only (control group) in improving cardiovascular (CVD) outcomes among patients with Type 2 diabetes mellitus (T2DM). METHODS: Data were collected from medical charts at Kaiser Permanente (KP) clinical centers in the ECC were matched 1:1 to patients in the control group based on age, gender, HbA1C, and Charlson comorbidity score. The UKPDS risk engine was used to estimate the 10-year CVD risk. A Markov state-transition model was developed to simulate the difference in CVD risk between the two hypotheses. RESULTS: The final state in the model was death. CONCLUSIONS: The incremental cost and effectiveness measured by life years and per-quality-adjusted life year (QALY) gained. Sensitivity analysis(SA) was conducted to examine the robustness of the results. RESULTS: The base case model suggests that the ECC dominated the control group with lower treatment cost ($35,740 vs. $44,528) per patient and more life years (8.9 vs 8.1) and QALY (0.51 vs. 0.50) over the 10-year period. Within the reasonable range of variability of all parameters, however, the multiple one-way SA revealed that the relative value of ECC depends on the time horizon adopted by the payers. The probabilistic sensitivity analysis suggests that when adopting a longer time horizon such as 5 or more years in management, the ECC has a far higher chance of being chosen as a cost-effective strategy regardless of the level of willingness to pay. When the time horizon was shortened, however, the likelihood for the ECC being cost-effective decreased. CONCLUSIONS: Adding pharmacists to primary care management of T2DM patients can be a cost-effective strategy in terms of the improvements in the cardiovascular outcomes achieved over the long term.

PDB58 COST-EFFECTIVENESS ANALYSES OF TYPE 2 DIABETES MELLITUS TREATMENTS PUBLISHED IN THE UNITED STATES: A SYSTEMATIC REVIEW OF RESULTS AND QUALITY ASSESSMENT

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OBJECTIVES: 1) To identify key features of cost-effectiveness analyses (CEA)s of type 2 diabetes mellitus (T2DM) of the United States (US) population; 2) to assess the quality of T2DM CEA; and 3) to identify the predictors of quality. METHODS: We searched PubMed for several MeSH terms with English language restriction, through August 2011. The quality of eligible studies was evaluated using the Qualify of Health Economic Evaluation (QHED) instrument. Multiple linear regression analysis was conducted for the predictors of quality (overall QHED score) and independent variables being features of the T2DM CEA literature. RESULTS: A total of 38 full-text articles met the eligibility criteria. The criterion criteria of the QHED was greater than or equal to sixty percent of the articles were: Over sixty percent of the pharmaceutical companies funded/sponsored, 82% were conducted from healthcare payers perspective, 77% were published in clinical-focused journals, 85% used quality-adjusted life-years (QALYs), 79% used published literature as the data source, 28% used information from a decision-analytic tree model, 51% were classified as disease treatment/management, and 64% used more than one sensitivity analysis. Overall, the mean quality score using QHED was 73.2 ± 11.5 and only 51% of studies scored ≥ 75 (high-quality). Many studies (65%) failed to describe the analysis perspective, and 35% failed to include a cost-effectiveness acceptability curve for its selection, whereas, most of the studies (95%) used valid and reliable health outcomes scales/measures. Multiple linear regression found the following significant variables (p < 0.05): journal impact factor (β = 12.1, CI 7.4-14.0), studies using QALY (β = 34.9, CI 11.2-48.1), and published after year 2000 (β = 35.8, CI 13.9-48.6). CONCLUSIONS: All studies funded/sponsored by a pharmaceutical company concluded the product of that company to be cost-effective; this may be indicative of publication bias and/or design bias. Several studies failed to follow the societal perspective recommendations of the US Panel on Cost-effectiveness in Health and Medicine, possibly because of preferences of the funding agency or researcher’s interests. Decisions based on these studies should consider quality and other key features of the later.

PDB59 COST-EFFECTIVENESS ANALYSIS OF MEDICATION THERAPY MANAGEMENT IN PATIENTS WITH TYPE 2 DIABETES IN COMMUNITY PHARMACY/AMBULATORY CARE SETTINGS: RESULTS FROM A DECISION-ANALYTIC MARKOV MODEL

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OBJECTIVES: Pharmacist-provided medication therapy management (MTM) has been effective in reducing patient outcomes in various settings and patient populations. Yet, little is known about the long-term economic and clinical outcomes of MTM. Here, we sought to estimate the incremental, lifetime cost-effectiveness of MTM in type 2 diabetes, over “usual” dispensing care, from a health payer's perspective. METHODS: We constructed a decision-analytic Markov model with 10 diabetes disease states. A hypothetical cohort of 40-year-old patients was followed for the rest of their life expectancy (31 years). Transition probabilities were derived from the validated CDC-RTI diabetes model. Costs (in 2010 dollars) associated with each disease state were derived from the ADA’s 2007 report on diabetes costs. In the base case, MTM was assumed to increase annual, per-patient direct medical costs by 1.7%, which is a median of values retrieved from the literature. Glycemic levels reported under MTM were used to model the corresponding effects on the risks for microvascular complications via an exponential parametric form (Novins et al., 1997). Risk reduction in the risk of death was taken from the Freemantle Diabetes Trial. The primary outcome of the model is the incremental cost per quality-adjusted life-years (QALYs) gained. Future costs and QALYs were discounted at 3% per annum. Sensitivity analyses were undertaken to assess the robustness and uncertainty of key parameters. RESULTS: For the usual care, MTM was estimated to result in an additional 0.44 QALYs, and in lifetime cost savings of approximately $20,000 per patient. MTM appeared to improve survival by 4%. Our estimates are robust to plausible variations in key parameters, and are most sensitive to the probability of nephropathy, and to the effect of MTM on costs. CONCLUSIONS: Our results suggest that MTM dominates usual care. The increase in direct medical costs associated with MTM may be offset by large cost savings due to reduction in diabetes-related morbidity and mortality.

PDB60 A COST-UTILITY ANALYSIS OF PREGABALIN VERSUS DULOXETINE IN PAINFUL DIABETIC NEUROPATHY

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OBJECTIVES: To determine the cost-utility of pregabalin (PRE) vs. duloxetine (DUL) over a 6 month time horizon from the perspective of US third-party payers using a decision tree analysis. METHODS: Literature searches identified clinical trials and real-world studies reporting the efficacy, tolerability, safety, adherence, opioid usage, and healthcare utilization and costs of PRE and DUL. The proportions of patients reported in the included studies were used to determine probabilities in the decision tree model. Average wholesale price was used to determine the costs of medications. The costs associated with healthcare utilization were determined from observational studies and all costs were adjusted to 2011 US dollars. Utility values were based on a general population survey with a mean utility of 0.80. The overall utility values were determined by multiplying the utility values by the disutility values associated with adverse events. The base-case model included the FDA approved doses of PRE (300 mg/day) and DUL (60 mg/day) while “real-world” sensitivity analyses explored the effects over a range of doses (PRE 75-600 mg/day, DUL 20-120 mg/day). Monte Carlo simulations with 1000 repetitions were used to perform probabilistic sensitivity analyses (PSA) to examine uncertainty of the estimates used in the model. Outcomes from the model were expressed as cost per quality-adjusted life-year (QALY). RESULTS: In the base-case model DUL cost less and was more effective than PRE (incremental cost -$187, incremental effectiveness 0.051 QALYs). Results from the real-world sensitivity analyses indicated that DUL was $16,000 and $20,667 more per QALY than PRE. Cost-effectiveness acceptability curves showed that DUL had a higher probability of being chosen as the most cost-effective strategy, except at very low willingness-to-pay thresholds. CONCLUSIONS: Using a decision tree model that incorporated both clinical trial and real-world data, DUL was a more cost-effective option than PRE in the treatment of PDN from the perspective of third-party payers.

PDB61 THE BURDEN OF DIABETES MELLITUS FOR MEDICARE BENEFICIARIES

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OBJECTIVES: To estimate health care costs and utilization for Medicare beneficiaries with diabetes. METHODS: We used a retrospective claims cohort analysis to assess the direct healthcare cost and utilization of health services in 2009 for patients aged 65 to 89 enrolled in a Medicare Advantage plus prescription drug plan. Patients were matched 1:1 with non-diabetics based on age, sex, and Medicare type. All costs associated with diabetes care costs for 2009 were calculated as the sum of all medical and pharmacy claims, and costs directly attributable to diabetes were evaluated for case cohorts. RESULTS: Our analysis included 6,562 type 1 cases and the same number of matched controls, and 194,775 type 2 cases and their matched controls. There were no significant demographic differences between cohorts for matched variables. Type 2 cases had significantly higher mean Deyo-Charlson Comorbidity index compared to controls (2.47 versus 0.77; p < .001), although all groups had high prevalence of expensive comorbidities such as hypertension and heart disease. Mean all-cause healthcare costs per patient per year were significantly higher for type 1 and type 2 cases versus controls for in-patient hospitalization, outpatient, office, ER visits, pharmacy and total health care costs (total 2009 costs: type 1 $20,701 + $30,201, type 2 controls $6,537 + $10,441, type 2 $10,437 + $18,518, type 1 controls $6,505 + $11,140). The mean diabetes care costs for Medicare Advantage patients in compari-

PDB62 COST-EFFECTIVENESS MODELLING OF TYPE-1 DIABETES

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OBJECTIVES: To build a flexible and comprehensive long term Type-1 diabetes model incorporating the most up-to-date methodologies (e.g. capturing parameter uncertainty, time profile of patient characteristics and including patient behaviour) to allow a number of cost-effectiveness evaluations. METHODS: An individual patient level discrete event simulation model which includes all the major complications (neuropathy, nephropathy, retinopathy, CVD, PVD), hypoglycaemia, ketoacidoses) and their interactions along with the treatment effects was built based on the developed conceptual model. Patient characteristics (demographics, clinical