RESULTS: At the end of the study period, 30.2% (111) of patients receiving cinacalcet + TT achieved their KDOQITM targets, compared with 2.7% (5) for TT. The average cost per week of maintaining target was $691.90 for patients on cinacalcet + TT and $597.29 for patients on TT. The incremental cost per incremental week in target was $597.29 for patients on TT. The incremental cost per incremental week in target was $57.56 ($17,584, p < 0.01). CONCLUSIONS: Duloxetine treatment appears to be associated with delayed use of opioids among patients with DPNP. Health care costs were also lower for patients initiated on duloxetine vs. SOC treatment.

PDB20

A COST CONSEQUENCE MODEL TO ASSESS THE ECONOMIC IMPACT IN GERMANY OF PATIENTS ACHIEVING KDOQITM TARGETS WITH THE USE OF A COMBINATION OF CINACALCET + TRADITIONAL THERAPY (TT) COMPARED WITH TT ALONE

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OBJECTIVES: From a German health care perspective, to evaluate the cost per patient in achieving KDOQITM targets with the use of a combination of cinacalcet + traditional therapy compared with traditional therapy alone.

METHODS: The number of patients eligible for cinacalcet was derived from the OpenLabel, Randomized Study Using Cinacalcet HCL To Improve Achievement of KDOQITM Targets in Patients With End-Stage Renal Disease (OPTIMA) Trial [1], assessing the efficacy of adding cinacalcet to a TT protocol in controlling bone metabolic parameters in dialysis patients with secondary hyperparathyroidism over a 23-week period. KDOQITM targets considered are: iPTH <5.5 mg/dL, phosphorus (P) <5.5 mg/dL. Resource utilization included the average dose per day, average duration of therapy, and cost per dose. The model compares the cost of achieving and maintaining KDOQITM targets with the use of a combination of cinacalcet + TT relative to TT alone or no therapy.

RESULTS: At the end of the study period, 30.2% (111) of patients receiving cinacalcet + TT achieved their KDOQITM targets, compared with 2.7% (5) for TT. The average cost per week of maintaining target was $691.90 for patients on cinacalcet + TT and $597.29 for patients on TT. The incremental cost per incremental week in target was $597.29 with TT compared with no therapy and was cost-savings (minus $39,686 per week) with cinacalcet + TT. The incremental cost per incremental patient at target after 23 weeks was $5,895.06 for patients receiving cinacalcet + TT compared with $6,199.99 for patients receiving TT alone.

CONCLUSIONS: Patients administered cinacalcet + TT maintain, on average, KDOQITM targets longer than patients receiving TT and require less resources. This translates into lower costs per patient (compared with TT) to achieve and maintain KDOQITM targets. 1. Messi et al. Clin J Am Soc Nephrol. 2008;13:e4-45.

PDB21

WHO ARE THEY FOOLING?: COST OF DISEASE OR COMPLICATIONS CAN SIGNIFICANTLY BIASE ESTIMATES UNLESS CONTROL (NON-DISEASED) COSTS ARE NOT ACCOUNTED FOR IN THE ANALYSIS

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OBJECTIVES: Costing studies often do not identify the excess costs incurred by the health care system for patients with a disease vs. patients without the disease. Using cohort based cost estimates without controlling for costs also incurred by a non-disease population can bias projections, long-term modeling and economic evaluation analyses. The objective of this study was to estimate the prevalence, total and excess costs of diabetes and its complications with type 2 diabetes over 25 years with cycles of 1 year. A public health care payer setting with a given implementation cost of $1,000 per patient and a minimum increase of $600/QALY was maintained. Costing studies often do not identify the excess costs incurred by the health care system for patients with a disease vs. patients without the disease.

METHODS: Newly diagnosed type 1 and 2 diabetes cases aged 35 to 74 years (n=30) were identified from the Ontario Diabetes Database and matched 1:2 using propensity scores with controls (non-diabetes cases). The following complications were identified: myocardial infarction, stroke, angina, heart failure, blindness in 1 eye, amputation, nephropathy and cataracts. Excess costs of diabetes were estimated as the difference between costs attributed to patients with diabetes vs. those attributed to patients without diabetes. RESULTS: The prevalence of diabetes rose drastically, from 6.5 to 10.5%. Excess costs were $2930 in the year of diabetes diagnosis and $1240 in subsequent years. In the year of an event, cost differences were greatest for patients with diabetes (321-325). Sensitivity analyses varied time horizon (5, 10, 20 years) and discount rates relevant to each country. Sensitivity analyses also included a -0.036 dis-utility for SMBG in year 1. RESULTS: Incremental cost-effectiveness ratios (ICERs) were largest in France, where monitors were included and reimbursed. SMBG acquisition costs were $19578. ICERs for SMBG 1, 2, and 3/day were $71,124, 66,282, and 67,958, respectively. ICERs for SMBG 1 or 2/day were $17,600 in Germany and $44,000 in Spain. ICERs for SMBG 3/day were $66,000/QALY in both countries. Results were most sensitive to the 5-year time horizon. With the SMBG dis-utility, ICERs increased only modestly ($212–$224) in all scenarios except SMBG 3/day in France, where it increased by $9578. CONCLUSIONS: With SMBG cost assumptions reflecting current payer reimbursement in France, Germany, and Spain, the use of SMBG was found to be cost-effective. This study adds to the literature on the impact of assuming an SMBG dis-utility, and on the country-specific, long-term value of SMBG as a management tool for type-2 diabetes patients treated with OADs.

PDB22

PREDICTING COST-EFFECTIVENESS OF A DIABETES HEALTH CARE PROGRAM IN BELGIUM AS A POLICY MANAGEMENT TOOL

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OBJECTIVES: Diabetes type 2 is a major health problem with severe complications and a significant impact on quality of life. International guidelines, developed to provide better care and to prevent complications, are difficult to translate into daily practice. Especially the lack of prevention of retinopathy and nephropathy through frequent screening are a current concern. The aim of this study is to assess the minimum impact a program at a pre-specified policy defined cost, supporting general practitioners to put recommendations into daily clinical practice, has to achieve to be cost-effective. For both complications, a Markov model, adapted from published peer-reviewed models, was developed simulating the evolution of 7 diabetes cohorts with type 2 diabetes over 25 years with cycles of 1 year. A public health care payer perspective in a Belgian setting was chosen. Transition probabilities were obtained from local epidemiological studies and published trials. Cost data of the different states were collected from literature and from the National Institute for Health and Disability Insurance. Utility data for all states were obtained from published studies. A ratio of €30,000/QALY was used as threshold of willingness to pay for health gain. RESULTS: We found for nephropathy a net-saving cost of €6,500/QALY when there is only an increase in annual screening of 10%. For retinopathy we found a net price of €10,005 but no health gain. CONCLUSIONS: A scientific program in a Belgian setting with a given implementation cost of €195 per patient and a minimum increase in screening in the intervention group, would be cost-effective in the prevention of retinopathy and nephropathy.

PDB23

COST EFFECTIVENESS ANALYSIS OF SWITCHING PATIENTS WITH POORLY CONTROLLED TYPE 2 DIABETES TO BIPHASIC HUMAN INSULIN ASPART 30 FROM BIPHASIC HUMAN INSULIN 30 IN THE CZECH SETTING

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OBJECTIVES: The aim of this health economic analysis was to assess the cost-effectiveness of biphasic insulin aspart (BIAsp) when switched from biphasic human insulin 30 IU (BHI) from the Ontario Diabetes patients from a program, multicentre, open label, non-controlled, observational, 24-week study. METHODS: A published and validated computer CORE Diabetes Model was used to project long-term economic and clinical outcomes in sub-cohort of type 2 diabetes patients treated with BIAsp 30 versus BHI 30. The cohort had 831 (372 male) patients. There was HbA1c decrease associated complications. Assessing excess costs of disease is important for costing studies, longer-term modeling and economic evaluations in general. Existing studies which do not account for excess cost may overestimate cost and potentially bias estimates of cost-effectiveness or cost savings due to effective patient management.
from 8.98 ± 1.44% to 7.91 ± 1.19%, decrease in BMI 0.26 ± 1.36 kg/m² and reduction in major and minor hypoglycemic events by 97% and 80% respectively. Probabilities of complications, management costs adjustments (including complications) were derived from the Czech surveys from 2007. Treatment costs were from June 2009. Future costs and clinical benefits were discounted at 3.5% per annum.

RESULTS: The short-term benefits of switching from BHI 30 to BIAsp 30 are projected to lead to an increase in discounted quality-adjusted life expectancy of 0.493 years (4191 ± 0.090 versus 3698 ± 0.078). Increased total lifetime cost/patient is CZK 122,594 (534,259 ± 1,992 versus 65,712 ± 21,908) with BIAsp 30. Combining costs and clinical outcomes results in an incremental cost-effectiveness ratio per quality-adjusted life year (QALYs) gained were dominant. CONCLUSIONS: Core diabetes T2 patients sub-cohort simulation in 15 years perspective Czech observational study has demonstrated acceptable cost-effectiveness for patients with type 2 diabetes treated with BIAsp 30. BIAsp 30 treatment was projected to be associated with improvements in life expectancy, QALYs and cost saving compared to BHI 30. Sensitivity analyses show cost-effectiveness result to be robust.

PD185

A PATIENT-LEVEL SIMULATION MODEL FOR ECONOMIC EVALUATION OF CINACALCET IN THE TREATMENT OF SECONDARY HYPERPARAThYROIDISM (SHPT) IN PATIENTS WITH END-STAGE RENAL DISEASE (ESRD)

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OBJECTIVES: We developed a probabilistic patient-level simulation Markov model to simulate the long-term benefits of switching from BHI 30 to BIAsp 30 in the treatment of SHPT patients in Italy. METHODS: We used data from a prospective cross-sectional survey of 180 end-stage renal failure patients with and without co-morbidities. Utilities were derived from a prospective cross-sectional survey of 180 end-stage renal failure patients with and without co-morbidities. Costs were evaluated from the Italian National Healthcare Service perspective. RESULTS: Base case results were calculated with 10,000 iterations. Cinacalcet-treated patients had a mean (SD) increase in TIR of 5.60 (6.75), 3.45 (6.81), 1.62 (5.64) and 2.85 (5.60) discounted patient years for PTH, Ca, P, and all parameters, respectively. Mean LE extension was 1.16 (3.74) life-years and QALE increase 0.77 (2.63). The following strategies of treatment were compared: cinacalcet as monotherapy or in combination with vitamin D sterols and phosphate binders, and cinacalcet plus standard treatment. A 3.5% discount rate was applied to life expectancy (LE), quality-adjusted life expectancy (QALE), and costs and times in ranges (TRCs) recommended by the KDOQI initiative. Utilities were derived from a prospective cross-sectional survey of 180 end-stage renal failure patients with and without co-morbidities. Costs were evaluated from the Italian National Healthcare Service perspective. RESULTS: Base case results were calculated with 10,000 iterations. Cinacalcet-treated patients had a mean (SD) increase in TIR of 5.60 (6.75), 3.45 (6.81), 1.62 (5.64) and 2.85 (5.60) discounted patient years for PTH, Ca, P, and all parameters, respectively. Mean LE extension was 1.16 (3.74) life-years and QALE increase 0.77 (2.63). The incremental cost-effectiveness ratio (ICER) calculated considering the TIR varied from €5.439 per patient-year in range to €5.748 per patient-year in range (limits for PTH and P, respectively). When considering LE, the average ICER results were €26.148/LY while when considering QALE, the average ICER was €39,454/QALY-discounted life year. CONCLUSIONS: Cinacalcet treatment could be considered cost-effective but further investigation is needed.

PD286

THE PHARMACOECONOMIC STUDY OF INSULIN GLRAGINE USAGE IN COMPARISON WITH INSULIN NPH IN TYPE 2 DIABETES MELLITUS TREATMENT IN REAL WORLD CONDITIONS

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OBJECTIVES: To estimate the cost-effectiveness of insulin glargine in the treatment of diabetes mellitus type 2, in combination with metformin, compared to the standard strategy of treatment in Poland: combination of metformin and sulphonylurea. METHODS: The cost-utility analysis is based on Markov decision model (package Tree Age Pro). The target population consisted of adult patients with diagnosed diabetes mellitus type 2, in combination with metformin, compared to the standard strategy (vildagliptin (50 mg twice daily) versus glimepiride (mean dose 4.5 mg/day) both added to metformin (mean dose 1892 mg/day)). Direct medical costs were considered: cost of oral antidiabetic drugs (OADs), cost of insulin, additional costs of treatment of type 2 diabetes (e.g. test strips, lancets), cost of general practitioner, cost of specialist visits, cost of complications of diabetes mellitus type 2, in combination with metformin, compared to the standard strategy. Cost-utility analysis is based on Markov decision model (package Tree Age Pro). The outcome of the analysis was incremental cost-effectiveness ratio (ICER), which presents the cost of gaining one additional unit of QALY or LYG in the case of using insulin glargine. CONCLUSIONS: The outcome of this analysis was that exenatide treatment was projected to improve life expectancy and QALE and reduce cumulative incidence of most diabetes-related complications including cardiovascular disease, compared with insulin glargine. By current Turkish standards, the ICER for exenatide would be considered to represent good value for money.

PD287

COST-EFFECTIVENESS OF EXENATIDE VERSUS INSULIN GLARGINE FOR THE TREATMENT OF TYPE 2 DIABETES IN TURKEY: A LONG-TERM HEALTH ECONOMIC ANALYSIS

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OBJECTIVES: Type-2 diabetes mellitus (T2DM) is a progressive chronic disease causing a huge clinical and financial burden on health care services. A recent randomised open-label clinical trial (NCT00082381) comparing exenatide with insulin glargine provided evidence of the short-term clinical profile of exenatide. The objective of this cost-effectiveness analysis was to use these results as the basis for long-term gain estimations to compare the clinical and cost outcomes associated with exenatide treatment versus insulin glargine over a 15-year time horizon in a Turkish setting. METHODS: The analysis used the previously published and validated IMS Core Diabetes Model, comprised of a series of Markov-based submodels simulating the major complications of diabetes (cardiovascular, renal, eye and neurological disease). Using baseline characteristics (mean age 58.9 years; 55.7% male; mean HbA1c 8.21%; mean duration of diabetes 9.56 years), complications and concomitant medications from study NCT00082381, analysis was performed using a non-parametric bootstrapping approach where disease progression was simulated to estimate costs, life expectancy and quality-adjusted life expectancy (QALE). RESULTS: Exenatide treatment was projected to improve life expectancy (mean[SD] years: 8.41[0.09]) and QALE (mean[SD] quality-adjusted life years [QALY]: 6.00[0.07]) compared with insulin glargine (mean[SD] years: 8.38[0.08]; mean[SD] QALY: 5.62[0.06]), while also delaying the onset of diabetes-related complications (years to event: exenatide: 4.00; glargine: 4.00). Lifetime direct medical costs were higher for exenatide with a mean[SD] of 33,573(819) New Turkish Lira (YTL) compared with insulin glargine YTL 42,361(770). The incremental cost-effectiveness ratio (ICER) based on QALY for exenatide was YTL 30,018 per QALY gained versus insulin glargine. CONCLUSIONS: The outcome of this analysis was that exenatide treatment was projected to improve life expectancy and QALE and reduce cumulative incidence of most diabetes-related complications including cardiovascular disease, compared with insulin glargine. By current Turkish standards, the ICER for exenatide would be considered to represent good value for money.

PD292

PHARMACOECONOMIC CONSEQUENCES OF LOSARTAN THERAPY IN PATIENTS UNDERGOING DIABETIC END-STAGE RENAL DISEASE

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OBJECTIVES: Diabetic nephropathy is a frequent and serious complication in patients with type 2 diabetes mellitus (DM2) and it is the most frequent cause of End Stage Renal Disease (ESRD) in industrialized countries. The global incidence of ESRD continues to rise, and ESRD patients require intensive and costly treatments such as dialysis or transplantation; thus, the burden of illness is growing and the resources allocated to treatment are increasing. The objective of our study was to estimate the economic impact of losartan added to the standard care administered to diabetic subjects with End-Stage Renal Disease in Italy. METHODS: We conducted a cost-effectiveness analysis comparing the economic and clinical outcomes deriving from the administration of additional losartan to standard care versus standard care alone in