Gained (LYG); Quality-Adjusted Life Years (QALY’s); long-term costs; and cost-effectiveness for IDet vs. NPH. Standard Markov/Monte Carlo simulation techniques were used to describe incidence and progression of complications. Probabilities of complications and HbA1c-dependent adjustments were derived from the UKPDS and other major clinical trials and population studies. Clinical input was taken from a 6-month multicentre, multinational, open-label, parallel-group comparison phase III trial in type-2 patients. Costs of treating complications in the UK and utility values were retrieved from published sources. Direct costs of diabetes complications and drug treatment were projected over patients’ lifetimes from a UK National Health Service perspective. RESULTS: The model projected that treatment with IDet would result in an extra 0.13 LYG and 0.08 QALY’s per patient. Total lifetime costs/patient were estimated to increase by £1534. The cost per LYG was calculated to be 11,700 GBP and the cost per QALY to be £19,218. CONCLUSIONS: The model predicted that treatment with IDet would result in long-term improvements in health outcomes and quality of life compared to NPH in patients with type-2 diabetes. The cost-effectiveness result is within the range considered to represent value for money in the UK.

**PDB4**

THE DIABETES TYPE-2 COST PREDICTORS

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OBJECTIVES: To examine the diabetic type-2 cost predictors.

METHODS: A total of 303 patients diagnosed with type-2 diabetes mellitus (mean age: 61, mean time from diagnosis: 10.86 year, males: 49%), were randomly selected from out-patients charts databases and surveyed. Both patient and practitioner questionnaires collected data from each patient on: clinical characteristic, medical and other resources used, quality of life. Step-wise linear regression model was elaborated to determine most significant clinical variables associated with cost. Values are expressed in PLN (PLN1 = 0.48086 PPP’2003). RESULTS: The total annual treatment costs amounted to PLN9227 (4436€), including PLN2432 (1169€) of direct costs. The regression model incorporating complications, insulin treatment and managing physicians’ specialty predicted direct costs associated with diabetes best. Estimates were statistically significant at p-level 0.05 and consistent with domain knowledge. Diabetologists’ patients generated lower mean direct treatment costs (PLN2140; 1028€) when compared to GP’s (PLN 2920; 1403€) for patients of similar clinical characteristic. Controlling for case-mix diabetologists were more likely to increase drug cost balanced by higher savings resulting from hospitalizations cost. CONCLUSIONS: Economic impact of diabetes type-2 is highly determined by management complications, insulin treatment and managing physicians’ specialty. Specialists (diabetologists) produce savings in direct treatment costs which result from effective disease control with drugs.

**PDB5**

COMMUNITY EFFECTIVENESS OF DISEASE MANAGEMENT PROGRAMS IN GERMANY

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OBJECTIVES: The installation of disease management programs (DMP) is accompanied by expectations of high gains in health and savings. This study estimates the potential gains of a DMP for patients with type-2-diabetes for Germany under real life conditions. METHODS: Representative data from the German National Health Survey contained 307 subjects with type-2-diabetes, covering demographics, medical history, risk factors, and treatment. Estimates for the risk to suffer from different complications in the next ten years under given risk profiles have been calculated using a validated prognosis model (Melibase). Alternative risks have been calculated under the assumption that in a DMP patients will reach individual risk factor levels depending on their actual levels. Furthermore, assumptions have been made for the patients’ persistence on a DMP scheme over a 10-year period. Monetary savings for avoided complications have been calculated using claims data of a German sickness fund. RESULTS: In Germany there are 3.0 million patients with known type-2-diabetes. Within the next ten years 18.9% of them will suffer from a first myocardial infarction, 19.2% from a first stroke. This will result in an average number of MIs of 56,000 and 57,000 strokes per year. About 2300 MIs and 2000 strokes are estimated to be avoided per year. Savings from avoided complications will be approximately 120 million Euros per year. It is estimated that the costs to run a DMP will exceed these savings. CONCLUSIONS: Predicted health benefits from a DMP addressing all Type-2-diabetics are moderate in the actual German health care system. Risk stratification driven by prognostic modeling is likely to improve this balance, if implemented. Finally, the results underline that DMPs as other health technologies, need to be evaluated before their broad implementation.

**PDB6**

THE COST OF TYPE-2 DIABETES IN UKRAINE

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OBJECTIVES: In Ukraine, 800,000 Type-2 diabetic patients registered. Treatment state costs type 2 diabetes in Ukraine amount to more than 36 billion GRN (1 Euro = 6.2 GRN) per year, mainly because of related complications. These complications should be reduced at least by one-third by treating according to current guidelines. METHODS: The European Diabetes Policy Group guidelines were applied to define the optimal therapy regarding blood glucose, lipids and blood pressure. Costs of guideline-related medication (antidiabetic drugs) and costs of additional outpatient treatment were calculated using official tariffs. RESULTS: Guideline treatment would induce 1300 GRN cost per patient for additional medication and outpatient treatment. The physicians prescribed glibenclamide (maninil) 45% patients, metformin –18%, combined therapy –15%, insulin –22%. CONCLUSIONS: Treatment of patients with type-2 diabetes according to the guidelines makes a huge investment necessary. Assuming optimal treatment could prevent 25% diabetes-related complications and potential cost savings of GRN 2 billion.

**PDB7**

LONG-TERM COST EFFECTIVENESS OF BIPHASIC INSULIN ASPART 30/70 VERSUS INSULIN GLARGINE IN INSULIN NAIVE PATIENTS WITH TYPE-2 DIABETES POORLY CONTROLLED ON ORAL HYPOGLYCEMIC AGENTS IN DANISH, DUTCH, FINNISH, FRENCH, GERMAN, NORWEGIAN, SPANISH, SWEDISH AND UK SETTINGs

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OBJECTIVES: A recent randomized trial demonstrated that twice daily biphasic insulin aspart 30/70 (BIAsp30/70) led to significantly (p = 0.0057) better glycaemic control compared to bedtime insulin glargine in insulin-naive type-2 diabetes patients on oral antidiabetics (HbA1c reduced by −2.79% vs. −2.36% from baseline). Patients gained more weight with BIAsp30/70 than with glargine (5.4 vs. 3.5 kg, p = 0.0013), but weight gain per unit insulin was similar. The CORE Diabetes Model, a peer-reviewed, validated model, was used to project the long-term cost effectiveness of BIAsp30/70 versus glargine. METHODS: The CORE Diabetes model employs standard Markov/Monte Carlo simulation techniques to describe the long-term incidence and progression of diabetes-related complications. Transition probabilities were derived from major diabetes studies. Clinical effects of comparators were derived from the INITIATE study. The analysis was performed using published country-specific costs, health care resource utilization and clinical data, and recommended discount rates. A lifetime horizon and payers' perspective was taken. Only direct costs were considered. Sensitivity analyses were performed. RESULTS: Discounted quality-adjusted life years (QALY) were improved by 0.13–0.25 years with BIAsp30/70 versus glargine depending on country-specific discount rates. Lifetime cost savings were observed with BIAsp30/70 in the Danish, Dutch, Finnish, French, Norwegian, Spanish, and Swedish settings. Overall costs were increased with BIAsp30/70 versus glargine in the German and UK settings, with incremental cost-effectiveness ratios of 3692€ and 5154€/QALY gained respectively. Results were most sensitive to changes in baseline HbA1c and to the relative costs of BIAsp30/70 versus glargine. CONCLUSIONS: Improvements in glycaemic control outweighed the greater increase in body weight, leading to improved quality-adjusted life expectancy with BIAsp30/70 versus glargine. BIAsp30/70 was projected to lead to overall cost savings or would be considered cost-effective versus glargine, with costs/QALY falling well below commonly accepted international thresholds.

WILL IRBESARTAN LEAD TO COST SAVINGS DUE TO DELAYED END STAGE RENAL DISEASE IN HYPERTENSIVE TYPE-2 DIABETICS IN GERMANY?

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OBJECTIVES: Type-2 diabetes is a major health problem. 30% of all patients being on dialysis suffer from a diabetic Endstage Renal Disease (ESRD). The Angiotensin-2-Receptor-Blocker (ARB) Irbesartan has proven its capability to prevent or delay an ESRD. Based on the results of the multicentre double-blind, randomized, placebo-controlled Irbesartan Diabetic Nephropathy Trial (IDNT) the presented study aims to show that a treatment of renal diseases in hypertensive type-2 diabetics with the ARB Irbesartan is cost saving for the German health care system.

METHODS: A cost-effectiveness analysis from the German payers' perspective was conducted taking direct costs into account. 1715 type-2 diabetics with hypertension and limited renal function were included in IDNT (2.6 years, subgroup with 300 mg/d Irbesartan). The patient number needed to treat (NNT) to prevent one ESRD was the efficacy parameter for this analysis. Public sources were used for cost data and information on dialysis and transplantation in diabetics with ESRD. Actual drug prices were used taking into account discounts and co-payments effective in Germany due to new legislation since January 2004. Due to conservative calculation no discounting was performed, follow-up treatment costs were not included. RESULTS: The NNT for the primary endpoint ESRD calculated to 28 during the study period of 2.6 years in IDNT. That means additional treatment costs of €25,007—lead to one prevented ESRD (incremental cost-effectiveness ratio). The prevented ESRD (82% dialysis, 18% transplantation) is worth €45,766—which shows a benefit for Irbesartan treatment of €20,758—after 2.6 years or €7984.—per year assuming a linear trend towards delay in ESRD. A sensitivity analysis stated the robustness of the data.

CONCLUSIONS: Based on epidemiologic data our results suggest savings for the German health care system of €3.2 billion after 2.6 years if annually additional €681 million were invested in the treatment of type-2 diabetics with Irbesartan.

THE VALUE OF ORAL MONOTHERAPY ALTERNATIVES IN THE FIRST-LINE TREATMENT OF TYPE-2 DIABETES MELLITUS

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OBJECTIVES: To construct a lifetime model evaluating potential health benefits and costs applying to Scottish Type-2 diabetes mellitus patients initiating first-line oral monotherapy, for whom metformin is inappropriate because of contra-indications or intolerance. When lifestyle modification (diet and exercise) affords inadequate glycaemic control, these patients currently have no alternative to sulphonylurea (SU) therapy. The model compared novel agent pioglitazone (PIO) versus generic SU treatment.

METHODS: A decision-analytic Markov model was constructed using published (UKPDS) cost data for diabetes management and co-morbidity treatment. Three prospective treatment pathways were explored: first-line PIO/second-line PIO + SU combination/third-line insulin; first-line SU/second-line PIO + SU combination/third-line insulin; and first-line SU/second-line insulin. The model incorporated efficacy evidence of glycaemic control under PIO and SU, measured as initial HbA1c improvements and the rate of disease progression in terms of HbA1c (the coefficient of failure). RESULTS: Patients treated with PIO achieved better HbA1c control and improved serum lipid profiles, which translated into fewer diabetic complications, better quality of life and improved overall survival. Additional drug costs of PIO over SU were partly offset by lower costs to treat and manage diabetes complications, and delayed insulin therapy. The estimated incremental cost per QALY gained of PIO was £2415 compared to SU (when followed by second-line PIO/SU and third-line insulin therapy). The incremental cost per QALY gained of PIO was £1514 compared to SU (when followed by second-line insulin therapy).

CONCLUSIONS: Clinical trial evidence indicated superior glycaemic (HbA1c) control in patients treated with PIO, in comparison with those treated with SU. The model showed that PIO is a cost-effective intervention and thus a valuable addition to first-line treatment options for patients intolerant and/or contra-indicated to metformin. Importantly, initiating PIO as second-line combination treatment after first-line SU in this patient group was less efficient than providing PIO monotherapy in a first-line setting.

THE COST-EFFECTIVENESS OF PIOGLITAZONE IN COMBINATION WITH METFORMIN IN THE TREATMENT OF TYPE 2 DIABETES MELLITUS IN SCOTLAND

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OBJECTIVES: To develop a lifetime model of Type-2 diabetes mellitus and its sequelae, to compare the costs and benefits of...