study was to evaluate structured chiropodist care (CC) with regard to healing rates and costs provided by intensively instructed professionals. **METHODS:** One year follow-up-data of a randomized and controlled trial (RCT) performed in the province of Styria, Austria showed significantly reduced reulceration rates under chiropodist care. Patients in the intervention group received chiropodist care in average 11 times per year and were reimbursed for the costs (€29 per visit). Based on a published paper Austrian specific cost data of 2001 were used to build a Markov Model to evaluate 10 years outcome. A Monte-Carlo-Simulation (n = 10.000) was performed for patients with chiropodist care (intervention) and no chiropodist care (control). **RESULTS:** Mean follow-up-duration for 91 patients of the RCT was 386 days with a reulceration rate of 36% in the intervention group (n = 47) and 55% in the control group (p = 0.05). The model calculation over 10 years showed treatment costs per patient of €12,094 (SD 13,379) in the intervention and €18,538 (SD 16,120) in the control group. Costs for the general treatment of diabetes were not taken into account. The amputation rate under intervention declined to 40% versus 67% in the control group. Taking the mean life expectancy into account (6.1 vs. 5.1 ys.) average costs per patient-year were 1.985 € in the intervention group versus €3.654 in the control group. **CONCLUSION:** The model based analysis demonstrated the benefit of CC over a 10 year period in terms of reduced amputation rates and lower costs per patient and year.

PDB16

COSTS ASSOCIATED WITH GLUCOSE CONTROL IN THE NON-DIABETIC CRITICALLY ILL PATIENT

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OBJECTIVES: Hyperglycemia in the critically ill, non-diabetic patient has been shown to negatively affect clinical outcomes. Administration of continuous insulin infusion (CII) to maintain blood glucose (BG) between 80–110 mg/dL has thus become standard of care. The objective of this study was to compare the costs and BG levels associated with glucose control among patients pre- and post-CII protocol implementation in an intensive care unit (ICU). **METHODS:** Combination of time-in-motion (TIM) observations and retrospective random chart review to compare glucose control and costs in 2001 and 2004, prior to and after CII implementation respectively. TIM data determined time spent on activities related to glucose management and chart data determined frequency of respective activities per year. Study population included ICU patients >16 years old, mechanically ventilated for >12 hours, with no diagnosis of diabetes. Costs were determined for glucose monitoring with no insulin orders (2001), glucose management with sliding scale subcutaneous insulin (2001), and management with CII protocol (2004) using 2005 US$ from the hospital perspective. **RESULTS:** From a total 460 charts in 2001, 49 (11%) were reviewed. From a total 540 charts in 2004, 83 (15%) were reviewed. No differences in age, gender, marital status, or race by year were noted (p > 0.05). Costs (mean +/–SD) associated with monitoring and no insulin were $0.16 +/–0.56 (median = $0.00) per patient day, with subcutaneous insulin $10.08 +/–4.96 (median = $8.42), and with CII protocol $21.87 +/–3.90 (median = $22.49). Mean +/–SD daily blood glucose values were 138 mg/dL +/–24, 157 mg/dL +/–32, and 108 mg/dL +/–10, respectively. Regression analysis demonstrated statistical differences in BG (p < 0.01) by method. **CONCLUSION:** Costs associated with CII protocol are more than twice the costs of sliding scale subcutaneous orders per patient day, but result in recommended BG values below 110 mg/dL. Impact of costs on hospital policy will be discussed.

PDB17

ECONOMIC ASSESSMENT OF ADD-ON THERAPY WITH PROLONGED-RELEASE NICOTINIC ACID (NIASPAN®) IN STATIN-TREATED PATIENTS WITH DYSLIPIDEMIA AND TYPE-2 DIABETES IN GERMANY AND SWEDEN

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OBJECTIVES To evaluate the long-term clinical and economic outcomes of adding Niaspan® to statin treatment in Type-2 diabetes patients with persistently low HDL-c. **METHODS** Two models were developed to project long-term clinical and economic benefits. The first simulated the evolution of lipid levels with treatment utilising second order Monte Carlo methodology, and the second was designed to calculate the risk of coronary heart disease (CHD) events each subsequent year using standard Markov modeling techniques. Transition probabilities for CHD events were derived from the Framingham risk formulae. Baseline cohort characteristics and simvastatin treatment effects were taken from the 4S clinical trial (diabetes sub-group). Patients with persistently low HDL-c (<1 mmol/L) on statin treatment received either add-on Niaspan® or continued statin monotherapy. Treatment effects of Niaspan® were taken from several clinical studies summarized in the European SPC. Direct costs (2004 Euros) were accounted from a third party payer perspective. Annual discount rates of 5% (Germany) and 3% (Sweden) were applied to clinical outcomes and costs. **RESULTS** A total of 23.42% of patients were projected to have persistently low HDL-c levels after statin treatment. In these patients mean undiscounted life expectancies of 19.72 years and 19.13 years were projected for the Niaspan® and statin monotherapy arms respectively (undiscounted difference 0.59 years). Improvements in discounted life expectancy were 0.26 and 0.35 years respectively for Germany and Sweden. Lifetime direct medical costs were higher by €6,038 in Germany and €6,170 (SEK 56,308) in Sweden with addition of Niaspan®. Incremental cost-effectiveness ratios based on discounted life expectancies were €23,404 in Germany and €17,538 (SEK 160,099) per life year gained in Sweden for statin plus Niaspan® versus statin monotherapy. **CONCLUSIONS** In Germany and Sweden, addition of Niaspan® to statin treatment was highly cost-effective in Type-2 diabetes patients with persistently low HDL-c compared to statin monotherapy.

PDB18

COST-EFFECTIVENESS OF ADD-ON PROLONGED-RELEASE NICOTINIC ACID (NIASPAN®) THERAPY IN DIABETIC VERSUS NON-DIABETIC PATIENTS WITH DYSLIPIDEMIA: A UK PERSPECTIVE

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OBJECTIVES: To compare the long-term cost-effectiveness of adding Niaspan® to statin treatment in diabetic and non-diabetic patients with persistently low HDL c. **METHODS:** Two models were developed to project long-term clinical and economic outcomes. The first model (Monte Carlo simulation) was used to evaluate the impact of simvastatin treatment on lipid levels and identify patients with low HDL-c. Baseline cohort characteristics were taken from the diabetic sub-population of the 4S study. In

patients with HDL-c <1 mmol/L, treatment with statin plus add-on Niaspan® was compared to statin monotherapy. Niaspan® treatment effects were taken from several clinical trials as summarized in the European SPC. The second model (Markov) simulated the development of coronary heart disease events based on the Framingham risk formulae. Direct medical costs were accounted from a third-party payer perspective in the UK and expressed in pounds sterling (£). Annual discount rates of 3.5% were applied to clinical and cost outcomes. **RESULTS:** Niaspan® was associated with improvements in mean discounted life expectancy in diabetic (0.32 years) and non-diabetic cohorts (0.29 years) compared to statin monotherapy. Similarly, improvements in quality-adjusted life expectancy of (diabetic) 0.26 and (non-diabetic) 0.23 quality-adjusted life years (QALYs) were projected. Niaspan® was associated with increases in mean lifetime costs of £4492 (diabetic) and £4891 (non-diabetic) versus statin alone. This led to incremental cost-effectiveness ratios of £17,296 per QALY gained in the diabetic cohort and £21,150 in the non-diabetic cohort. **CONCLUSIONS:** Addition of Niaspan® to statin treatment was cost-effective by generally accepted standards compared to statin monotherapy in patients with persistently low HDL-c in the UK. In patients with Type-2 diabetes and an associated high risk of CHD events, add-on therapy with Niaspan® represented better value for money than in non-diabetic patients.

PDB19

ECONOMIC EVALUATION OF SWITCHING TYPE-1 DIABETES PATIENTS FROM LONG-ACTING INSULIN GLARGINE IN A BASAL/BOLUS REGIMEN TO LONG-ACTING INSULIN DETEMIR IN AN AUSTRIAN SETTING

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OBJECTIVES: To project the long-term clinical and cost outcomes associated with long-acting insulin analog treatment in patients with type-1 diabetes in an Austrian setting. **METHODS:** We used a published, validated and peer-reviewed computer simulation model of diabetes to project short-term clinical findings to evaluate long-term outcomes including quality-adjusted life expectancy, complication rates and direct medical costs. Clinical data have been derived from the PREDICTIVE study, an ongoing global post-marketing safety study, for a sub-group of patients with type-1 diabetes receiving long-acting insulin glargine (IGlar) in a basal/bolus treatment regimen at baseline and switched to long-acting insulin detemir (IDet). After 12 weeks of follow up, IDet-based basal/bolus treatment was associated with improvements in HbA1c (0.25%-points lower), reduced risk of hypoglycemic events (by 55%), and decreased body weight (0.27 kg) compared to IGlar-based treatment. Probabilities of complications and HbA1c-dependent adjustments were derived from the DCCT, Framingham, and WESDR studies (amongst others). Costs of treating complications were retrieved from published sources. Total direct costs (complications + treatment costs) were projected over patient lifetimes. Costs and outcomes were discounted at 3.5% per annum. **RESULTS:** Improved glycemic control, decreased hypoglycemic events and BMI with IDet-based basal/bolus therapy led to fewer diabetes-related complications and an increase in quality-adjusted life expectancy of 0.13 quality-adjusted life years (QALYs). IDet-based therapy was associated with slightly higher lifetime direct costs (€394 per patient) which led to an incremental cost-effectiveness ratio (ICER) of €3031 per QALY gained. **CONCLUSIONS:** Short-term clinical benefits associated with IDet-based basal/bolus therapy were projected to lead to improvements in quality-adjusted life expectancy and fewer diabetes related complications than IGlar-based regimens. Incremental cost-effectiveness analysis indicated that, over patient lifetimes, IDet-based combinations would represent good value for money versus IGlar-based therapy in the Austrian setting.

PDB20

BIPHASIC INSULIN ASPART 30 VERSUS ORAL HYPOGLYCEMIC AGENTS IN THE TREATMENT OF TYPE-2 DIABETES: LONG-TERM PROJECTION OF CLINICAL AND COST OUTCOMES IN SWEDEN

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OBJECTIVES: To project long-term clinical and cost outcomes associated with biphasic insulin aspart 30 (BIAsp 30) and oral hypoglycemic agents (OHAs) in a Swedish setting based on the findings of a randomized clinical trial. **METHODS:** A published, validated and peer-reviewed model of diabetes was used to simulate the progression of diabetes-related complications based on clinical trial data which showed that switching to BIAsp 30 significantly reduced HbA1c compared to continuation of OHAs in insulin-naïve patients with Type-2 diabetes over 16 weeks (difference in HbA1c reduction 0.648%; $p < 0.001$). Direct medical costs were accounted from a third party payer perspective in Sweden and expressed in 2004 Swedish Kroner (SEK). Costs and clinical benefits were discounted at 3% annually and sensitivity analyses were performed on treatment effect, time horizon and discount rates. **RESULTS:** BIAsp 30 was projected to extend life expectancy (mean [standard deviation]) by 0.47 [0.22] compared to OHAs (11.38 vs. 10.90 years). Quality-adjusted life expectancy was improved with BIAsp 30 by 0.42 [0.15] quality-adjusted life years (QALYs) versus OHAs (7.94 vs. 7.52 QALYs). BIAsp 30 was associated with a lower cumulative incidence of diabetes-related complications, particularly retinopathy and nephropathy. Mean direct lifetime costs were higher in the BIAsp 30 group (SEK 286,467 [11,745]) than in patients receiving OHAs (SEK 272,752 [12,885]), a difference of SEK 13,716 [17,030], leading to an incremental cost-effectiveness ratio of SEK 32,736 per QALY gained. Sensitivity analysis showed that these findings were robust under variation in a range of assumptions. **CONCLUSIONS:** Switching to BIAsp 30 was projected to reduce the incidence of diabetes-related complications, and improve life expectancy and quality-adjusted life expectancy, compared to continuation of OHAs in Type-2 diabetes patients. Switching to BIAsp 30 was projected to represent good value for money by internationally accepted standards in the Swedish setting.

PDB21

COST-EFFECTIVENESS ANALYSIS OF BASAL/BOLUS THERAPY IN TYPE-1 DIABETES USING INSULIN DETEMIR + INSULIN ASPART OR HUMAN SOLUBLE INSULIN-BASED BASAL/BOLUS REGIMENS IN GERMANY

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OBJECTIVES: In patients with type-1 diabetes, poor glycemic control is associated with an increased risk of complications. A recent clinical study provided evidence that basal/bolus treatment with insulin detemir + insulin aspart (IDet/IAsp) improved HbA1c (0.22%-points lower after 18 weeks), reduced the risk of hypoglycemic events (by 21%), and decreased body mass index