ambulatory setting [2] (cost base year 2005). As only costs were considered, no discounting was applied. RESULTS: In the first year after initiating a BOT, costs per patient were slightly higher (+€3.25) in GLA- than NPH-based regimens. From year two GLA regimens show an increasing cost advantage compared to NPH up to +€1,217 per patient. As all patients have been changed to ICT at year 10, a longer time horizon would not change the findings. Calculated for an estimated cohort of 44,366 German T2D covered by the SHI and starting a BOT with GLA (30%) or NPH (70%), the total costs over 10 years are €167,9 vs. €223.7 million, respectively. COSTS: Compared to a longer persistence therapy in T2D, long-term costs of GLA are lower compared to NPH. Therefore, initiating an insulin therapy using BOT with GLA leads to potential cost savings of €34 million per 10 years for the German SHI. References: [1] Diabetologia & Stoffwechsel 2009;41:1–6 [2] J Med Econ 2008;11:659–712.

PDB35

LOWER TREATMENT COSTS WITH INSULIN GLARINE COMPARED TO INSULIN DETEMIR IN A BASEL-BOLUS THERAPY UNDER REAL WORLD CONDITIONS IN GERMANY

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OBJECTIVES: To compare resource utilization and costs of type-2 diabetes (T2D) patients treated with either insulin glargine (GLA) or insulin detemir (ID) in a basal-bolus regimen. METHODS: LIVE-COM™ was a non-interventional study in 137 primary care centres in Germany (representative sample). 1731 T2D patients with statuary health insurance (SHI) status were enrolled when either treated with GLA (n = 1,130) or DET (n = 581) in a basal-bolus regimen for at least 6 months prior to documentation. Total direct diabetes treatment costs (DTC) derived from antidabetic medications (insulins, oral drugs) and consumables (test strips, lancets, needles) were assessed retrospectively over 6 months. RESULTS: Patient related characteristics (mean) for GLA (53% male) and DET (49% male), age: 66/65 years, BMI: 32.7/27 kg/m², HBA1c: 7.5/7.7%, fasting blood glucose: 140/148 mg/dL, onset of diabetes >10 yrs ago: 60/59%, start of insulin therapy >5 yrs ago: 62/64%, number of diabetic complications (3.0/2.9). Resource use: Compared to DET, GLA patients had on average fewer basal insulin injections per day (1.1 vs. 1.3) and required significantly less test strips (3.2 vs. 3.6). Mean daily total insulin dose (bolus/basal) was significantly lower in GLA (27/74.0/3) compared to DET (32/31.4/7). Reported hypoglycemia, hospitalization rates and frequency of physician contacts did not differ between groups. Adjusted mean DTC per patient and 6 months were €592 (GLA) vs. €601 (DET), p < 0.001. Adjusted mean single costs (GLA vs. DET) were: basal insulin €22.3/24 (p < 0.001), bolus insulin €241/289 (p < 0.001), oral drugs €373/61 (ns), test strips €347/93 (p < 0.001), needles €68/80 (p < 0.001), lancets €14/16 (ns). CONCLUSIONS: Insulin glargine based basal-bolus regimens resulted in annual cost savings of €256 per patient compared to DET regimens from the SHI perspective in Germany. GLA patients showed better glycemic control under routine care conditions. Long acting insulin glargine Versus Insulin detemir cost Evaluation COMparison.

PDB36

COST SAVINGS IN TYPE 2 DIABETES WITH INSULIN GLARINE COMPARED TO INSULIN DETEMIR IN A BASEL-BOLUS TREATMENT CONCEPT IN GERMANY

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OBJECTIVES: Cost comparison of insulin glargine (IG) versus insulin detemir (ID) in a basal-bolus regimen with mealtime insulin aspart in patients with type 2 diabetes (T2D) in Germany. METHODS: Clinical data were taken from a randomised controlled trial (RCT) [1]. IG was administered once daily, ID was administered once (45%) or twice daily (55%). After 52 weeks mean daily insulin dose was 77% higher (0.78 U/kg) than IG dose (0.44 U/kg). Glycemic control, weight gain, adverse events and risk of hypoglycemia were comparable after one year (non-inferiority trial) so a cost minimisation analysis was undertaken. It was assumed that a new needle, lancet, and test strip was used at the time of each injection. Annual direct treatment costs were estimated from the perspective of the German statutory health insurance (SHI). Simulated resources included medication and consumable items. Initial and final insulin doses and proportion of patients with once/twice daily insulin injection were taken from the RCT. Unit costs were taken from official German sources. Deterministic (DTA) and probabilistic sensitivity analyses (PSA) on resource use and unit costs were performed. RESULTS: Average annual treatment costs per patient (base case) were €941 for IG and €1406 for ID (annual cost saving €464).

PDB37

COST-MINIMIZATION ANALYSIS COMPARING BASAL ANALOGUE INSULINS IN HUNGARY

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OBJECTIVES: Different insulin regimens may have different efficacy that can be balanced by higher dosing, which means higher costs. Payers are considered to choose the more cost effective therapies, and pay less for the same efficacy results. Aim of our study was to determine the cost born on payers reimbursing basal analogue insulins. METHODS: We used two studies were designed to achieve the same clinical benefit, such as non-inferiority studies. This way the effectiveness will be the same and we could focus on costs only. Dose differences were multiplied with actual Hungarian costs. RESULTS: We used an article by Rosenstock in this study. Basal analogue insulins in BOT indication and another article by Holland on BOT indication. In the Rosenstock study patients required an average 31 unit higher daily insulin dose on detemir than on glargin, to achieve the same clinical effectiveness as there was no significant difference in terms of HbA1c levels. Using Hungarian drug costs, this higher dose with detemir related to an extra cost of HUF 111,887 per year. The case was the same with the Holland study where detemir patients required on average 22.5 unit higher daily dose of basal insulins and 4.3 unit more rapid insulin on daily average. In the Hungarian health care system this gives an extra cost of HUF 94,182 on yearly average. CONCLUSIONS: In clinical trials detemir patients requires significantly more insulin than glargin patients to achieve the same clinical benefit, which would result in a significantly higher cost in the Hungarian health care system.

PDB38

COST SAVINGS IN TYPE 2 DIABETES WITH INSULIN GLARINE COMPARED TO INSULIN DETEMIR IN A BASE SUPPORTED ORAL THERAPY (BOT) IN GERMANY

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OBJECTIVES: Cost comparison of basal insulin analogues detemir (ID) and glargine (IG) in combination with oral anti diabetic drugs (bot supported oral therapy; BOT) for type-2 diabetes patients in Germany. METHODS: Clinical data were taken from a randomised controlled clinical trial (RCT) [1]. IG was administered once daily, ID was administered once (45%) or twice daily (55%). After 52 weeks mean daily insulin dose was 77% higher (0.78 U/kg) than IG dose (0.44 U/kg). Glycemic control, weight gain, adverse events and risk of hypoglycemia were comparable after one year (non-inferiority trial) so a cost minimisation analysis was undertaken. It was assumed that a new needle, lancet, and test strip was used at the time of each injection. Annual direct treatment costs were estimated from the perspective of the German statutory health insurance (SHI). Simulated resources included medication and consumable items. Initial and final insulin doses and proportion of patients with once/twice daily insulin injection were taken from the RCT. Unit costs were taken from official German sources. Deterministic (DTA) and probabilistic sensitivity analyses (PSA) on resource use and unit costs were performed. RESULTS: Average annual treatment costs per patient (base case) were €941 for IG and €1406 for ID (annual cost saving €464). Sensitivity analysis of consumable items amounted at €380 (IG) and €388 (ID) respectively. Sensitivity analyses confirmed the findings in favour of glargine. PSA results found cost savings could be at least €500 with a probability of ~59%. CONCLUSIONS: The current model estimated that IG was associated with lower annual treatment costs of €664 (33%) compared to the use of detemir; a randomised, 12-week, treat-to-target trial comparing insulin detemir with insulin glargine as used-on as glucocard-lowering drugs in insulin-naive people with type-2 diabetes. Diabetologia 2008;51:408–16.

PDB39

ECONOMIC ANALYSIS OF GLARINE INSULIN AND DETEMIR INSULIN IN PATIENTS WITH TYPE 1 DIABETES MELLITUS IN MEXICO

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OBJECTIVES: To perform a comparative analysis of the costs linked to the treatment with Insulin Glargin (IG) or Insulin Detemir (ID) in type 1 diabetes mellitus patients from the Mexican private market perspective. METHODS: Clinical data related to each treatment derives from a study performed by Piber and cols. (2008): a 26-week open-label, parallel trial, which compares efficacy and safety of IG and ID both in combination with insulin aspart. Primary objective in efficacy was HbA1c and hypoglycaemia tolerability. HbA1c control is equivalent in the two regimens, while the overall risk of hypoglycaemia had no differences in confirmed hypoglycaemia. Patients treated with IG required higher basal dose, but lower basal and total dose of insulin. The cost of each treatment regimen was calculated taking into account the costs of basal and bolus insulins, needles, and blood glucose tests (BGT). Costs calculations referred to year 2009 and were derived from published tariffs. Sensitivity analysis was performed using a Monte Carlo simulation. RESULTS: Overall, patients treated with IG used 13.1 more insulin needles and 20.5 more BGT than patients treated with IG. IG and ID patients with IG has lower total costs than ID, which allows savings of €203 per patient in the 26-week-period. Savings with IG were related to the costs of total insulin, and the lower injections required of basal insulin. Sensitivity analysis showed savings from €58 to €65% between the percentiles 25 and 95. CONCLUSIONS: For patients with
INCREASED ADHERENCE AND NO ADDED COSTS TO PAYERS IN A US INSULIN ADMINISTRATION WITH FLEXPEN® IS ASSOCIATED WITH BETTER ORAL ANTIDIABETIC MEDICATION ADHERENCE: A PROSPECTIVE, PREDICTIVE, INTERVENTIONAL, PHARMACIST-conducted MEDICATION THERAPY MANAGEMENT PROGRAM (MTMP) STUDY

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OBJECTIVES: To examine the relationship between Hemoglobin A1c (HbA1c) values and medication adherence over time in diabetic patients participating in a pharmacist-conducted Medication Therapy Management program (MTMP). METHODS: This study used a prospective, intention-to-treat, pre-post longitudinal design assessing the impact of a pharmacist-conducted employer sponsored MTMP on clinical and humanistic outcomes of employees, their spouses and covered dependents with Type 2 diabetes. Enrollment began in January 2008. As an incentive to participate, patients received a 3 month supply of medications at the cost of one copay. Pharmacist interventions included medication therapy reviews, discussing details about patients’ disease state and the importance of medication adherence, and informing patients about appropriate lifestyle modifications. HbA1c was measured using the Cholestech LDX at the pharmacy every three months and adherence was measured at baseline, 3 months, and nine months. Patient reported adherence was measured using the Morisky scale. Currently, most patients have completed six months in the program and more than 85% have started the pharmacist-conducted Medication Therapy Management program (MTMP) study.

RESULTS: A total of 532 patients switched to FlexPen® were matched to a cohort continuing on an analog insulin (n = 532) administered by vial/insulin. Insulin DACON increased in both cohorts by 6-10% from the 12-month pre-period to the 12-month post-period. However, DACON increased approximately 2 units more among patients switching to FlexPen® than the vial/insulin cohort (p = 0.0299). In addition, hypoglycemic events decreased in the FlexPen® cohort from 6.39% in the pre-period to 4.89% in the post-period while hypoglycemic events increased in the vial/insulin cohort from 4.89% to 5.83%. Despite higher acquisition costs of FlexPen® vs. vials there were no differences in pharmaceutical costs (5.414 vs. 4.790; p = 0.08) or total costs (13.214 vs. 13.211; p = 0.95) in the follow-up period. CONCLUSIONS: Patients switched to FlexPen® administration experienced an increase in DACON compared to the analog vial cohort, which is likely to be associated with improved adherence. Despite increase in DACON with FlexPen® total health care and pharmaceutical costs were similar between groups in the follow-up period. Hypoglycemic events decreased in the FlexPen® cohort while they increased in the analog vial cohort.

MEDICATION ADHERENCE IN LOW INCOME ELDERLY TYPE 2 DIABETES PATIENTS: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: Few studies have examined the association between medication adherence and in low-income elderly type 2 diabetes patients. The study objective was to determine the age associated medication adherence among low-income type 2 diabetes patients enrolled in Medicaid. METHODS: This was a retrospective cohort study, which compared medication adherence among different age groups of Medicaid insured patients with type 2 diabetes newly starting oral anti-diabetic medication. The study compared the differences in medication adherence among 681 patients aged 18–44 years, 18–44 years, and 44–64 years and 161 patients aged 65+ years. Medication adherence rate was significantly higher for age group 65+ years [0.39 (0.31), (p = 0.051)] as compared to age groups 18–44 years [0.56 (0.31), (p = 0.055)] and 44–64 years [0.22 (0.17), (p = 0.055)] respectively. Multiple regression analyses showed that compared to age group 18–44 years, age groups 65+ and 44–64 years had significantly higher adherence rate by 13.4% and 12.5% respectively. Metformin users were associated with a 34.5% decrease in adherence rate as compared to the sulfonylurea users (p < 0.05). CONCLUSIONS: Better oral antidiabetic medication adherence was associated with increased age. Future research should investigate patient-related factors affecting medication adherence with an emphasis on the development of efficient medication management therapies which may in turn, reduce health care costs and disease burden in low-income elderly diabetic patients.

EXAMINING THE RELATIONSHIP BETWEEN GLYCEMIC CONTROL AND MEDICATION ADHERENCE IN DIABETIC PATIENTS

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OBJECTIVES: To examine the relationship between Hemoglobin A1c (HbA1c) values and medication adherence over time in diabetic patients participating in a pharmacist-conducted Medication Therapy Management program (MTMP). METHODS: This study used a prospective, intention-to-treat, pre-post longitudinal design assessing the impact of a pharmacist-conducted employer sponsored MTMP on clinical and humanistic outcomes of employees, their spouses and covered dependents with Type 2 diabetes. Enrollment began in January 2008. As an incentive to participate, patients received a 3 month supply of medications at the cost of one copay. Pharmacist interventions included medication therapy reviews, discussing details about patients’ disease state and the importance of medication adherence, and informing patients about appropriate lifestyle modifications. HbA1c was measured using the Cholestech LDX at the pharmacy every three months and adherence was measured at baseline, 3 months, and nine months. Patient reported adherence was measured using the Morisky scale. Currently, most patients have completed six months in the program and therefore analysis focused on comparing baseline and the three month time point. A Wilcoxon signed rank test was used to determine changes in HbA1c values over time and a Spearman correlation was used to examine any relationship. RESULTS: Patients who began the program with uncontrolled HbA1c values experienced a significant decrease of 0.79% in HbA1c values from baseline to 3 months. Adherence levels improved significantly from baseline to 3 months (p = 0.05). There was a significant inverse relationship between A1c levels and medication adherence at 3 months (Spearman’s ρ = −0.264, α = 0.05, N = 70). Final results will be presented at the conference. CONCLUSIONS: As adherence to medications increased there was a decrease in HbA1c values. Patients with improved adherence were able to maintain better