MELLITUS IN POLAND

PREMIXED HUMAN INSULIN IN TREATMENT OF TYPE-2 DIABETES

M1, treatment with IG is an efficacious and cost-saving option compared with ID, allowing savings for up to 17.3% per patient-year.

Cost-utility of BIPhasic INSULin ASPart compared with PREmixed HUMAN INSULIN in treatment of type-2 diabetes mellitus in Poland

OBJECTIVES: To evaluate cost-utility of biphasic insulin aspart (BIAsp) compared with premixed human insulin (Premix) in type-2 diabetes mellitus. METHODS: A cost-utility analysis based on The CORE Diabetes Model was conducted, resulting in estimation of total direct costs incurred by the National Health Fund and patients, life years gained (LYG) and quality-adjusted life years (QALY). The CORE Diabetes Model is a complex tool allowing for evaluation of long-term health and economic outcomes of different treatment options in diabetes mellitus. It is designed as a Markov model using Monte Carlo simulations and is based on a series of interconnected sub-models representing diabetes complications. Cohort baseline characteristics and base-line distribution between states in the model were derived from published literature. Treatments were defined in the means of a change in HbA1c level and hypoglycemia rates calculated on the base of systematic review of RCTs. Default settings were used regarding to transition probabilities and utilities of health states. Costs from the NHF-patient perspective were calculated. Time horizon in the model was set to 30 years until death. In order to estimate the probability of BIAsp being cost effective in Polish setting (threshold about 91,000 PLN) bootstrap simulations were performed.

RESULTS: Both treatments were comparable in terms of LYG (7.47 for BIAsp and 7.46 for Premix), but BIAsp yielded higher QALY (5.06 vs. 4.95 for BIH). Costs generated by BIAsp were 30,079 PLN and by premixed insulin 24,970 PLN. Incremental cost per QALY for BIAsp compared with Premixed was 49,425 PLN. Probability of BIAsp cost effectiveness over Premixed was 63% for QALY and 41% for LYG.

CONCLUSIONS: Biphasic insulin aspart improves quality of life what translates to higher QALY. Despite higher costs associated with treatment, biphasic insulin aspart seems to be cost-effective in Polish setting.

Cost-utility of insulin glargine in combination therapy with oral agents compared with premixed insulin with or without of oral agents in type 2 diabetes. The Polish perspective

OBJECTIVES: To evaluate cost-utility of insulin glargine (IGlar) in combination therapy with oral antidiabetic drugs (OAD) compared with premix insulin (IMix) added to OAD and IMix alone in patients with type 2 diabetes. METHODS: A micro-simulation DES model was used to estimate utilities and costs. Costs were calculated from the National Health Fund (NHF) perspective and form NHF plus patient perspective. Each simulation was executed in one year cycles at the time of the patient’s death. Transition probabilities between health states were calculated based on a systematic review of RCTs and supplemented with published literature if necessary. Health state utilities were taken from published literature. Probabilistic sensitivity analysis was performed to estimate the probability that IGlar with OAD is cost effective in Polish settings (threshold about 91,000 PLN). RESULTS: From NHF perspective IGlar added to OADs compared with IMix added to OADs was dominant therapy (e.g. less costly (cost difference PLN2,496) and more effective (QALY difference 0.19) and from NHF plus patient perspective incremental costs were PLN319,800 per QALY gained. From NHF perspective the probability of IGlar+OAD cost effectiveness over IMix+OAD was 96.9%; and IGlar+OAD over IMix alone was 82.8%. CONCLUSIONS: According to this analysis performed in Poland, Insulin glargine, when added to OADs, seems to be more cost effective than insulin mixture, both in combination with OADs and alone.

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

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 Medicare. METHODS: This was a retrospective cohort study, which compared medication adherence among different age groups of Medicare insured patients with type-2 diabetes newly starting oral antidiabetic medication. The study compared the differences in medication adherence among 681 patients aged 18-44 years, 2327 patients aged 45-64 years and 161 patients aged 65 years or older starting antidiabetic medication between July 2001 and June 2002. Medication adherence was measured as medication possession ratio using prescription refill patterns. Multiple regression analyses were used to determine the difference in adherence rates across groups. RESULTS: Medication adherence rate was significantly higher for age group 65+ years [0.59 (0.31), (p = 0.05)] as compared to age groups 18-44 years [0.56 (0.31), (p = 0.05)] and 44-64 years [0.22 (0.17), (p = 0.05)] 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 both 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

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 DX with 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 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 adherence compared to vialsyringe use. This study analyzed the impact of switching from insulin analog in vials to the prefilled pen, FlexPen®. METHODS: Real world data from a large commercial health plan in the US were investigated and insulin daily average dose, hypoglycemic events and total costs were analyzed before and after switch to FlexPen®. To control for the general change in insulin consumption the FlexPen® cohort was compared to a matched cohort that continued analog insulin in vials. RESULTS: A total of 312 patients switched to FlexPen® were matched to a cohort continuing on an insulin analog (n = 332) administered by vialsyringe. 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/syringe 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 vialsyringe cohort from 4.89% to 5.38%. 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.