objects. Direct costs of diabetes complications and drug treatment were projected over patients’ lifetimes from a UK National Health Service perspective. Both costs and QALYs were discounted at 3.5% p.a. Sensitivity analyses were performed. RESULTS: The model projected that treatment with IAsp would result in an additional 0.08 LYs and 0.09 QALYs per patient. Total lifetime costs/patient were estimated to increase by £419. The cost/LYs was calculated to be £5430 and cost/QALY £4825. CONCLUSION: The model predicted that treatment with insulin aspart would result in long-term improvements in health outcomes and quality of life compared to soluble human insulin in patients with type-1 diabetes. The cost-effectiveness result is well within the range considered to represent good value for money in the UK.

EVALUATION OF THE IMPACT ON THE EQ5DINDEX (HEALTH-RELATED UTILITY) OF CONVERSION TO INSULIN GLARGINE (LANTUS) FOLLOWING FAILURE ON ORAL AGENTS IN PEOPLE WITH TYPE-2 DIABETES: INTERIM ANALYSIS

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OBJECTIVE: In their evaluation of the cost effectiveness of insulin glargine, NICE included an assumption that switching to insulin would result in decreased health utility (8%). This altered notably any resulting cost-utility ratios. The purpose of this study was to test this hypothesis. METHODS: The design was a before-and-after study for type-2 patients who required switching to insulin. All followed an algorithm to achieve fasting and post-prandial blood glucose targets. Outcome measures included a measure of utility (EQ5Dindex) at baseline, three-months and six-months. This report was a preliminary analysis of the first 48 subjects, of which 32 had completed 12 weeks and 26 had completed the full 24-week study. RESULTS: Of the 26 subjects, 21 (81%) remained on glargine with or without OHAs, two required additional pre-meal boluses, and three required twice-daily pre-mixtures. The mean (SD) EQ5Dindex at baseline was 0.655 (0.275; \( n = 24 \)), at three-months 0.637 (0.333; \( \Delta \) vs. baseline NS) and at six-months 0.710 (0.319; \( \Delta \) vs. baseline NS). At three-months, six patients had worse utility and six better utility, while 12 reported no change. At six-months, four patients had worse utility after switching, and 11 had better utility, the remaining nine subjects reported no change. Over the six-months, mean BMI increased from 29.4 to 30.0 kg/m² (\( n = 23 \), \( p < 0.001 \)) and mean HbA1c decreased from 10.1% to 7.8% (\( n = 23 \), \( p < 0.001 \)). Mean daily insulin dose at six-months was 61.6 units (range 24 to 178). CONCLUSIONS: This is a limited but important interim analysis. The hypothesis that switching to insulin—here insulin glargine—resulted in a notable decrease in utility (quality of life) was rejected, with a trend for a clinically meaningful improvement in utility. Economic evaluations should, therefore, exclude this assumption. This observation is not necessarily generalisable to all insulin regimens.

DEPRESSION IN PATIENTS WITH TYPE-2 DIABETES: IMPACT ON UTILIZATION PATTERNS AND ADHERENCE TO ORAL HYPOGLYCEMIC AGENTS

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OBJECTIVE: To examine the impact of pre-existing depression on utilization patterns and adherence to oral hypoglycemic agents (OHAs) in patients newly diagnosed with type-2 diabetes. METHODS: Newly diagnosed type-2 diabetes patients during the three-year period (1998–2000) were identified from a Medicaid claims database. Presence of pre-existing depression was determined on the basis of ICD-9 CM codes for depression. Utilization patterns (switching, augmentation) and adherence to OHAs were computed for a 12-month follow up period from the date of the index OHA prescription. A multivariate framework was used to estimate the impact of depression on utilization patterns and adherence, controlling for confounders such as demographics, co-morbidity, diabetes severity, regimen complexity, and interaction with health care providers. RESULTS: A total of 1326 newly diagnosed type-2 diabetes patients were identified (depressed = 471; non-depressed = 855). A significantly higher number of depressed patients (23.3%) switched or augmented therapy as compared to non-depressed patients (16.2%). Results of a multinomial logit model indicated that controlling for covariates, patients with depression were 1.7 times more likely to switch (\( p = 0.046 \)) and two times more likely to augment...
therapy (p = 0.003) as compared to non-depressed patients. Results of an extended-Cox proportional hazard model indicated that the hazard to switch/adjust therapy was 2.4 times more for depressed patients as compared to non-depressed patients in the latter six-months of the follow-up period (p = 0.0005). Depression was consistently found to be a significant predictor of adherence, with depressed patients being 3–6% less adherent to their OHAs than non-depressed patients. CONCLUSION: Depression significantly impacts utilization patterns and adherence to OHAs in patients with type-2 diabetes. This lack of adherence may affect glycemic control and consequently incidence of diabetes related complications. The study results imply that depression screening and treatment may be included in the protocol for management of type-2 diabetes patients.

**BURDEN OF NON-ADHERENCE TO ORAL ANTIDIABETICS**

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**OBJECTIVE:** Measure the effect of non-adherence to oral antidiabetic medications on total and diabetes-attributable health care costs in a managed care population. **METHODS:** Using a large managed care administrative claims database, all patients with a prescription for an oral antidiabetic from January, 2000 through June, 2001 were selected (n = 54,505) from among continuously eligible patients age 18 years and older. Total and diabetes-attributable costs were computed during one year of follow-up. A non-adherence variable, the total number of days that each patient was without antidiabetic medication, was computed. The computation allowed for stashing of antidiabetics within classes but not across classes (alpha-glucosidase, metformin, other secretagogues, sulfonylureas, thiazolidinediones). Multivariate log-linear regressions were estimated for costs using adherence, diabetes severity, overall comorbidity burden, hospitalization in prior six-months, concomitant insulin use, patient initiating antidiabetic therapy, insurance plan, and demographic variables. **RESULTS:** Overall, total and diabetes-attributable costs decreased with worsened adherence to oral antidiabetics. However, for the most costly patients (top 40%, median annual costs of $9391), there was a 1.66% increase in total costs for each 30 additional days without oral medication. Only patients with the top 10% of attributable costs had increased diabetes-attributable costs with worsening adherence. After excluding the cost of prescription antidiabetic medications, non-adherence increased costs in all but the lowest-cost patients (bottom 30%). The top 40%, with median non-drug attributable costs of $1339, realized a 6.38% cost increase with each 30 days without medication and the middle 30%, with median of $741, realized a 3.76% increase. **CONCLUSIONS:** During one year of follow-up, non-adherence to oral antidiabetics increased total and diabetes-attributable costs for the most resource-intensive patients but did not increase average costs for the population overall. For the 70% of patients with the highest diabetes-attributable costs, worsening adherence increased the medical services portion of diabetes-attributable costs.