

## PDB9

# A RETROSPECTIVE ANALYSIS OF SHORT-TERM COSTS AND UTILIZATION ASSOCIATED WITH GLYCEMIC CONTROL AMONG TYPE2 DIABETIC PATIENTS WITHIN A MANAGED CARE ORGANIZATION

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Diabetes is the fourth leading cause of death in the U.S. and a major cause of blindness and heart disease. Studies have demonstrated that tight glycemic control prevents long-term microvascular/macrovascular complications and may offset the associated substantial healthcare costs. It has been demonstrated that 1.0% or greater improvement in glycemic control resulted in cost saving of \$685–950/patient/year.

**OBJECTIVES:** To evaluate relationship between total healthcare costs/utilization and changes in hemoglobinA1c (HbA1c) levels as a proxy for aggressive glycemic control in type2 diabetic patients.

**METHODS:** A retrospective database analysis of laboratory data, pharmacy, and medical claims from a managed care organization. Patients were selected from a comprehensive diabetes management clinic and had at least two HbA1c tests that were between 3 and 9-months apart. All patients had at least one oral anti-diabetic medication 6-months prior to the first HbA1c-test. Follow-up time was time between two HbA1c tests and varied among patients. Costs and utilization per-member-per-month were compared between two cohorts, improving glycemic control and worsening control stratified by HbA1c changes (+/-1%). Outcomes were adjusted by age, gender, co-morbid conditions, insulin-use, previous hospitalizations, physician visits, and prescription counts.

**RESULTS:** A total of 491 patients were identified, with mean age of 70.8 (+/-10.5) years, 46.6% female (n = 229), and mean initial-HbA1c-level of 7.2% (+/-1.4; min = 3.5, max = 13.8). Among them, 45.2% (n = 222) exhibited improved-control and 48.9% (n = 240) exhibited worsened-control. Patients with improved control had significantly higher adjusted average hospital costs than those who worsened, \$1,374 vs. \$449 (p < 0.05). Although not statistically significant, patients with improved in glycemic control had a higher average number of anti-diabetic medications and physician visits than those who worsened.

**CONCLUSIONS:** Improved glycemic control is associated with greater short-term healthcare utilization and costs. Despite relatively well managed by the specialty-clinic, patients showed further improvement in glycemic control after hospital events. Future research is needed to assess the long-term impact of glycemic control on healthcare costs.

## PDB10

# INCIDENCE, MANAGEMENT AND COST OF CARDIO-VASCULAR AND RENAL COMPLICATIONS IN FRENCH TYPE 2 DIABETIC PATIENTS

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Type 2 diabetes causes a significant economic burden on the healthcare system in developed countries. Management of macro and micro vascular complications contributes as a major part of the direct costs.

**OBJECTIVE:** Estimate the incidence, prevalence, current management and direct costs of cardiovascular and renal complications in type 2 diabetic patients in the French setting.

**METHOD:** A representative sample of 5,478 diabetic patients was randomly selected from a database collecting on-line medical data in a network of 650 French GPs. Patients were selected on the criteria of at least two visits to their physician on the period May 2000–April 2001. A questionnaire was sent by mail to the GPs to collect additional retrospective medical data on renal and cardiovascular complications. Corresponding costs were estimated with unit costs from external sources.

**RESULTS:** The mean duration of diabetes was 10.0 years and the mean age was 64 years. 29% of patients had a Hb1c <6.5% and 39.2% in the range 6.5–8%. Annual incidence of main complications (Myocardial Infarction, Stroke, Congestive Heart Failure, Chronic Renal Insufficiency and End-Stage Renal Disease) were estimated in the range 0.54 to 1%. 48% of the patients had BP > 140/80 mmHg. The study showed that 26.7% of patients had no Hb1c testing during the last year, 48% no LDL cholesterol, 40% no creatininemia and 60% no ophthalmologic surveillance. The direct annual costs associated with these complications were estimated 1 Billion Euros for the whole French diabetic population (1.5 million). Contribution to this cost was as following: stroke 36%, MI 22.2%, CHF 17.4% and ESRD 24.4%.

**CONCLUSION:** Considering the current glycaemic control and the quality of management of diabetic patients, substantial benefits could be achieved that would reduce the extra-costs of complications.

## PDB11

# HEALTH SERVICES COST AND UTILIZATION COMPARISONS AMONG LISPRO AND NON-LISPRO REGULAR INSULIN USERS

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**OBJECTIVE:** To compare health services utilization and cost among commercially insured users of lispro insulin and non-lispro regular insulin.