DIABETIC PATIENTS IN SPAIN

Secnik K, Yurgin NR, Lara N2, Badia X, Dilla T1, Cordero LA1
1Eli Lilly and Company, Indianapolis, IN, USA, 2Health Outcomes Research Europe, Barcelona, Spain, 3Eli Lilly Spain, Alcobendas, Spain

OBJECTIVES: Management of Spanish patients with Type 2 diabetes and predictors of adherence to their medication.

METHODS: Multicenter, naturalistic study of type 2 diabetes patients with a diagnosis longer than one year. Patients were consecutively included in the study among those attending any of the selected 30 Primary Care Centers distributed throughout Spain. Sociodemographic and clinical variables were collected. Patients completed the Morisky-Green questionnaire as a measure of adherence. A logistic regression was performed with sociodemographic, clinical, and treatment variables to predict factors of adherence.

RESULTS: A total of 294 patients were included in the study (mean age = 67.5 yrs; mean duration of diabetes = 9.9 yrs). A total of 6.1% were not receiving anti-diabetic pharmacological treatment, 70.4% received oral(s) therapy, 10.9% were in insulin therapy, and 12.6% a combination of insulin and oral(s) therapy. A total of 58.2% of patients had poor glycemic control (HbA1c > 6.5%). With respect to diabetic complications, 20.4% of patients suffered from microvascular complications only, 11.2% reported macrovascular issues only while 14.3% suffered from both micro and macrovascular complications. The Morisky-Green questionnaire showed only 47.8% of the selected 30 Primary Care Centers distributed throughout Spain. Sociodemographic and clinical variables were collected. Patients completed the Morisky-Green questionnaire as a measure of adherence. A logistic regression was performed with sociodemographic, clinical, and treatment variables to predict factors of adherence.

CONCLUSIONS: Oral agents were the most commonly prescribed anti-diabetic pharmacological agent. Less than half of the patients reported high adherence to their medication. The level of diabetes control and insulin treatment were found to be associated with adherence although further work should investigate the causal relationship between these variables.
ENDOCRINE DISORDERS

DETERMINATION OF THE TOTAL COST OF DIAGNOSTIC PROCEDURE BY FINE NEEDLE ASPIRATION CYTOLOGY IN PATIENTS WITH THYROID NODULES

Borget I, Vielli P Schlumberger M, De Pouvoirville G
Gustave Roussy Institute, Villejuif, France

OBJECTIVES: The prevalence of thyroid nodules is high with four to seven percent in the general population. Fine-needle aspiration cytology (FNA-t) is recommended as the reference test because it is minimally invasive, presents an optimal positive predictive value and is cost-effective when compared to whole-body-scan (WBS). The diagnosis is known for the fraction of patients operated. Suspicious findings are a dilemma. For benign and indeterminate results, a long-term follow-up delayed the time of diagnosis. This study aims to determine the total cost of a true diagnosis by FNA-t. The model takes account of false-positive, false-negative, suspicious and indeterminate results.

METHODS: A Markov model was built describing the trajectory and the management of patients, from the first FNA-t and until a conclusive diagnosis was obtained. We derived estimates for patient, diagnostic accuracy values and follow-up from a retrospective study, including patients who had their first FNA-t in 2003 or 2004. Costs were computed from the viewpoint of the hospital. A microcosting study was assessed to determine the unit cost of FNA-t. Costs of hospital stays for surgery were extracted from the hospital cost accounting. Sensitivity analyses were performed.

RESULTS: A total of 105/390 patients were operated. Specificity and sensitivity values were respectively 86% and 78%. The unit cost of FNA-t was estimated to €118. Markov modeling showed that the mean total cost of a true diagnosis was €997 per patient, including unnecessary surgeries, FNA-t and follow-up. Cost decreased with the capacity of the cytologist to minimize indeterminate results. CONCLUSION: The true cost of a given procedure exceeds its unit cost of production. This result is conditional to the performance of the cytologist and is highly dependent on the 29% of indeterminate results. Ultrasound-guidance would reduce this rate and the true cost by a great deal at a relatively low unit cost.

COST COMPARISON OF HUMAN GROWTH HORMONE DELIVERED VIA PEN DEVICES VERSUS VIAL/SYRINGE IN ADULT PATIENTS: A BUDGETARY IMPACT MODEL

Bazalo GR1, Joshi AV2, Germak JA3
1Managed Solutions, LLC, Conifer, CO, USA, 2Novo Nordisk Pharmaceuticals, Inc, Princeton, NJ, USA, 3Novo Nordisk Pharmaceuticals, Princeton, NJ, USA

OBJECTIVE: To assess the economic impact to the US payer of recombinant human growth hormone (rHGH) utilization in an adult population. METHODS: rHGH may be administered to pediatric patients via vial/syringe or pen injection systems provided by six manufacturers. Variation in annual drug cost is largely a function of dosing efficiency and price per milligram (mg). A budgetary impact model was developed to calculate drug costs based on product waste and cost. Waste was calculated as the difference between prescribed dose, based on patient weight, and actual delivered dose, based on dosing increments and maximum deliverable dose for pens and a fixed percent waste as derived from the literature for vials. Annual drug costs were calculated based upon total mg delivered, using a daily dose of 0.03 mg/kg and wholesale acquisition cost. Total annual drug costs, assuming equal use of vials and pens from each manufacturer, were compared for two scenarios: 1) A mix based on national market share and 2) restricting use to the product with lowest waste.

RESULTS: Based on the literature, waste for each vial product was 23%, including injection error (15%) and syringe/needle dead space (8%). Among individual pens, waste was highest for Humatrope 24 mg (19.5%) and lowest for Norditropin NordiFlex 5 mg (1.1%). Equal use of vials and pens from each manufacturer resulted in the following product waste: Tev-Tropin 23% (vial only), Nutropin 18.4%, Humatrope 14.5%, Genotropin 7.1%, Saizen 4.6%, and Norditropin 3.6%. Restricting use to the product with least waste (Norditropin) resulted in an 11.0% reduction in annual patient cost from $19,196 to $17,089 compared to national share mix. CONCLUSION: Pen delivery systems result in less waste than vial and syringe. Considering all approved delivery systems, Norditropin resulted in the least product waste and lower annual patient cost.

COST COMPARISON OF HUMAN GROWTH HORMONE DELIVERED VIA PEN DEVICES AND VIAL/SYRINGE IN PEDIATRIC PATIENTS: A BUDGETARY IMPACT MODEL

Bazalo GR1, Joshi AV2, Germak JA3
1Managed Solutions, LLC, Conifer, CO, USA, 2Novo Nordisk, Inc, Princeton, NJ, USA, 3Novo Nordisk Pharmaceuticals, Princeton, NJ, USA

OBJECTIVE: To assess the economic impact to the US payer of recombinant human growth hormone (rHGH) utilization in a pediatric population. METHODS: rHGH may be administered to pediatric patients via vial/syringe or pen injection systems provided by six manufacturers. Variation in annual drug cost is largely a function of dosing efficiency and price per milligram (mg). A budgetary impact model was developed to calculate drug costs based on product waste and cost. Waste was calculated as the difference between prescribed dose, based on patient weight, and actual delivered dose, based on dosing increments and maximum deliverable dose for pens and a fixed percent waste as derived from the literature for vials. Annual drug costs were calculated based upon total mg delivered, using a daily dose of 0.03 mg/kg and wholesale acquisition cost. Total annual drug costs, assuming equal use of vials and pens from each manufacturer, were compared for two scenarios: 1) A mix based on national market share and 2) restricting use to the product with lowest waste.