passive safety pen device would result in total estimated cost savings of $17,865.40 annually. CONCLUSIONS: The implementation of insulin pens in device care results in cost savings, as well as time savings for nurses that may be re-directed to increased time at the patient bedside.

PDB113 EPIDEMIOLOGY AND DIRECT HEALTH CARE COSTS OF DIABETIC RETINOPATHY: RESULTS FROM A POPULATION-BASED STUDY

Conceição J1, Araújo F1, Lopes J1, 2, Dores J1, Silva C1, 2, Nogueira L2, 3, 4, Laires P, 2, 5

1University of Coimbra, Coimbra; 2Hospital Beatriz Ângelo, Loures, Portugal, 3Hospital de São José do António, Porto, Portugal, 4Eurotrials, Lisbon, Portugal, 5Merck & Co., Inc., Whitehouse Station, NJ, USA

OBJECTIVES: The aim of this study was to assess the epidemiologic and economic burden of diabetic retinopathy (DR) in terms of incidence, treatment patterns and cost by a population-based study. METHODS: Eligible patients were identified in a data source (DENALI), which matches demographic, clinical, and economic data of about 9.9 million individuals of Lombardy region. The study population consists of all individuals with a diagnosis of diabetes who, during the period 1-1-2000 to 31-12-2010 received one of the following health care services: hospitalization due to eye disorders, fluorescein angiography or angiography of eye, destruction of chorioretinal lesion, repair of retinal tear, injection of vitreous substitute, and repeated ophthalmic examinations. The study population was followed for a minimum of 1 to a maximum of 10 years. We evaluated demographic characteristics of the study population and costs from the National Health Service’s perspective. RESULTS: The 2000-2010 DR population was estimated to be around 127,000 (62% male). The average incidence per year and the 2010 prevalence were 6.1 and 24.5 per 100,000 diabetic patients. Median age (min-max) at the index event was 68.6 (63.0-104.4) with 37% younger than 65-years. Around 15% of the population had Charlson Comorbidity Index score ≥1 at the time of the index event. Mortality was 4.1 per 1,000 patient-years, median length of stay of 5.4 days and were most commonly hospitalized at the Internal Medicine department (n=80, 76%). Nine patients (8.6%) died during hospitalization. Hospitalized patients had a following average transport cost per hospital care and transport €34 (90-192), emergency room €218 (58-1,348), hospitalization cost €2,880 (1,140-26,486); productivity loss costs due to ER and hospitalization €31 (0-1,579). Thus, total mean cost per hypoglycemic event leading to hospitalization was €1,863 (€296-22,050). We conclude that severe hypoglycemia represent a substantial cost to Society and to the public hospitals of the National Health System in particular for those cases requiring hospitalization.

PDB116 THE HEALTH SERVICE AND ECONOMIC IMPACT OF GLUCAGON RESCUE ADMINISTRATION DURING SEVERE HYPOGLYCEMIC EVENTS

Leinwand B, Hughes KE, Incocereti T, Avalle Health, Washington, DC, DC, USA

OBJECTIVES: Hypoglycemia, which if left untreated, can be severe and result in seizures, unconsciousness, and coma, during which another person’s help is required to administer a rescue dose of glucagon. Injectable glucagon kits are difficult to use and require training to administer. This study aimed to quantify the economic impact of using glucagon kits on resource use and costs, and identify evidentiary gaps requiring future investigation. METHODS: A conceptual model was developed illustrating the series of events resulting from a SHE: successful administration of glucagon, ambulance calls, transport to the ED, inpatient admission, and outpatient follow-up. A literature search on resource use and costs associated with severe hypoglycemia events (SHE) English language articles were reviewed in PubMed, IMBase and Cochrane databases. RESULTS: Resource use associated with SHE, as a function of severity, has not been systematically measured in the literature. Uncertainty exists for the probability of receiving a glucagon prescription for diabetics and successful use of glucagon kits. Furthermore, based on successful administration of glucagon, the probability of ambulance calls, transports to the ED, and inpatient admissions, we estimate productivity loss costs due to ER and hospitalization. CONCLUSIONS: Diabetes is a costly condition for payers, and a common complication is hypoglycemia. Glucagon kits are effective in stabilizing diabetic’s blood glucose levels during SHE, however, oftentimes physicians do not prescribe a patient’s dose, or caregivers do not successfully administer glucagon due to the complex administration procedures. As less complicated glucagon products are developed, their value propositions must be informed by the economic implications required to select the complex medication. However, the current literature does not systematically evaluate these implications. Consequently, future research is needed to quantify the impact of non-successful administration of glucagon rescue kits, as well as the extent of under-utilization.

PDB117 HIPO-ER (HYPOGLYCEMIA IN PORTUGAL OBSERVATIONAL STUDY – EMERGENCY ROOM): COSTS AND HEALTH CARE RESOURCE CONSUMPTION DATA

Laires P1, Conceição J1, Araújo F1, Dores J1, Silva C1, 2, 5, Nogueira L1, 2, 3, 4, Laires P1, 2, 5

1Hospital de São José do António, Porto, Portugal, 2Eurotrials, Lisbon, Portugal, 3Merck & Co., Inc., Whitehouse Station, NJ, USA

OBJECTIVES: HIPO-ER is an observational, cross-sectional, multicenter national study to describe the patient population of type 2 diabetics with hypoglycemic epi-sodes that enter the emergency department caused by an anti-hyperglycemic agent (AHA). A key secondary objective is to estimate health care resource consumption and associated with this type of hypoglycemia. METHODS: The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan2013-Jan2014). Patient level data and resource utilization were collected. Average costs were assessed by multiplying 2014 unit costs (available from public sources) with all relevant health care resource consumption items registered in the emergency room following the hypoglycemia events and through hospital accountancy for the hospitalized patients (length of stay a daily mean cost of hospitalization). RESULTS: The study enrolled 238 patients and the calculated proportion of hypoglycemic episodes among all emer-gency events in the same period was 0.075% (95%CI: 0.067%, 0.083%). In this popula-tion, 55.0% of the patients were using insulin, 31.5% were treated with a secretagogue, 6.7% were on a combination of insulin and a secretagogue oral agent and 6.7% were on oral non-secretagogue based AHA therapy. Mean patient age was 76 years and 56.7% were females. Estimated mean (range) of direct costs assessed in the emergency room were emergency transportation €163 (90-615), drug €4 (0-445), laboratory workup €56 (8-421), other exams €272 (0-944), physician and nurse time €30 (€211) and €1 (€90), respectively. Mean hospitalization cost was €1,271 (€26,486). Mean indirect cost related with productivity loss within employed patients was €15 (0-1,579). Total cost was €2,133 (€26,810) per hypoglycemic event. Hospitalization was the main cost driver (85% of total costs). CONCLUSIONS: We conclude that hypoglycemia represent a substantial cost for the Society and in particular for the public hospitals of the National Health System.