passive safety pen device would result in total estimated cost savings of $17,865.40 annually.

ER attendance, costs were calculated multiplying resource use by corresponding unit costs. The implementation of insulin pumps in acute care results in cost savings, as well as time savings for nurses that may be re-directed to increased time at the patient bedside.

PD113 EPIDEMIOLOGY AND DIRECT HEALTH CARE COSTS OF DIABETIC RETINOPATHY: RESULTS FROM A POPULATION-BASED STUDY

Laires P.1, Conceição J.1, Araújo F.2, Dores J.1, Silva C.1, Radican L.3, Nogueira AM.1

1Merk Sharp & Dohme, Oeiras, Portugal, 2Hospital Beatriz Ângelo, Loures, Portugal, 3Hospital de Santa Maria, Porto, Portugal, 4Eurotriul, Lisboa, Portugal, 5Merk & Co., Inc., Whitehouse Station, NJ, USA

OBJECTIVES: HIPOS-ER is an observational, cross-sectional, multicenter national study to describe the patient population of type 2 diabetics with hypoglycemic episodes that enter the emergency department caused by an anti-hyperglycemic agent (AHA). A key secondary objective is to estimate health care resource consumption and costs 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). Data were collected by trained healthcare providers using gluco- meter, glucometer, and glucometer. The study population consisted of all patients with diabetes who, during the period 1-1-2010 to 31-12-2010 received one of the following health care services: transport to the ED, inpatient follow-up, and prescription drug use.

RESULTS: A total of 3,906 patients and the calculated proportion of hypoglycemic episodes among all emergency room episodes was 0.075% (95%CI: 0.067, 0.083). In this population, 55.0% of the patients were using insulin, 31.5% were treated with a secretagogues, 6.7% were on combination of insulin and a secretagogues or oral and 6.7% were on oral non-secretagogues based AHA therapy. Mean age patient was 76 years and 57.6% were females. Estimated mean (range) of direct costs assessed in the emergency room were: insulin transport $136 (40-453), glucometer $4 (0-453), laboratory workup $6 (8-121), other exams $127 (100-494), physician and nurse time $130 ($481-1101) and li (110-190), respectively. Mean hospitalization cost was $1,271 ($26,486). Mean indirect cost related with productivity loss within employed patients was $15 ($10,519). Total cost of direct and indirect costs, was $1,493 ($36,286,810) per hypoglycemic event. Hospitalization was the main cost driver (85% of total costs).

CONCLUSIONS: We conclude that hypoglycemia represent a substantial cost to Society and in particular for the public hospitals of the National Health System.

PD118 THE HEALTH SERVICE AND ECONOMIC IMPACT OF GLUCAGON RESCUE ADMINISTRATION DURING SEVERE HYPOGLYCEMIC EVENTS

Leinwand B., Hughes KE., Inocencio T.

Availere 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 research.

METHODS: The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan2013-Jan2014). Data were collected by trained healthcare providers using glucometer, glucometer, and glucometer. The study population consisted of all patients with diabetes who, during the period 1-1-2010 to 31-12-2001 received one of the following health care services: transport to the ED, inpatient follow-up, and prescription drug use.

RESULTS: A total of 3,906 patients and the calculated proportion of hypoglycemic episodes among all emergency room episodes was 0.075% (95%CI: 0.067, 0.083). In this population, 55.0% of the patients were using insulin, 31.5% were treated with a secretagogues, 6.7% were on combination of insulin and a secretagogues or oral and 6.7% were on oral non-secretagogues based AHA therapy. Mean age patient was 76 years and 57.6% were females. Estimated mean (range) of direct costs assessed in the emergency room were: insulin transport $136 (40-453), glucometer $4 (0-453), laboratory workup $6 (8-121), other exams $127 (100-494), physician and nurse time $130 ($481-1101) and li (110-190), respectively. Mean hospitalization cost was $1,271 ($26,486). Mean indirect cost related with productivity loss within employed patients was $15 ($10,519). Total cost of direct and indirect costs, was $1,493 ($36,286,810) per hypoglycemic event. Hospitalization was the main cost driver (85% of total costs).

CONCLUSIONS: We conclude that hypoglycemia represent a substantial cost to Society and in particular for the public hospitals of the National Health System.
OBJECTIVES: HIPOS-ER is the first national Hypoglycemia study in Portugal collecting data directly in the hospitals. Here we aim to describe the average cost of severe hypoglycemic event by anti-hypoglycemic agent (AHA) class.

METHODS: The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan13-Jan14). Patient level data and resource utilization were obtained through data directly in the hospitals. AHA therapy class was defined in Group 1 (insulin), Group 2 (secretagogue), Group 3 (oral AHA excluding secretagogue), and Group 4 (at least one insulin and one secretagogue).

RESULTS: 238 patients were enrolled and 105 (44%) were hospitalized. The distribution based on AHA therapy was: 55% (131 Group 1; 32% Group 2; 7% Group 3; 6% Group 4). After the event, Group 2 patients were more often hospitalized versus Group 1 (71% vs. 29%, p<0.001) and Group 4 (31%, p=0.003). The global cost was 1,495k (34,-26,818) and hospitalization costs were 1,152k (79,-3,674) and 5,619k (3,841,-7,398) and 4,974k (3,912,-6,035) in the year after the event.

Mortality was 14.3 deaths/100 patient-years among HYPO subjects and 7.0 among patients with secondary diabetes. Therapy changes were determined during the 1-year post-index. Discontinuation occurred when consecutive SU fills were ≥90 days apart. Down-titration occurred when an SU fill had a lower equivalent dose than the previous fill. Hypoglycemic events were identified using ICD-9 code between the index date and the therapy change or the end of the 1-year post-index period. Cox regression was used to evaluate the association between HYPO and therapy changes.

RESULTS: 97,570 patients were included in the study, of which 50,854 (52.1%) experienced therapy changes within 1-year post-index. Patients with hypoglycemic events were 1.86 times more likely to discontinue (HR=1.86 [1.75, 1.97], p<0.01). Specifically, they were 197% more likely to down-titrate (HR=2.97 [2.53, 3.46], p<0.01) and 80% more likely to discontinue (HR=1.80 [1.69, 1.92], p<0.01).

CONCLUSIONS: Post-index hypoglycemic events are significantly associated with therapy changes among patients receiving SU without insulin, especially down-titration.

PDB122 GUIDELINE ADHERENCE AND CONTROL OF DIABETES MELLITUS WITH CO-MORBIDITIES IN A TERTIARY-CARE HOSPITAL IN MALAYSIA

Mz. Izbi M1, Iqbal M5, Khan AH1, Sulaiman SA1, Jalil MD3

1Department of Clinical Pharmacy, Faculty of Pharmacy, AMIST University, Kedah, Malaysia,
2Department of Clinical Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia, Faculty of Law, Universiti Malaya, Kuala Lumpur, Malaysia

OBJECTIVES: To evaluate doctors’ adherence to Malaysian Clinical Practice Guideline (CPG) 2009 in the management of diabetes mellitus with co-morbidities in Malaysia.

METHODS: Cross-sectional study was done at a tertiary-care hospital in Malaysia. Total 51 physicians and 1020 patients’ prescriptions written by same doctors were analyzed. All patients had diabetes mellitus with co-morbidities. Depending on the recommendations of CPG 2009, the prescriptions were clustered as adherent and non-adherent prescriptions. All obtained adherence were analyzed using descriptive and inferential statistics.

RESULTS: A statistically significant negative association (p=0.094, p-value=0.003) was observed between diabetes mellitus control and co-morbidities. CPG adherence had statistically significant (p=0.081, p-value<0.010) association with self-co-morbidities (41.6%). No statistically significant association was observed between CPG adherence and any other co-morbidity. Majority of the patients received guideline-compliant pharmaceutical therapy. The overall good level of physician adherence with the CPG was observed with patients with diabetes mellitus with co-morbidities.

CONCLUSIONS: The study explored several features of prescription pattern of the physicians involved in the management of diabetes mellitus with co-morbidities and recognized the need for improvement in their prescription pattern for treating the diabetes mellitus.

PDB123 THE RELATIONSHIP BETWEEN MACULAR EDEMA AND HEALTH OUTCOMES AMONG PATIENTS WITH DIABETES IN WESTERN EUROPE

Pegoraro M1, DiBavonavorta M*

1Kantar Health, Munich, Germany, 2Kantar Health, New York, NY, USA

OBJECTIVES: Diabetes is associated with a number of microvascular and macrovascular complications. Diabetic macular edema (DME) is one of these complications and is among the leading causes of vision impairment. However, little data exists as to the patient-related burden of DME in Europe and the aim of the current study was to address this gap. METHODS: Data from the 2013 SEU (France, Germany, Italy, Spain, and UK) National Health and Wellness Survey (NHWS) were used (N=62,000). The NHWS is a patient-reported survey administered to a demographically representative sample of adults (with respect to age, sex, and region). Patients who reported experiencing DME were compared with a propensity-scored matched control group of patients without DME. Matched variables included demographics, comorbidities (Charlson comorbidity index [CCI]), and diabetes history. Post-match, patients with DME and matched controls were compared on health-related quality of life (SF-36). Mental Component Summary (MCS), Physical Component Summary (PCS), visual acuity, and self-reported health care resource utilization (using general linear models).

RESULTS: 4,088 patients reported diabetes (6.6%). Of these, 296 (7.2%) reported having DME. Patients with DME were more likely to have type 1 diabetes (26.4% vs. 8.5%), had been diagnosed with diabetes for a longer period of time (7.9% vs. 4.9%), and were more likely to use insulin (68.8% vs. 27.3%), and had a greater comorbidity burden (CCI = 2.2 vs. 1.6) (all p<0.05). Among other differences. After matching on these variables, patients with DME (n=266) reported significantly worse physical health (PCS: 41.1 vs. 43.2), greater overall work impairment (36.2% vs. 25.64%), and