

without saxagliptin, which increased by US\$2,812,671 during this period, reaching US\$77,249,307 in year 3. Total costs in scenario with saxagliptin, however, remained stable around US\$74,000,000/year. Introduction of saxagliptin is expected to be economical to the PHS, with savings of US\$3,048,812 in year 3. Annual savings per patient potentially impacted by the introduction of saxagliptin correspond to 8% of pharmaceutical costs at year 3. Sensitivity analysis demonstrated that saxagliptin price is the most impactful parameter in the model, and a 25% increase over its price would still generate savings around US\$2,100,000 to the PHS. **CONCLUSIONS:** Introduction of saxagliptin as a therapeutic option to patients with T2D in the PHS will save around US\$4,900,000 in the next three years.

PDB14

BUDGET IMPACT ANALYSIS OF THE INTRODUCTION OF SAXAGLIPTIN IN THE TREATMENT OF TYPE 2 DIABETES IN ARGENTINA

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OBJECTIVES: To estimate the budget impact of saxagliptin introduction as a treatment option for patients with type 2 diabetes mellitus (DM2), compared to the present situation. **METHODS:** An MS Excel-based budget impact model assuming coverage for one million people. The time horizon was three years and the analysis perspective was a social security organization in Argentina. Pharmaceutical expenses of anti-diabetic agents were analyzed excluding other medical costs. The cost of anti-diabetic agents was based upon the consumer price index adjusted to copayments and discounts (2009); the saxagliptin price was considered to be equal to the sitagliptin price. The market share of the different drugs was based upon market studies and data provided by Bristol Myers Squibb. The budget impact is reported in terms of annual treatment costs and monthly costs per member per month (PMPM). Finally, a one-way sensitivity analysis was carried out. **RESULTS:** The net budget impact estimated for the introduction of saxagliptin was US\$2.077 for the first year, US\$4.377 for the second year and US\$9.230 for the third year; the accumulated net budget impact was US\$15.648. The PMPM result was US\$0.0002, US\$0.0004 and US\$0.0008 for each year respectively. The accumulated impact in the total annual budget for anti-diabetics was 0.07%. DM2 prevalence changes \pm 50% derived an accumulated net budget impact of US\$23.526 to US\$7.842; a slight saxagliptin price decrease (-2%) generates a negative budget impact of US\$538, US\$1.133 and US\$2.390 for each year respectively. **CONCLUSIONS:** The budget impact of adding saxagliptin in a population of one million affiliates of the Argentinean social security is minimal in patients with DM2.

PDB15

ECONOMIC OUTCOMES OF THREE INSULIN THERAPY PROTOCOLS IMPLEMENTED IN A SURGICAL INTENSIVE CARE UNIT

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OBJECTIVES: Hyperglycemia in the hospital setting is associated with increased adverse outcomes and costs. The objective of this study was to assess three insulin infusion protocols, conventional sliding scale (CSS) protocol, intensive insulin treatment (IIT) protocol, and basal insulin infusion (BII) protocol in critically-ill patients of a surgical intensive care unit (SICU). **METHODS:** This observational, retrospective, cohort study examined adult patients admitted to the SICU between January-October 2007. Clinical measures and total SICU charges were evaluated for patients admitted over 48 hours. When patients had two consecutive blood glucose (BG) levels >200 mg/dL the CSS protocol was initiated. The BII protocol was initiated when two consecutive BG levels were between 121 and 150 mg/dL, and the IIT protocol was initiated when BG was >150 mg/dL. Descriptive, one-way analysis of variance and chi square analysis were conducted. **RESULTS:** The cohort of 112 patients was extracted (24 BII, 29 IIT, and 49 CSS). No significant differences in age, race, gender, BMI, admission diagnosis and receipt of vasopressors, steroids or antibiotics were found among groups. There were no significant differences in mean (SD) SICU costs between groups [CSS: \$97,880 (\$114,729); BII: \$119,007 (\$111,791); IIT: \$161,876, (\$222,286)]. Number of patients who experienced hypoglycemia (BG < 60 mg/dL) were significantly higher in the IIT group compared to the BII and CSS groups (58.6%, 41.7% and 22.0%, respectively, $p = 0.001$). More patients were mechanically-ventilated in the IIT group compared to the BII and CSS groups (75.9%, 66.7% and 33.9%, respectively, $p = 0.001$). No significant differences were found in SICU and hospital mortality rates, SICU and hospital length of stays, and blood transfusion receipt, among the three groups. **CONCLUSIONS:** The basal insulin infusion protocol can reduce adverse events like hypoglycemia and mechanical ventilation with no significant changes in SICU costs compared to intensive or sliding scale insulin therapies.

PDB16

IMPACT OF NOVOLOG EXTENDED DRUG STABILITY ON HEALTH PLAN EXPENDITURES FOR INSULIN AND SUPPLIES IN PUMP USERS

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OBJECTIVES: Insulin in infusion sets and reservoirs is discarded periodically based upon the stability of the insulin product. Following a label change regarding the stabil-

ity of Novolog (insulin aspart) from two days to six, we modeled the differential in discarded insulin volume and computed the total annual insulin and pump supply costs from a US health plan perspective. **METHODS:** A model was developed to calculate the discarded insulin volume under a two-day stability scenario (insulin in the infusion set and reservoir discarded after two days) versus six days. A mix of insulin pumps of various reservoir capacities was used in the model based upon current U.S. market share and a range of daily insulin dosages based on retrospective claims data. The cost of the discarded insulin was calculated using the wholesale acquisition cost (WAC) of NovoLog. The cost of pump supplies was calculated for the two-day scenario assuming a complete infusion set, including reservoir, was required every two days. In the six-day scenario a complete infusion set was required every six days and a change of cannula at the insertion site midway between complete changes. The WAC price of the least expensive supplies for each pump was used to calculate the cost of supplies. **RESULTS:** Based on total U.S. pump usage, a one-million member health plan was estimated to have 1180 pump users. The mean annual per patient reduction in discarded insulin volume in the six-day scenario, compared to the two-day scenario, was 15,656 units at a WAC cost of \$1452. The corresponding cost reduction for the entire plan was \$1,713,751. The reduction in annual supply cost for the plan was \$1,613,126. **CONCLUSIONS:** The change in stability from two to six days resulted in total annual savings to the health plan in insulin volume and pump supplies of \$3,326,877.

PDB17

THE HEALTH CARE COSTS OF LONG-ACTING INSULIN ANALOGS COMPARED WITH NPH INSULIN IN PATIENTS WITH TYPE 2 DIABETES USING A BASAL REGIMEN: A DANISH PERSPECTIVE

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OBJECTIVES: To compare the health care cost outcome of a basal insulin regimen of long-acting insulin analogs (LAIA) with NPH insulin, in patients with T2D. Analysis was based on Danish health care costs. **METHODS:** Data were extracted from Danish national registers covering the entire population of approximately 5 million people. Included in the analysis were prescription, hospital in- and out-patient costs and socioeconomic variables. Patients were identified during a 1-year index period (2005) and allocated to treatment with either LAIA or NPH insulin. Patients with type 2 diabetes were identified with at least one oral antidiabetic drug prescription between 1995 and 2007. Basal only patients had fewer than two prescriptions of fast-acting insulin were identified. The patients from the LAIA group ($n = 303$) were matched with patients from the NPH group ($n = 8523$) with respect to observable variables using propensity scores. Health care costs were analysed for a follow-up period of 2 years, maximum. **RESULTS:** The highest proportion of health care costs in both treatment groups could be attributed to in-patient care, accounting for 46% and 38% in the NPH and LAIA-groups, respectively. Overall annual health care costs however, which included all prescription medicine, amounted to €6230 in the NPH group and 5524 in the LAIA group. This difference in total costs between treatments groups was not statistically significant ($p = 0.302$). **CONCLUSIONS:** Patients with T2D on a basal insulin regimen using LAIA do not seem to cost more in terms of health care resource than patients using NPH insulin. This national study is ongoing and is expected to be revised with longer follow-up and more complete hospital data.

PDB18

COSTS OF DIABETES TREATMENT IN THE MEXICAN PRIVATE SECTOR

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OBJECTIVES: In Mexico, the burden of disease from diabetes and related complications is very high. According to epidemiological estimates, the burden will even increase more through time. However, there is minimal information on the disease management and usage of health care resources in the private sector, for diabetes. This study analyzes the treatment patterns and estimates the costs of treating diabetes and its complications from a private health care payer perspective. **METHODS:** Observational, retrospective, study of 1539 patients receiving care for diabetes. Data for one year of follow up was extracted from a private insurance database, of patients 18 years of age and older. Analysis included treatment patterns details of diabetes and related complications, description of health care resources utilization and associated costs. **RESULTS:** The total average annual treatment cost per diabetic patient was in a range of \$800 USD. The most common pharmaceutical scheme used to control glucose levels was metformin + sulfonylureas (34%) followed by metformin alone (22%). However, of the pharmaceutical expenditure only 26% accounted for glucose control, with the remaining designated mainly for treating related complications. The highest level of expenditure was due to hospitalizations, utilizing 40% of the total budget followed by pharmaceutical expenditures (17%). A total of 57.2% of patients had at least one complication and 17.7% two or more. The most frequent complication was ischemic heart disease, 32% of the patients. Diabetic nephropathy was the largest single contributor to the total cost of overall management of complications. **CONCLUSIONS:** In this study we analyzed the treatment patterns and resource use of treatment of diabetic patients in the private sector. This data is useful for planning of future resource allocation of diabetes care, given the increasing demand of health services in the area.