PDB113

THREE-YEAR HEALTH CARE EXPENDITURES IN DIABETIC PATIENTS RECEIVING RAPID-ACTING INSULIN ANALOGUES VERSUS THOSE ON HUMAN REGULAR INSULIN

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OBJECTIVES: To compare health care expenditures following rapid-acting insulin analogues or human regular insulin utilization in a cohort of diabetic patients through the analysis of administrative databases. **METHODS:** A population-based cohort study was conducted using administrative data from four local health authorities in the Abruzzo Region (900,000 inhabitants). Diabetic patients free of macrovascular disease at baseline and treated either with human regular insulin or rapid-acting insulin analogues were followed for a maximum of 3 years. Propensity score matching was used to adjust for significant differences in the baseline characteristics between the two treatment groups. The direct cost was calculated as the sum of drug use, financial compensation by hospital DRG and outpatient activities (laboratory tests, services use and specialistic consultations), all regulated by government contracts. Generalised linear mixed models under gamma distribution were used to evaluate the costs. In case of cost variables with a large proportion of zeros, a two part model (logistic regression and glm with gamma distribution) was employed. **RESULTS:** After PS approach, 566 patients treated with human regular insulin were matched with an equal number of patients receiving rapid-acting insulin analogues. During the 3-year follow-up, the average number of hospitalizations was higher (0.54 vs. 0.47; P=0.028), and the average length of stay was 4,7 days longer (P < 0.004), among patients receiving human regular insulin in comparison with those receiving rapid-acting insulin analogues. The annualized total health care costs were significantly lower in the rapid-acting insulin analogues group than human regular insulin group with an estimated difference between the two groups of 1336.7 € per patient per year (P=0.001) . **CONCLUSIONS:** This analysis from real-world clinical practice suggests that rapid-acting insulin analogue is associated with lower rates of hospitalizations and lower overall health care costs in diabetic patients.

PDB114

HEALTH CARE COST AVOIDANCE DUE TO INSULIN GLARGINE FOR TYPE 2 DIABETIC PATIENTS IN HONG KONG AS COMPARED TO NPH INSULIN

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OBJECTIVES: Many studies have shown that insulin glargine (IG) is associated with a better glycemic control and less incidents of hypoglycemia. The objective of this study is to examine the potential cost avoidance arising from reduced hypoglycemic episodes by IG vs NPH insulin in T2DM patients receiving insulin in Hong Kong. The findings will fill a knowledge gap as no data is available before. **METHODS:** A decision analytic model was developed using local and international data to evaluate the potential health and economic impact of routine use of IG over a 1-year horizon. The study was conducted from a payer perspective. Probability of IG and NPH causing severe hypoglycemia was derived from the LEAD (LANTUS Evaluation in Asian Diabetics) study. Disease epidemiology and costs were all Hong Kong-specific. One-way sensitivity analysis was performed to test the robustness of model assumptions. **RESULTS:** The use of IG over a 1-year period is estimated to result in a substantial 81.9% reduction of hospitalization cost (HKD313,572,521) and a 29% reduction of emergency room cost (HKD1,184,312) which together accounts for about 0.7% of the overall annual public hospital budget of HK. In addition, IG is expected to prevent 23,755 cases of severe hypoglycemia events and to avert 95,022 hospitalization-days over 1 year. The overall incremental cost using IG vs. NPH is HKD126,843,257. **CONCLUSIONS:** The use of IG in T2DM patients receiving insulin in Hong Kong is likely to substantially reduce health care costs in hospitalization and emergency room visits due to severe hypoglycemia compared with NPH. The results of this study are considered as conservative because if improvement in clinical outcomes of IG over NPH is included, the additional clinical benefit will translate into larger long term health savings.

PDB115

HEALTH CARE UTILIZATION FOLLOWING NEWLY-DIAGNOSED TYPE-2 DIABETES IN SWEDEN: A FOLLOW-UP OF 38,956 PATIENTS IN A REAL CLINICAL SETTING

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OBJECTIVES: The growing prevalence of diabetes leads to increased pressure on national health care budgets. Despite the high prevalence the long-term health care costs of diabetes patients are not widely studied in a clinical practice setting. The study objective was to quantify and describe health care resource utilization following newly-diagnosed type-2 diabetes mellitus (T2DM) patients over time. **METHODS:** Newly diagnosed T2DM patients were identified from 84 primary care centers in Sweden between 1999 and 2009, and followed for a maximum of 9 years. Resource use data were extracted from electronic patient records (primary care contacts and laboratory tests) and a national patient register (hospitalizations). Data were linked using unique social security numbers. Resource use patterns are reported for the full study period and by partitioned time periods to investigate trends in resource use over time. The relationship between weight and resource use was also investigated. **RESULTS:** The study included 38,956 T2DM patients (women, 45%; mean age, 64 years; HbA1c, 5.7%; mean BMI, 29.8) with a total number of 183,614 observation years. Over a mean follow-up of 4.7 years there were 2,134,870 (per patient mean 55) primary care contacts; 1,200,142 (31) laboratory tests and 24,656 (0.63) hospitalizations. Mean annual resource use almost doubled the first year after diagnosis and remained on a higher level than before diagnosis throughout the study period. This pattern was seen in primary care as well as for hospitalizations. Furthermore, obesity at baseline appeared to be correlated with a higher level of resource use. The relationship between resource use, baseline weight and weight changes appears complex. **CONCLUSIONS:** Data from 183,614 patient years of follow-up show that T2DM diagnosis is associated with increased long-term resource use. Quantifying resource utilization using data from clinical practice setting may provide an important input to diabetes cost-effectiveness modeling and resource allocation decisions.

PDB116

THE IMPACT OF THE POLISH HUMAN INSULIN (GENSULIN) ON PUBLIC PAYER'S EXPENDITURE IN 2001-2013

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OBJECTIVES: Reference pricing (RP) – an approach where a payer sets payment for a group of similar drugs using benchmark based on a lower-priced option is a strategy commonly used to control drug expenditures. The aim of this study was to determine the impact of Polish human insulin (Gensulin, BIOTON) on public payer's expenditure in 2001-2013. **METHODS:** We analyse published data on insulin consumption and changes in reimbursement limits between October 2001 and February 2013. An Excel-based model was developed to compare scenario with (1) and without (2) Gensulin on the Polish pharmaceutical market. The reimbursement limit for insulin in (1) was determined by Gensulin (the lowest priced product within a group of human insulins), in (2) was fixed at 151 PLN/1500 i.u (A) or decreased to 134.99 from April 2002 (B). In the calculation all products containing 1500 i.u.insulin/pack or only pen were considered. Cost was adjusted for inflation and reported in PLN at 2013 prices (1 Euro=4.2 PLN). Results were presented as total and incremental cost in subsequent years and over the entire period. **RESULTS:** Between 2002-2012 the consumption of human insulins in Poland increased from 3.8 mln to 5.6 mln pack a 1500 i.u. The reimbursement limit in PLN/pack decreased gradually from 151 in 2001 to 98.57 in 2013 (scenario 1). Overall for the 12.5-year period the total public payer savings resulting from setting the reimbursement limit by Gensulin were 3 157 114 474 and 2 039 163 591 PLN in A and B, respectively. If only pens were considered RP policy led to a saving of 2 719 053 565 PLN in (A) and 1 777 711 973 PLN in (B) over 12.5 years. **CONCLUSIONS:** The launch of Gensulin and RP resulted in considerable reduction of public resources spent on human insulin in Poland

PDB117

WHO KNOWS BETTER? A KNOWLEDGE, ATTITUDE AND PRACTICE SURVEY OF OSTEOPOROSIS PRESCREENING TOOLS AMONG PHARMACISTS AND PHYSICIANS

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OBJECTIVES: Although osteoporosis is preventable, still its prevalence is escalating to endemic proportions. The reason for this massive incidence of osteoporosis is lack of identification of high risk individuals. In order to overcome this scenario and to cut cost associated with bone scanning; various prescreening tools were developed in 1990's. The purpose of such tools is to select high risk individuals for bone densitometry. The objective of current study is to analyze knowledge, attitude and practices of both physicians and pharmacist towards prescreening tool and to evaluate possible reasons for non-implementation of existing prescreening tools. **METHODS:** Using convenience sampling method, an explorative cross sectional survey was conducted in Penang, Malaysia. A pre-validated self- administered questionnaire was used to carry out the study among community pharmacists (n=83) and physicians (n=87). **RESULTS:** There was a statistically significant difference between mean rank score of pharmacist (137.55) and physicians (78.05). Although, pharmacists scored higher than physicians in all three domains of questionnaire but still both showed poor knowledge and practices regarding prescreening tools. Pharmacists considered low awareness regarding availability of such tools as the main factor that pose hindrance in implementation of such tools while physician suggested lack of time ,on their part, as the main reason. **CONCLUSIONS:** Participants showed general lack of awareness regarding osteoporosis pre-screening tools but in order to save cost associated with bone densitometry majority showed willingness to utilize such tools in future.

PDB118

REAL LIFE APPLICATIONS OF SOCIAL SECURITY INSTITUTION (SSI) REGULATIONS; A CASE STUDY OF DPP4 INHIBITORS IN TREATMENT OF DIABETES IN TURKISH HEALTH CARE SYSTEM

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OBJECTIVES: Analyze real life applications of SSI regulations via a case study: patient access to DPP4 inhibitors (ProductA*&Product B**) for Diabetes treatment, in Turkish health care system (2010-2012). **METHODS:** Regulation analysis is completed to define access conditions to DPP4 inhibitors. IMS Medical Index is used for prescription data analysis (patient age, sex, diagnosis, localization, medications, etc.). Calculations and process modelling are completed by Microsoft Excel-2007. **RESULTS:** Patient access to DPP4 inhibitors is possible if glycemic control cannot be sustained after use of maximum tolerable doses of metformin and/or sulphonylurea. This new requirement is being applied since April 2011. This study evaluates two comparable timeframes T1 and T2 (before and after regulation update); T1: 2010 (Q1/Q2/Q3/Q4) & 2011 (Q1) and T2: 2011 (Q2/Q3/Q4) & 2012 (Q1/Q2). From T1 to T2, Product A percentages of monotherapy, w-biguanides and w-sulphonylurea prescriptions changed from 32% to 35% (+3%), 51% to 42% (-9%) and 17% to 23% (+6%), whereas for Product B presciptions changed from 10% to 37% (+27%), 68% to