BI3

FINANCIAL IMPACT OF HOSPITAL EXPENDITURE IN CHRONIC DISEASES FOR SEGURO POPULAR

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OBJECTIVES: Estimate the expenditure in hospital services for cardio-vascular (CVD), malignant tumors (MT) and diabetes financed by Seguro Popular (SP) for 2004-2012 in order to evaluate its midterm financial sustainability. **METHODS:** Hospital costs for interventions financed by SP for year 2012. Related hospital discharges from the SAEH for 2004-2012. Multiplication of both data generated the cost per ICD-10. The product was then grouped by GBD. Total hospital expenditure for SP, obtained from SINAIS for 2004-2012, was distributed using the cost per GBD. Then the proportion of hospital expenditure related to CVD, MT and diabetes is estimated. **RESULTS:** Mexico is one of the countries with the highest prevalence of child and adult overweight and obesity (O&O). That situation imposes a great pressure into SP to face an increasing demand of health care for non-communicable chronic diseases (NCD) particularly diabetes, MT and CVD. The average annual hospital expenditure of these groups of diseases represents about USD$273.4 million in 2012 (9.7% of hospital expenditure). Malignant tumors that contributed the most were breast and cervical cancer with 90% of the total expenditure for this group. Acute myocardial infarction represents 66% of total expenditure for cardio-vascular. Under the status quo an increase of 65% in the cost of this group of diseases is expected for 2018. **CONCLUSIONS:** Findings show an increased financial burden for SP generated by the selected NCD. The impact on the public budget that represents this level of hospital expenditure would threaten the sustainability of the SP if current trends hold. Given the demographic transition and level of O&O as risk factors for developing NCD in the coming years it is necessary to strengthen prevention and health promotion to reduce both new cases of NCD and complications in order to decrease their future impact on the SP budget.

BI4

HOSPITALIZATION COSTS OF TYPE 2 DIABETES MELLITUS (T2DM) PATIENTS IN A PUBLIC HOSPITAL IN BRAZIL

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OBJECTIVES: Diabetes is considered an outpatient care condition, manageable in the primary care setting, but which complications may lead to hospitalization. There is limited data on the costs of patients hospitalized due to diabetes in Brazil. We aimed to estimate the percentage of type-2 diabetes mellitus (T2DM) patients who were hospitalized and the mean cost per hospitalization within a public hospital in Brazil (SUS). **METHODS:** T2DM outpatients followed at the Hospital das Clínicas of Universidade Federal do Paraná (HC-UFPR) between 2011 and 2014 were eligible. Data from the last year of treatment were collected and validated within medical charts. We assessed demographics, hospitalization and cause, length and average costs per day of hospitalization. Exchange rate was 1.00USD = 3.21BRL. The study was approved by HC-UFPR IRB. **RESULTS:** A total of 728 patients with T2DM were evaluated, of which 38 (5.2%, 22 females and 17 males) were hospitalized due to eight different causes. Mean age was 64 years (44 to 84). Main reason for hospitalization was cardiovascular related problems (58.5%), followed by decompensated diabetes treatment (17.0%) and kidney problems (9.4%). Average daily cost ranged from 907BRL (~283USD) (Neurology Center) to 2218BRL (~691USD) (Intensive Cardiology Therapy Center). The amount spent on the Cardiology Center represented 27.5% (188,244BRL) (~58,643USD) of the total, followed by Intensive Cardiology Therapy Center with 18.1% (124,189BRL) (~38,688USD). Total hospital spending with 38 hospitalizations was 685,058BRL (~213,414USD) and mean length of hospitalization was 10 days (1 to 30 days). Mean cost per patient was 18,028BRL (~5,616USD). **CONCLUSIONS:** Hospitalized patients with T2DM represent a significant burden to healthcare payers. However, the amount spent by the hospital is not necessarily the same reimbursed by the Brazilian Public Healthcare System (SUS), which hinders the estimate of the burden for the system as a whole.

CARDIOVASCULAR DISEASE & DIABETES RESEARCH STUDIES

CV1

ASSOCIATION OF ADHERENCE STATUS AS MEASURED USING TWO SINGLE-ITEM PHYSICIAN-ADMINISTERED METHODS WITH CARDIOVASCULAR RISK IN PATIENTS TAKING ANTIHYPERTENSIVE MEDICATION

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OBJECTIVES: In patients with hypertension, non-adherence to prescribed treatment may contribute to a significant increase in cardiovascular risk. The aims of this study were (1) to examine if two single-item physician-administered adherence scales are predictive of cardiovascular risk and (2) to evaluate whether adherence to antihypertensive medications is associated with at least a one percent reduction in cardiovascular risk over 90 days. **METHODS:** Pooling data from seven observational studies, this analysis included 8,438 hypertensive patients taking valsartan. A ten-year cardiovascular risk (CVR) score was estimated following the risk scoring system proposed by the SCORE project in Europe. CVR score considered the following variables: age, total cholesterol, current smoking status, systolic blood pressure, and sex. At baseline and 90 days, physicians administered two single-item measures of adherence: the first item of the Basel Assessment of Adherence Scale (BAAS) and the Visual Analogue Scale (VAS). **RESULTS:** At 90 days, males (4,257) had a significantly higher CVR than females (4,091) ($p<0.001$). For BAAS-identified adherent patients, CVR decreased significantly by 2.6% from baseline to 90 days (p-value<0.001). For BAAS-identified non-adherent patients, a significant but smaller decrease in CVR of 1.3% was observed ($p<0.001$). For VAS-identified adherent patients, CVR decreased significantly by 4.4% from baseline to 90 days ($p<0.001$). However, a significant decrease of 4.3% ($p<0.001$) was also observed for VAS-identified non-adherent patients. **CONCLUSIONS:** Patients identified as adherent using the first item of the BAAS showed significantly improved 10-year cardiovascular risk scores after 90 days of treatment with valsartan, compared to patients who were identified as non-adherent. The VAS scale was not sufficiently sensitive to determine the effect of adherence on cardiovascular risk score.

CV2

APIXABAN IN PATIENTS WITH ATRIAL FIBRILLATION: PATIENT CHARACTERISTICS OF THE LATIN AMERICA COHORT FROM A MULTINATIONAL CLINICAL TRIAL

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OBJECTIVES: Patients with Atrial fibrillation (AF), have a five-fold increase in the risk of stroke. Treatment for AF include stroke prevention therapy. Vitamin K antagonists (VKAs) have shown to prevent stroke in AF patients. Apixaban, a novel oral direct factor Xa inhibitor was studied in AF patients whom VKA therapy was unsuitable. Apixaban demonstrated clinical benefit in stroke or systemic embolism reduction without impacting the risk of major bleeding or intracranial hemorrhage. Patient characteristics of the Latin America (LA) cohort and overall population are presented. **METHODS:** Patients with AF at an increased risk for stroke and whom VKA therapy was unsuitable were randomized to receive apixaban (5 mg twice daily) or aspirin (81 to 324 mg) in a double blind trial. The study recruited from 36 countries from September 2007 through December 2009. Five countries were from LA: Argentina, Brazil, Chile, Colombia, and Mexico. Patient characteristics from the LA cohort, is presented relative to the overall trial population. **RESULTS:** Of5599 patients in the trial, 1185 were from LA (21.2%). Mean age was similar, 71.5 and 70 for LA and overall cohort respectively. 55% and 58% were males for LA and overall cohort respectively. The LA and overall cohorts had similar rates of prior stroke or TIA, diabetes mellitus and hypertension receiving treatment, at enrollment. Mean CHADS2 score at enrollment was 2,.0 for the apixaban arm and 2.1 for the ASA arm, which is the same for cohorts. Other baseline characteristics were similar. Region subgroup analysis revealed no statistically significant ($p> 01.0$) interactions between treatment effects and geographic region. **CONCLUSIONS:** Baseline demographic and disease characteristics data from the LA cohort were similar to that of the clinical trial population. Results, in terms of safety and efficacy, given the total population trial, are expected to be consistent since interaction between treatment effects and geography was not significant.

CV3

ARETAEUS: RETROSPECTIVE STUDY OF MEDICATION USAGE PATTERNS FOLLOWING THE DIAGNOSIS OF TYPE 2 DIABETES IN LATIN AMERICA

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OBJECTIVES: To examine the initiation of oral antihyperglycemic agents (OAHAs) and/or statins in patients with type 2 diabetes mellitus (T2DM) and assess the time elapsed from diagnosis to treatment initiation and intensification when goals were not achieved in real world practice. **METHODS:** A retrospective study was performed on 662 medical records of patients with T2DM, diagnosed 24 to 48 months prior to signing the informed consent. The study included thirty-one general practitioner/specialist sites across Mexico, Argentina and Brazil. Inclusion criteria: age ≥21 years at diagnosis; complete record of pre-diagnosis medication and pre-existing CV risk factors and 2 years follow-up records. Exclusion criteria: type 1 diabetes; pregnancy; receiving antihyperglycemic agents or statins prior to diagnosis; initially treated with insulin after T2DM diagnosis; or clinical trial participation during the study period. Descriptive statistics were used for demographic/clinical characteristics. Kaplan-Meier test was used to examine time to treatment and cumulative treatment probability and multivariate logistic regression examined factors associated with such treatment. **RESULTS:** At diagnosis, patients had a mean age of 53 years; 44% had hypertension, 42% were obese and 23% had hypercholesterolemia. During the 2-year follow-up period, 93% were treated with OAHAs but only 29% of those eligible for statin therapy received statins. Time elapsed before first prescription of OAHA was 59±141 (Mean±SD) and 1 (1, 31) (median [IQR]) days and 230±232 days and 132 (30, 406) days for statin. No variables were associated with OAHA initiation but family history of T2DM and hypercholesterolemia at diagnosis were associated with statin initiation. No antihyperglycemic treatment intensification was recorded in 51%/53% of patients with HbA1c/FPG values above treatment targets during the follow-up period. **CONCLUSIONS:** The delay in treatment of hypercholesterolemia and intensification of treatment for hyperglycemia in patients with T2DM not attaining treatment targets works against effective prevention of chronic complications.

CV4

ECONOMICS OF DIABETES MELLITUS: THEORY AND EVIDENCE FOR BRAZILIAN DATA IN 2008

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INTRODUCTION: Diabetes Mellitus (DM) is characterized by the high level of blood glucose. Ministry of Health data estimated that Brazil had about 10 million DM cases