fied the study population into groups by their oral hypoglycemic agents, and further analyzed the hazard ratio of myocardial infarction (MI) in different add-on medication and the survival of cardiovascular diseases between add-on TZD group and non-TZD group. NMB regression model was used to estimate the cost-effectiveness difference on mortality and MI within two years versus the TZD group. RESULTS: The Cox proportional hazard model analysis demonstrated that sulfonylurea +rosiglitazone group had a higher risk of hospitalization for cardiovascular diseases comparing to add-on metformin group (HR 1.48, 95% CI: 1.21–1.80). As to the cost-effectiveness analysis: 1) Conception, in add-on sulfonylurea +metformin group, the average annual medication cost per capita of sulfonylurea+rosiglitazone group increased NT$12,944 dollars, but the average day for hospitalization decreased 0.18 day; while the AAMC of sulfonylurea +rosiglitazone group increased NT$10,329 dollars, but the average days for hospitalization decreased 0.09 day. Comparing to metformin+sulfonylurea group, the AAMC of metformin+rosiglitazone group increased NT$11,486 dollars, but the average day for hospitalization decreased 0.09 day; while metformin+rosiglitazone group increased NT$11,627, but the average days for hospitalization decreased 0.18 day. CONCLUSIONS: Sulfonylurea and metformin add-on groups were proved to reduce the risk of cardiovascular diseases and hospitalization days. As for other metformin add-on groups, the increased medication cost was also not justified.

PDB10
COST-EFFECTIVENESS ANALYSIS OF THE DIABETES MEDICATIONS IN MEDICARE WITH SAS
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OBJECTIVES: The primary purpose of this study is to estimate the cost effectiveness of the different diabetes medications in Medicare in the year 2005 and the year 2006 to investigate the impact of Medicare, Part D. METHODS: In this study, several data sets from the Medicare Expenditure Panel Survey are used as collected by the Agency for Healthcare Research and Quality. The data sets provide information on the prescribed drug, demographics, office-based visits, outpatients and inpatients for the years 2005 and 2006. The analysis is based on the Medicare payments for anti-diabetic drugs, without considering the drug forms and cost-efficiency as measured by the Medicare payment amounts for office-based visits, inpatients or outpatients. Statistics methods used include One-Way Frequencies, Summary Statistics, Box and Whisker Plots, Linear Multiple Regression and Spearman’s rank correlation. SAS SQL and some SAS functions such as the MDY function and 0–1 indicator functions are utilized to preprocess the data. RESULTS: Results demonstrate that metformin users have fewer physician visits, lab tests, and shorter length of stay in the hospital. There is a negative association between the two factors. Insulin, metformin and its combination with glyburide are significant to predict the frequencies of doctor office visits, lab tests and length of stay. From the year 2005 to the year 2006, insulin and metformin users reduce their frequencies of physician visits and lab tests as well as days in the hospital. CONCLUSIONS: Among the diabetes medications in Medicare, metformin is the most cost-effective drug due to the fewest Medicare expenditures for office-based visits, inpatients and outpatients with spending one dollar on the drug. In 2006, with Medicare Part D, metformin becomes more efficient, while insulin becomes more effective at the cost of an increased price. Therefore, it is recommended to prescribe metformin for the Medicare diabetic beneficiaries.

PDB11
REDUCED LONG-TERM COSTS AND CARDIOVASCULAR COMPLICATIONS IN PATIENTS INITIATED ON RAPID-ACTING INSULIN ASPART COMPARED WITH HUMAN INSULIN
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OBJECTIVES: The NICE study was a five-year, open-label, randomized controlled trial that compared cardiovascular outcomes in Japanese type 2 diabetes patients intensively treated with human insulin (HI) or insulin aspart (IAp). Using data from the NICE study, the cost-effectiveness of IAp versus HI was evaluated from the perspective of a third-party health care payer over a ten-year time horizon (five years within-trial observation and five years post-trial extrapolation). METHODS: A discrete event simulation model was developed in Microsoft Excel® assuming a hypothetical patient cohort and related complications risk as reported in the UKPDS) and quality of life. Utilization of health care resources were collected from clinical files of the Saitama General Hospital, a hospital in the Saitama area, Japan. The demographic and clinical background of the patients used in the model was obtained based on expert panel opinions. RESULTS: To compare the treatment costs in China of 2 basal insulin analogues, our results demonstrated that sulfonylurea (SU) group had a higher risk of hospitalization for cardiovascular diseases comparing to add-on metformin group (HR 1.48, 95% CI: 1.21–1.80) and the survival of cardiovascular diseases between add-on TZDs group and non-TZD group. NMB regression model was used to estimate the cost-effectiveness difference on mortality and MI within two years versus the TZD group. RESULTS: The Cox proportional hazard model analysis demonstrated that sulfonylurea +rosiglitazone group had a higher risk of hospitalization for cardiovascular diseases comparing to add-on metformin group (HR 1.48, 95% CI: 1.21–1.80). As to the cost-effectiveness analysis: 1) Conception, in add-on sulfonylurea +metformin group, the average annual medication cost per capita of sulfonylurea+rosiglitazone group increased NT$12,944 dollars, but the average day for hospitalization decreased 0.18 day; while the AAMC of sulfonylurea +rosiglitazone group increased NT$10,329 dollars, but the average days for hospitalization decreased 0.09 day. Comparing to metformin+sulfonylurea group, the AAMC of metformin+rosiglitazone group increased NT$11,486 dollars, but the average day for hospitalization decreased 0.09 day; while metformin+rosiglitazone group increased NT$11,627, but the average days for hospitalization decreased 0.18 day. CONCLUSIONS: Sulfonylurea and metformin add-on groups were proved to reduce the risk of cardiovascular diseases and hospitalization days. As for other metformin add-on groups, the increased medication cost was also not justified.

PDB12
ECONOMIC AND HEALTH CONSEQUENCES OF THE USE OF A DPP4 PLUS METFORMINE SCHEME IN THE TREATMENT OF PATIENTS WITH TYPE 2 DIABETES IN MEXICO FROM THE PRIVATE PERSPECTIVE
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OBJECTIVES: To estimate the economic and health consequences of the use of DPP4 plus metformin in the treatment of patients with type 2 diabetes in Mexico METHODS: A cost-effectiveness analysis was done using a discrete event model to simulate the behavior of a hypothetic population with 40 years follow up, to evaluate the number of complications (ischemic heart disease, myocardial infarction, congestive heart failure, stroke, atrophy, retinopathy and ESRD), their costs and quality-adjusted life years (QALY’s); and the expected cost with the use of metformin+DPP4 (MDPP4), metformin+sulfonylureas (MSU), metformin+thiazolidinediones (MTZ) and metformin (MF). The demographic and clinical background of the patients used in the model was obtained based on expert panel opinions (11 physicians). A systematic literature review was performed to get information on effectiveness (reduction in HbA1c, level and related complications risk as reported in the UKPDS) and quality of life. Utilization of health care resources were collected from clinical files of the Saitama General Hospital, a hospital in the Saitama area, Japan. RESULTS: The expected cost and QALY’s for MF is $230,213.26 and 12.97 respectively; MSU $255,910.09 and 13.26; MTZ $215,177.26 and 13.27; MDPP4 $245,055.52 and 13.41. The probability of being cost-effective at a threshold of $30,621.30 (equivalent to 3 times the Mexican GDP per capita) with MSU is 0.54 [CI95%:0.512–0.574]; MTZ 0.59 [CI95%:0.563–0.623] and MDPP4 0.86 [CI95%:0.846–0.888]. CONCLUSIONS: The scheme based on metformin+DPP4 presents the best cost effectiveness ratio against metformin+sulfonylureas or metformin-thiazolidinediones.

PDB13
ECONOMIC EVALUATION OF THREE FIRST-LINE MEDICATIONS IN PAINFUL DIABETIC PERIPHERAL NEUROPATHY IN MEXICO
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OBJECTIVES: Diabetic Peripheral Neuropathic Pain (DPNP) is a chronic neuropathic condition that significantly affects both health-related quality of life and functional status, causing depression and disabilities, increased health care utilization and high costs. We aimed to perform an economic evaluation of three recommended first-line medications for DPNP. METHODS: The analysis was conducted using a three-month decision model, which compares duloxetine 60mg once daily (DUL), gabapentin 800 mg three times daily (GAB) and pregabalin 50mg twice daily (PRE) for patients with DPNP and moderate to severe pain, under the perspective of public health care system in Mexico. Efficacy rates were gathered from published literature. Adherence (based in number of daily doses needed) and adverse effects (AE) rates were incorporated into the model. Medical costs included drug acquisition and additional medical consultation due to lack of efficacy (poor pain relief) or intolerable AE. Unit costs were taken from local public tariffs. All costs were calculated in 2009 Mexican Pesos (MXP) and then expressed in USD. Proportion of patients with Good Pain Relief (GPR) and expected quality-adjusted life years (QALY) by patient was assessed. RESULTS: Branded GAB and PRE were both dominated by generic GAB and DUL. Compared to branded GAB and PRE, DUL leads to savings of $891.92 and $718.92 per patient, respectively. The incremental cost per QALY gained with DUL used instead of generic GAB is $3087.24 per patient, respectively. The incremental cost per QALY gained with DUL used instead of generic GAB is $3087.24 per patient, respectively.

PDB14
A COST-MINIMIZATION ANALYSIS FOR TYPE 2 DIABETES WITH INSULIN GLARGINE COMPARED TO INSULIN DETEMIR IN A BASAL SUPPORTED ORAL THERAPY IN CHINA
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OBJECTIVES: To compare the treatment costs in China of 2 basal insulin analogues, glargine and detemir, when used in combination with oral anti-diabetic drugs(basal supported oral therapy) in insulin naive type 2 diabetes patients. METHODS: The
Abstracts

Rosenstock study and other two RCTs compared Glargine to Detemir showed Glargine and Detemir has not difference in HbA1c control and hypoglycemia rate for the patient with type 2 diabetes. Based on the Rosenstock study, cost-minimization study was performed. Mean daily detemir dose was higher (0.78 U/kg vs. 0.32 with twice daily dosing, 0.44 U/kg) than glargine (0.44 U/kg). Direct costs were estimated from the perspective of the health insurance in China. The time horizon was one year of treatment. The price was referred to Price in 2008. The currency is Yuan. The cost of insulin medication (glargine or detemir) and consumable items (needles, blood glucose test strips) was collected as the direct cost. The results showed sensitivity analysis on resource use and unit costs around base case parameter values was performed to test the robustness of the base case results RESULTS: Insulin glargine was associated with 40.77% (8994.05RMB per year)cost saving compared to detemir. Insulin glargine and detemir had an equivalent level of metabolic control, although the price of detemir is lower in China. Uncertainty sensitivity analysis on resource use and prices in Detemir has been performed and confirmed the robustness of the results in favour of insulin glargine in China. The current study findings are consistent with the direction of magnitude of cost saving reported in Spain, Hungary, Argentina, Germany and UK. CONCLUSIONS: Insulin glargine was cost saving compared to insulin detemir in China. The information is important for health care providers who are considering the total budget for the type 2 DM patient with basal insulin.

PDB35 COST-EFFECTIVENESS ANALYSIS OF METFORMIN COMBINED WITH SAXAGLIPTIN VS. METFORMIN COMBINED WITH SUFLONYLURASES IN TYPE 2 DIABETES PATIENTS IN ARGENTINA


OBJECTIVES: Determine the cost-effectiveness ratio of adding saxagliptin to metformin therapy (SAXA+MET) compared to adding sulfonylureas (SULF+MET), in patients with type 2 diabetes mellitus (DM2) who have failed to achieve adequate glycemic control with metformin. METHODS: A discrete event simulation model (Cardiff Long term cost-utility model) based on UKPDS 68 with a fixed time increase was used to simulate disease progression and to obtain an estimate of the treatment’s economic and health consequences in DM2 patients. The clinical efficacy parameters for saxagliptin were obtained from the literature; drug acquisition costs, adverse effects (AEs) and microvascular and macrovascular complications were taken into account. Costs were expressed in United States dollars (2009), with an annual 3.5% discount. The time horizon was 20 years. RESULTS: A lower number of non-fatal events was found for the SAXA+MET-treated group versus the SULF+MET-treated group. Additionally, the met model predicted a lower number of fatal events to mac rovascular (146 vs. 151) and microvascular (17.7 vs. 17.9) events for the SAXA+MET-treated group vs. the SULF+MET-treated group. The total cost of the SAXA+MET cohort was 14% higher than that of the SULF+MET cohort. Treatment with SAXA+MET resulted in a higher number of QALYs (9,930 vs. 9,172) and LYGs (20,898 vs. 20,797) than treatment with SULF+MET; the additional cost per QALY and LY gained was US$6,691 and US$ 14,636 respectively. CONCLUSIONS: Considering the GDP per capita in Argentina, results suggest that the addition of saxagliptin to metformin therapy compared to the addition of sulfonylureas would yield acceptable cost-effectiveness ratios in DM2 patients in Argentina.

PDB36 ASSESSING THE IMPACT OF PAINFUL DIABETIC PERIPHERAL NEUROPATHY (PDPN) OR POST-HERPETIC NEURALGIA (PHN) RELATED HEALTH IMPAIRMENT ON LOSS OF PRODUCTIVE TIME (LOPT)

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OBJECTIVES: To assess the impact of PDPN/PHN-related health impairment on LOPT in patients treated with chronic PDPN/PHN. METHODS: Using data from 777 employed adults with ≥3 months of PDPN/PHP and receiving pain medications, the effect of PDPN/PHN-related impairment on LOPT was estimated by: 1) single equa tion probit models (SEPM) assuming pain severity was exogenous, adjusting for endogeneity bias of pain severity; 2) seemingly unrelated bivariate probit models (SUBPM), hypothesizing associations between type 2 diabetic patients’ beliefs and expectations about diabetes and medication adherence in persons with type 2 diabetes

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OBJECTIVES: Associations between type 2 diabetic patients’ beliefs and expectations about their illness and medication adherence were determined. METHODS: A cross sectional self administered written survey of type 2 diabetes patients was conducted in an outpatient diabetes and endocrinology practice in a hospital affiliated with a hospital serving an urban population. Study inclusion criteria were being 18 years or older, diagnosed with type 2 diabetes at least 6 months prior to the time of the survey, and taking oral anti-diabetic medication. Exclusion criteria were use of insulin or not being able to read and understand the questionnaire. The sample included 354 individuals who satisfied inclusion and exclusion criteria, for a response rate of 58%. The sample was 50% Caucasian, 50% African-American, 63% female and 72% had annual household income of less than $25,000. A majority (56%) reported ideas about how this impact is mediated by respondents’ social isolation and psychological distress. Alternative IVs for adjusting endogeneity bias of pain severity are worth exploring.