

and needle. **RESULTS:** 1) 614 patients with T2DM were surveyed and 71.45% used SMBG. For SMBG users, annual costs of glucometers were CNY 212.99; annual costs of test strips were CNY 825.55, estimated by multiplying average price (CNY 4.41) and frequency (3.60 per week); in total, SMBG cost CNY 1038.54 per person per year; 2) For insulin users, annual cost of insulin pens were CNY 396.34, estimated by average price (CNY 281.09) and frequency (1.41 per year); annual costs of needles were CNY 634.20, estimated by average price (CNY 3.1) and frequency (204.58 per year, average reuse=17.05 times); in total, self-injection cost CNY 1030.54 per person per year; 3) 49.35% of surveyed patients used both insulin and SMBG. For this subgroup, annual costs of glucometers were CNY 199.05; annual costs of test strips were CNY 941.99, estimated by average price (CNY 4.41) and frequency (4.08 per week); in total was CNY 1141.04 per person per year. **CONCLUSIONS:** SMBG and self-injection caused considerable economic burdens to patients with T2DM in major cities in China, and more attention should be given to their out-of-pocket payment incurred by self-used devices and supplies.

PDB54

FREQUENCY, COST, AND INFLUENCE FACTORS OF INSULIN PEN NEEDLES REUSE FOR PATIENTS WITH DIABETES IN CHINA

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OBJECTIVES: To investigate the frequency and cost of insulin pen needles reuse, and explore the factors that associated with needles reuse for insulin-treated diabetes patients in China. **METHODS:** A questionnaire-based survey was conducted in 7 medical centres across China from June to September of 2012. Type 1 and type 2 diabetes patients treated with insulin were included in the study. The data were analysed by descriptive analysis, Spearman correlation analysis, K-W and M-W U test using SPSS 19.0. **RESULTS:** 592 eligible respondents (30 type 1 and 562 type 2 diabetes patients) were included. One single needle was used 10.57 times base on 5% trimmed mean (8 times in median). 89.2% of patients reuse needles and 60.5% reuse >6 times. Among type 1 and type 2 diabetes, needles use frequencies base on 5% trimmed mean were 7.19 times (6 times in median) and 10.76 times (9 times in median), reuse of needles were 86.7% and 89.4%, needles reuse >6 times were 36.7% and 61.7%, respectively. Annual cost of needles was 237.0 CNY, estimated by the needle price of 2013 (NovoFine 32GTip, Novo Nordisk). The cost would be 2504.9 CNY/year if needles were used 1 time only. Economics burden was the most important factor of needles reuse for 68.9% of patients. Needles reuse was statistically and positively associated with age, diabetes duration, number of complications, value of fasting blood glucose, insulin injections times and dose, and was negative associated with income, with P-value<0.05. **CONCLUSIONS:** Needles reuse for insulin injection was a common phenomenon in insulin-treated diabetes patients in China. Economic burden was the main reason of needles reuse. Other influencing factors of needles reuse included age, diabetes-related health status and insulin use.

PDB55

PREVALENCE, FREQUENCY AND COST OF SELF-MONITORING OF BLOOD GLUCOSE AND ITS INFLUENCING FACTORS FOR INSULIN-TREATED DIABETES PATIENTS IN CHINA

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OBJECTIVES: To describe the prevalence, frequency and cost of SMBG, and explore the factors that influence SMBG for insulin-treated diabetes patients in China. **METHODS:** A questionnaire-based survey was conducted in 7 medical centres across China from June to September of 2012. Type 1 and type 2 diabetes patients treated with insulin were included in the study. The data were analysed by descriptive analysis, Spearman correlation analysis, K-W and M-W U test using SPSS 19.0. **RESULTS:** 602 eligible respondents (4.98% type 1 and 95.02% type 2 diabetes patients) were included. 85.0% of patients practiced SMBG with the frequency of 0.61±0.94 times/day. Among type 1 and type 2 diabetes patients, the prevalence and frequency of SMBG were 90.0% and 1.05 times/day, 84.8% and 0.59 times/day, respectively. Taking global recommended SMBG frequency into account, only 18.76% of type 2 diabetes patients conducted SMBG ≥1 time/day, and 7.4% of type 1 diabetes patients conducted SMBG ≥3 times/day. Annual cost of SMBG was 1170 CNY, estimated by the market price of 5 CNY/test trip. 20.5% of patients thought the cost of test trips was the most important factor to SMBG use. SMBG frequency was statistically and positively correlated with frequency and doses of insulin daily use, frequency and related cost of hypoglycaemia, drug cost, frequency and cost of hospitalization and clinical visit, with P-value <0.05. **CONCLUSIONS:** SMBG was not conducted enough in insulin-treated diabetes patients in China. Economic burden of test trips was one of the main barriers to SMBG use. Factors influencing SMBG included insulin use, hypoglycaemia, drug costs, frequency and cost of hospitalization and clinic visit.

PDB56

DAPAGLIFLOZIN VERSUS SULFONYLUREA AS AN ADD-ON THERAPY TO METFORMIN: A COST-EFFECTIVENESS ANALYSIS IN COLOMBIA

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OBJECTIVES: Dapagliflozin is a sodium glucose co-transporter 2 (SGLT2) inhibitor approved for the treatment of adults with type 2 diabetes (T2DM). This study compared the cost-effectiveness of dapagliflozin versus a sulfonylurea (SU) added to metformin in persons with T2DM inadequately controlled on metformin alone in Colombia. **METHODS:** A discrete event simulation model (Cardiff diabetes model) based on UKPDS 68 was used to simulate disease progression and to estimate the economic and health treatment consequences in people with T2DM. Epidemiologic and clinical efficacy parameters were obtained from the literature. The cost of medication was obtained from country level price data, SISMED and Farmaprecios; the cost of macro- and microvascular events was based on POS tariffs, SOAT Manual and consultation with a local expert. Costs were expressed in US dollars [Exchange rate: 1,790.6 Colombian pesos = 1\$]. A 20-year time horizon was assumed. Costs and health outcomes were discounted at 3% annually. Deterministic and probabilistic sensitivity analyses (PAS) were performed. **RESULTS:** The total direct cost of the dapagliflozin + MET group over 20 years was higher than that of the SU added to metformin group (\$11,482,424 vs. \$8,942,315). Treatment with dapagliflozin resulted in a greater number of quality-adjusted life years (QALYs) compared to SU combination (10,861 vs. 10,439). The calculated Incremental Cost-Effectiveness Ratio (ICER) for dapagliflozin compared to SU was \$ 6,023 per QALY gained. Using WHO's criteria, dapagliflozin compared to SU treatment strategy has a 85% probability of being highly cost-effective (ICER < 1 GDP per capita) and 100% probability of being cost-effective (ICER ≤ 3 GDP per capita). The results were robust to sensitivity analysis. **CONCLUSIONS:** This study demonstrated that dapagliflozin in combination with metformin would be a cost-effective treatment option for patients who are inadequately controlled with metformin monotherapy in Colombia.

PDB57

COST-EFFECTIVENESS ANALYSIS OF BIPHASIC INSULIN ASPART VERSUS INSULIN GLARGINE IN PEOPLE WITH TYPE 2 DIABETES IN CHINA

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OBJECTIVES: To evaluate the long-term cost effectiveness of once daily biphasic insulin aspart 30 (BIAsp 30) versus insulin glargine (IGlar) treating people with type 2 diabetes mellitus (T2DM) based on social perspective in China. **METHODS:** The validated and peer-reviewed CORE Diabetes Model was employed to simulate disease progression and determine the total direct medical cost, life years (LYs) and quality-adjusted life years (QALYs) over 30 years. Simulated cohorts and treatment effects were based on the Chinese subgroup (n=422) in the EasyMix study (identifier in ClinicalTrials.gov: NCT01123980) which was an open-label, randomized, two-arm and multicentre trial among insulin-naïve people with T2DM. Treatment costs were based on insulin doses in the trial and market retail prices in China. Management and complication costs were obtained from Chinese published data in 2011 and adjusted to the price level of 2012 with consumer price index. An annual discounting rate of 3% was used for both costs and health outcomes. One-way sensitivity analyses were performed. **RESULTS:** Treatment with BIAsp 30 was associated with LY gain of 0.09 (13.66 vs. 13.57) and QALY gain of 0.08 (9.72 vs. 9.64) compared with IGlar over 30 years. In terms of total average cost per patient, BIAsp 30 was less costly than IGlar (CNY -46,441, CNY 265,166 vs. 311,607) which was mainly induced by lower treatment and management cost (CNY-43,037, CNY 160,863 vs. 203,900) and complication cost (CNY -3404, CNY 104,303 vs. 107,707). Sensitivity analyses demonstrated robustness of the results. **CONCLUSIONS:** For people with T2DM insufficiently controlled on OADs in China, treatment with once daily BIAsp 30 was projected to be associated with improved life expectancy and reduced direct medical cost compared to IGlar. BIAsp 30 represented a dominant treatment option compared to IGlar for people with T2DM failing to achieve adequate control with OADs in China.

PDB58

MODELING THE LONG-TERM COSTS AND OUTCOMES OF ANTIDIABETICS IN PATIENTS WITH TYPE 2 DIABETES AT HIGH RISK OF CARDIOVASCULAR EVENTS

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OBJECTIVES: Long-term safety trials for new antidiabetic therapies are beginning to provide an alternative data source to inform the burden of patients with high cardiovascular (CV) risk who are of concern to payers, but are often excluded from efficacy trials. An economic model was used to anticipate the availability of CV safety outcome data from ongoing trials and assess the clinical, economic and quality of life impacts in patients with different high risk profiles. **METHODS:** A discrete event simulation model was developed to capture 6 types of macrovascular events and 2 key treatment events among patients with diabetes at high CV risk due to coronary heart disease (CHD), stroke and/or peripheral artery disease (PAD). Risk of clinical events depended on demographics and event history per UKPDS equations. Costs and utility values were based on published literature. Model outputs included event rates, CV-related costs and quality-adjusted life-years (QALYs). **RESULTS:** Over a lifetime, in an example population with mean age of 60 years, mean HbA1C of 8.5%, 70% CHD history, 30% stroke history and 30% PAD history, the CV event rate was 25.1/100-patient-years and annual per-patient cost was \$12,776. This translated into 10.5 QALYs overall, ranging from 9.3 (patients with stroke history) to 11.2 (patients with CHD only) QALYs. A new intervention that reduces all CV event risks by 20%, results in 12.2 QALYs and annual cost of \$10,611 for the overall population. These burdens vary by up to 14% for plausible values of event risk after multiple events, with the burden among patients with stroke history being most sensitive. **CONCLUSIONS:** The clinical burden of CV events and the associated cost of care for patients with diabetes vary with baseline patient history and are subject to significant uncertainty. CV safety trials may provide clinical data to better quantify those burdens.