tality and percentages determined. RESULTS: The data reveal a 100% written diagnosis for all prescriptions encountered. There were more females than males (70% vs 30%). The number of drugs per prescription was 6.0. About 61% of the diabetic patients were also diagnosed with hypertension. Biguanides (95%) were the commonest oral hypoglycaemic agent prescribed while calcium channel antagonists (60%) was the commonest anti-hypertensive prescribed. The average cost of all prescribed drugs was GHC 60.0 (Ghana cedi) – approx $20.5 (USD). As such, the average total cost of drugs per patient for the entire year was GHC 253.2 (Ghana cedi) – approx $82.00 USD. CONCLUSIONS: The study demonstrates that patients attending the diabetic clinic in Ho Municipal Hospital are females. The cost of diabetic medications to patient per prescription was expectedly high, particularly due to the high number of drugs prescribed. Most diabetic patients have hypertension. The prescription of ACE-1 therefore need to be improved to reduce the rate of cardiovascular complication in diabetes.

PDB31
THE RELATIONSHIP BETWEEN THE COST OF DISEASE AND THE PRESENCE OF OPHTHALMIC COMPLICATIONS IN TYPE 2 DIABETES MELLITUS IS DETERMINED VIA THE CONCOMITANT COMPLICATIONS OTHER THAN OPHTHALMIC COMPLICATIONS
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OBJECTIVES: An update of health economics analysis of type 2 diabetes mellitus (T2DM) in adult population in Turkey was performed. The relationship between the presence of ophthalmic complications and cost components is reported in this presentation. METHODS: Forty centres were selected from the list of centres in which adult T2DM patients were followed on a routine basis. The centres were representatives of the country, since they were selected by two-stage cluster sampling. Medical files were reviewed for two to five years prior to the study. Item prices were obtained from the Ministry of Health and Social Security Organization of Turkey. Costs are calculated simply as the total of all frequency-price products (P × F). RESULTS: Seventy two out of 90 patients (79.6%) had at least one visit or hospital stay related with ophthalmic complications (incl. diabetic retinopathy, cataract, glaucoma). Total annual cost was € 546.60 and 382.13 in patients with and without ophthalmic complications, respectively. Concomitant medications related to treatment, laboratory tests and health care services were 397.00, 96.19 and 53.41€ in patients with ophthalmic complications. These cost items, however, were quite similar in patients without ophthalmic complications and in patients with isolated ophthalmic complications, who has no systemic complications other than ophthalmic complication (for treatment 277.35, for laboratory tests 62.09, and for health care services 42.69€ vs. 40.27€). CONCLUSIONS: All components of cost increased by 25% to 55% with the presence of ophthalmic complications. But the costs were almost similar in patients without ophthalmic complications and with isolated ophthalmic complications. Thus, the increase in cost seems to be related with the presence of concomitant systemic complications other than ophthalmic complications alone.

PDB32
DIABETIC FOOT SYNDROME HOSPITALIZATION COSTS IN POLAND
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OBJECTIVES: One of the main causes of premature death and disability in diabetic patients are amputations of lower limbs which are the result of the development of diabetic foot syndrome (DFS). Poland belongs to countries with a high rate of amputation. It is believed that the high rate of amputation is caused by significantly higher costs of DFS treatment compared to cost of amputation. Indeed, in Poland costs of DFS hospital treatment and amputation are almost equal. To answer the question whether the costs of DFS hospital treatment are overestimated it is necessary to verify if the DFS hospitalization cost is calculated correctly. METHODS: Data on hospitalization costs were estimated retrospectively, based on 2011 year disease documentation of all DFS patients treated in the Department of Gastroenterology and Metabolic Diseases of the Medical University of Warsaw. Values are presented in Euros (exchange rate 1 EUR = 4.04689 PLN). RESULTS: A total of 942 patients’ data were included in the analysis. During the previous five years, 20.8% of the patients had at least one visit or hospital stay related with ophthalmic complications (incl. diabetic retinopathy, cataract, glaucoma). Total annual cost was € 546.60 and 382.13 in patients with and without ophthalmic complications, respectively. CONCLUSIONS: All components of cost increased by 25% to 55% with the presence of ophthalmic complications. But the costs were almost similar in patients without ophthalmic complications and with isolated ophthalmic complications. Thus, the increase in cost seems to be related with the presence of concomitant systemic complications other than ophthalmic complications alone.

PDB33
BURDEN OF DISEASE ATTRIBUTABLE TO CLINICAL AND SUBCLINICAL HYPOGLYCEMIA IN THE SPANISH POPULATION
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OBJECTIVES: Subclinical hypoglycemia (SH) is typically defined as asymptomatic, characterized by slightly increased serum thyrotropin (TSH) levels and normal serum cortisol and basal plasma glucose concentration. Especially in middle-aged women most often after menopause, and it is related to cardiovascular events. The objective of this analysis was to estimate burden of disease of SH and its evolution to clinical hypoglycemia (CH) in Spain. METHOD: Epidemio-epidemiological study by WHO for lifetime of disease studies was used in this analysis. Disability-adjusted life years (DALY), years of life lost (YLL), years life with disability (YLD) and mortality related to SH and CH were calculated based on the adjusted attributable fraction. Prevalence of risk factors in general population were obtained from different official sources (CM, MD, hospital mortality register). RESULTS: In Spain, the number of patients with SH and CH was estimated to be 2,767,124. Among them, TSH concentrations ranged between 4.5-6.9 mU/L in 1,949,820 patients, between 6.9-10.0 mU/L in 538,620 patients and between 10.1-19.9 mU/L in 278,317 patients. Each year, 12,608 cardiovascular events, 1,388 cardiac deaths and 30,550 DALY (13,124 YLL and 17,426 YLD) would be attributable to SH. SH represented between 1.6-7.3% of cardiovascular DALY. CONCLUSIONS: Both the extensive socioeconomic burden of SH and the high rates of subsequent cardiovascular health risks among patients with SH is to be considered. This suggests the utility of SH screening for patients with risk factors, after assessing the efficiency of screening techniques.

PDB34
ECONOMIC EVALUATION OF TREATING DIABETES PATIENTS ACCORDING TO GUIDELINES IN SOUTH-WESTERN ONTARIO, CANADA
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OBJECTIVE: In spite of the fact that primary care physicians are recommended to follow the guideline-based clinical care pathways for management of diabetes, studies have currently evaluated the clinical and economic impact of following diabetes guidelines in Ontario. METHODS: To assess the short- and long-term impact of treating patients with type II diabetes according to the guidelines in South-Western Ontario, two cohorts of newly diagnosed cases in 2002 were used. The first group included patients who were not treated according to guidelines during the diagnostic year and the two years after diagnosis. The second group consisted with individuals who were not treated according to the guidelines only during the first year and the two subsequent years of their diagnosis. The objective was to achieve the specified targets for HbA1c, blood pressure and lipid levels according to guidelines. The short-term impacts of intervention in clinical outcomes were calculated and were used to extrapolate to 40 years horizon using the Ontario Diabetes Economic model (ODEM). For each cohort, the event rates for several diabetes-related complications, the mean difference in cost, and expected quality-adjusted life-years (QALYs) were calculated based on baseline risk and 3 years following the intervention. RESULTS: Almost 500 individuals newly diagnosed with diabetes in 2002 were not treated according to guidelines during the first year following diagnosis. Of those 236 were treated according to guidelines in the second and third year following diagnosis and 259 individuals were not (the control cohort). A small difference has been observed between the cohorts in terms of intermediate outcomes as well as the lifetime predicted cumulative costs, QALYs, life expectancy and quality-of-life. CONCLUSION: The results of this study indicated that treating patients to guidelines as used by physicians did not make an impact on the short- and long-term outcomes associated with diabetes.

PDB35
EVALUATION OF THE LONG TERM ECONOMIC IMPACT OF IMPROVING HBA1C IN TYPE 2 DIABETES PATIENTS IN SAUDI ARABIA
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OBJECTIVES: Evidence from the A1chieve study (an international, prospective, observational study of insulin analogs within routine clinical practice) suggests the glycemic control in type 2 diabetes patients in Saudi Arabia is poor. The aim of the current analysis was to investigate the long-term clinical and economic benefits of a 1% reduction in HbA1c in comparison with baseline levels for type 2 diabetes patients in the Saudi Arabian setting. METHODS: Long-term projections were made using the published and validated CORE Diabetes Model, over a 35-year time horizon. Patient characteristics were taken from the Saudi Arabian cohort of the A1chieve study. At baseline, mean (SD) patient age was 51(11) years, duration of diabetes 10(6) years and HbA1c 9.80%. Following a 1% HbA1c reduction in the active arm, HbA1c was kept constant. Captured costs included concomitant medication costs, diabetes-related complications, costs of amputation and adverse events were not included. Future costs and clinical outcomes were discounted at a rate of 3% per annum. Costs are presented in 2011 Saudi Arabian Riyals (SAR) and converted into Euros (EUR) (SAR 1 to EUR 0.2043). RESULTS: Improvements in glycemic control was associated with improved life expectancy by 0.71 years (10.08 versus 9.37 years). Furthermore, reduction in HbA1c was associated with increased time free from diabetes-related complications. Direct costs were SAR 16,084 (EUR 3,286) lower in the reduced HbA1c group (SAR 173,514 [EUR 35,449] versus SAR 189,598 [EUR 38,733]). This was driven by savings resulting from the reduced incidence of complications. CONCLUSIONS: Baseline glycaemic control in A1chieve type 2 diabetes patients in Saudi Arabia is sub-optimal. Improvements in
HbA1c are likely to lead to substantial clinical and economic benefits, driven by reduced complication rates. The cost-effectiveness of interventions designed to improve glycemic control in Saudi Arabia is worthy of investigation.

**PDB36**

AN EVALUATION OF THE LONG-TERM COSTS AND EFFECTS OF A 1% REDUCTION IN HbA1C IN TYPE 2 DIABETES PATIENTS IN MALAYSIA

**OBJECTIVES:** To estimate the long-term cost-effectiveness of adding twice-daily exenatide (BID) to basal insulin in patients with type 2 diabetes from the perspective of NHS Scotland. Data from GWCO, a phase III, double-blind, randomized, placebo-controlled trial, comparing the efficacy of adding exenatide BID to titrated insulin glargine versus titrated insulin glargine alone, were used for the modelling analysis. After 30 weeks, exenatide BID added to glargine was associated with greater mean HbA1c reduction (-1.71% vs. -1.00%, p < 0.001) and weight reduction (-1.78 kg vs. -0.96 kg, p < 0.001) compared to glargine alone. **METHODS:** A previously published and validated diabetes micro-simulation model was used to project 20-year clinical and cost outcomes based on the GWCO cohort (age 59 years, diabetes duration 12.3 years, HbA1c 8.41%) and efficacy and safety outcomes from the GWCO trial. Costs were derived from published sources and expressed in 2011 Pounds Sterling (£). An annual discount rate of 3.5% was applied to future costs and clinical outcomes. **RESULTS:** In the base case analysis exenatide BID plus glargine was projected to improve quality-adjusted life expectancy by 0.183 quality-adjusted life years (QALYs) and life expectancy by 0.147 years compared to glargine alone, at an additional cost of £6,403,196 (£EUR 541) lower in the reduced HbA1c group (IDR 242,721,221 [EUR 20,551] versus IDR 236,318,025 [EUR 20,026]), with the biggest driver of cost savings being the reduced incidence of renal complications in the reduced HbA1c group. **CONCLUSIONS:** Baseline glycemic control in patients with diabetes mellitus is sub-optimal in Indonesia; however, reduction in HbA1c from baseline was associated with improved life expectancy and quality-adjusted life expectancy as well as being cost-saving over a 35-year time horizon.

**PDB40**

THE IMPORTANCE OF HBA1C EVOLUTION IN COST-EFFECTIVENESS MODELING OF TYPE 2 DIABETES MELLITUS (T2DM)

**OBJECTIVES:** To understand how to model upward drift over time and the extent to which anti-hyperglycemic agents can maintain initial glucose lowering effect (or durability) varies. HbA1c evolution is an important determinant of future outcomes and costs. Currently there is no consensus on how to model upward drift in HbA1c or the sensitivity of treatment effects to HbA1c drift. **METHODS:** To model HbA1c evolution and assess their impact on economic evaluations of T2DM interventions. **RESULTS:** We reviewed the ways in which HbA1c evolution has been modeled. Lifetime simulations were performed that compared two hypothetical interventions: 1) initial HbA1c reduction of 2.5% and annual cost of $1,000 and 2) initial HbA1c reduction of 1% and annual cost of $200, using ECHO-T2DM, a validated micro-simulation model. Treatment was intensified in both arms when HbA1c exceeded 7.0%, first by adding basal insulin and subsequently by adding 3x anti-hyperglycemic agents. Treatment intensification in both arms led to improved glycemic control and reduced the HbA1c gap. The incremental cost-effectiveness ratio (ICER) ranged from $3,196 in (3) to $32,444 in (2). (4) could not be implemented in this version of ECHO-T2DM. **CONCLUSIONS:** Assumptions used to model HbA1c evolution have important consequences for estimates of cost-effectiveness, a 10-fold difference in the ICER in this hypothetical example, and should be addressed with sensitivity analysis in health economic evaluations.

**PDB41**

LONG-TERM EVALUATION OF THE ECONOMIC IMPACT OF REDUCING HBA1C BY 1% IN TYPE 2 DIABETES PATIENTS IN ALGÉRIE

**OBJECTIVES:** To investigate the economic benefits of a 1% reduction in HbA1c in comparison with baseline levels in patients with type 2 diabetes in Algeria enrolled

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**LONG-TERM EVALUATION OF THE ECONOMIC IMPACT OF REDUCING HBA1C BY 1% IN TYPE 2 DIABETES PATIENTS IN ALGÉRIE**

**OBJECTIVES:** To investigate the economic benefits of a 1% reduction in HbA1c in comparison with baseline levels in patients with type 2 diabetes in Algeria enrolled