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PDB5
PREVENTION WITH A PICOTAMIDE AND ASPIRIN IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND PERIPHERAL ARTERIAL DISEASE: A PHARMACOECONOMIC EVALUATION
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Type 2 diabetes mellitus (DM) and peripheral arterial disease (PAD) are two very relevant cardiovascular (CV) risk factors, which can often be found concurrently in the same patient. The DAVID trial, a double-blind, randomized, aspirin (ASA)-controlled study, has demonstrated that the use of picotamide, a thromboxane A2 synthase and receptor dual inhibitor, is associated with lesser CV morbidity and mortality in this type of patients in comparison to ASA, considered the standard antiplatelet agent. OBJECTIVES: To estimate clinical and economic impacts of picotamide in the Italian health care setting.

METHODS: We developed a Markov model based on clinical data from DAVID and national economic parameters and demographics. RESULTS: The base case scenario, which reflects current prices and reimbursement policy (i.e. ASA fully paid for, picotamide out-of-pocket for patients) yielded an incremental cost/effectiveness ratio (ICER) of about $5000 euro/year of life (YOL) saved, which falls below conventionally adopted willingness to pay thresholds. This cost, however, is totally born by the patient, while the savings on health care expenditures for avoided events (and less ASA) benefit the National Health Service (NHS). These results may help the physician in explaining the consequences of this choice to his/her patients, facilitating a fully-informed choice. The availability of a theoretical model allowed to explore some alternative scenarios, that indicate that the ICER can be further lowered and the economical burden better distributed through policy changes. CONCLUSIONS: The pharmacoeconomic model indicated that picotamide is likely to be a cost/effective option for CV mortality and morbidity prevention in patients with concurrent type 2 DM and PAD and that the level of adoption of this strategy will depend on willingness to pay and policy priorities of the NHS and patients themselves.

PDB6
COST-EFFECTIVENESS OF THE ONE-TOUCH® ULTRASMART® BLOOD GLUCOSE METER COMPARED WITH A CONVENTIONAL METER FOR INSULIN-USING DIABETES PATIENTS FROM THE USA
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METHODS: A 20-week prospective randomized controlled trial (RCT), followed by an observational visit (OV) (26-65 weeks later), using two SMBG methods was undertaken to compare an integrated glucose meter and electronic logbook (IGMEL) with conventional meters and paper logbooks (CMPL) in controlling HbA1c levels. RESULTS: The RCT demonstrated that IGMEL patients experienced an HbA1c reduction of 0.61% compared with 0.40% for CMPL patients (p = 0.03). The HbA1c reduction was coupled with a slight increase in hypoglycemia for IGMEL (0.21 events/day) compared with CMPL (0.14 events/day); but a slight increase in monitoring (4.0 vs. 3.5 times/day). At the OV, those that chose to remain on IGMEL maintained an HbA1c reduction of 0.5% while those that chose to stay on CMPL increased HbA1c by 0.2% compared to baseline. These results were input into a peer-reviewed, validated, economic model projecting these improvements in HbA1c and hypoglycemia rates over a patient’s lifetime. Transition probabilities, treatment and complication costs came from published studies. Costs and clinical outcomes were both discounted at 3% annually. IGMEL was cost-saving compared with CMPL and improved life expectancy (0.167 and 0.536 years) and quality-adjusted life expectancy (0.124 and 0.414 years), based on RCT and OV, respectively. IGMEL was no longer cost saving when the regimen costs $122/year and $198/year more than CMPL based on RCT and OV, respectively. IGMEL remained below $50,000/LE when the IGMEL regimen was up to $597/year and $1729/year more expensive than CMPL, based on RCT and OV, respectively. IGMEL remained below $50,000/QALE when the IGMEL regimen was up to $477/year and $1378/year more expensive than CMPL, based on RCT and OV, respectively. CONCLUSIONS: The results from this study suggest that over a diabetes patient’s lifetime, significant improvements in LE and QALE will result and provide strong evidence for economic and patient-centered value for this integrated blood glucose meter.

PDB7
THE RELATIVE COST EFFECTIVENESS OF INSULIN GLARGINE VERSUS NPH INSULIN IN THE UK IN PEOPLE WITH TYPE 1 DIABETES
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OBJECTIVES: The purpose of this study was to evaluate the relative cost effectiveness (cost utility) of insulin glargine in the UK for the treatment of people with Type 1 diabetes mellitus (T1DM) using pooled data from the Phase III clinical trials programme.

METHODS: This was a health economic evaluation using a stochastic simulation model. Transition probabilities for progression to diabetes-related complications were derived mainly from the DCCT (Diabetes Control and Complications Trial). Costs were derived from published estimates and local data. The maximum time horizon was 40 years to ensure effective modelling of diabetes patients. Utility values were extracted from the Health Outcomes Data Repository (HODaR) and published sources. Costs were calculated from UK £2005 prices. Costs and benefits were discounted annually at 3.5%. In this case, the model reported the experiences of 1000 subjects averaged over ten repeat simula-
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THE IMPACT OF IMPROVED BETA-CELL FUNCTION ON MODELLING THE COST-EFFECTIVENESS OF ROSIGLITAZONE IN THE MANAGEMENT OF TYPE 2 DIABETES IN SPAIN

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OBJECTIVES: The 2-year RESULT study demonstrated that rosiglitazone (RSG) + sulphonylurea (SU) induced a sustained increase in beta-cell function (BCF) (56%, p < 0.0001) compared to no change with SU alone (6% p = 0.41). This study explores the impact of modelling improved BCF on predicted lifetime health outcomes and health care expenditure in Spain.

METHODS: DiDACt, a peer-reviewed published long-term model of T2DM, was used to project the natural lifetime progression of T2DM for 1000 Spanish patients with characteris tics matched to those in the RESULT study (73% male, mean age 68.2 years, mean BMI 30 kg/m²). Following failure to maintain glycaemic target (HbA1C ≥ 7.5%) with intermediate dose of SU, up-titration of SU therapy was compared to RSG + SU combination. Future costs and outcomes were discounted at 5% per year. The original calibration of RSG in DiDACt was based primarily on insulin sensitization. Improved BCF can be represented by using an additive, multiplicative or combined approach. The additive representation assumes a one-off change independent of existing BCF. The multiplicative representation assumes the impact is proportionate to current BCF. RESULTS: The findings demonstrate that both multiplicative and additive approaches to representing RSG’s effect on BCF result in reduced lifetime costs and increased Quality Adjusted Life-Years (QALYs) compared with the previous calibration, with cost-effectiveness ratios falling well below both established thresholds and previous estimates. CONCLUSIONS: Each modelling method of the impact of improved BCF in the management of T2DM indicated that RSG is more cost-effective than previously estimated. The impact of RSG on BCF may be confirmed in next forthcoming long-term studies.

THE ECONOMIC BENEFIT OF SELF-MONITORING OF BLOOD GLUCOSE (SMBG) IN TYPE 2 NON INSULIN TREATED DIABETES PATIENTS IN SWITZERLAND

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OBJECTIVES: To examine if close control of blood glucose levels in patients with type 2 diabetes treated with diet restrictions or oral medication has an economic benefit. METHODS: A decision analytic model with a time horizon of eight years has been developed. Costs are assessed from the perspective of the Swiss health care system. Data on the efficacy of SMBG come from the large observational ROSSO study conducted in Germany. The economic endpoint is the impact of blood glucose monitoring on direct medical costs, taking into account reduced costs due to five major diabetes-related complications (myocardial infarction (MI), stroke, haemodialysis due to renal failure, blindness, and foot amputation), and assuming no difference in all other direct medical costs of diabetes. The clinical endpoint is quality adjusted life years (QALYs) gained. RESULTS: Self-monitoring of blood glucose induces a cost saving of CHF1062 over eight years due to a reduction in the number of diabetes-related complications. This hints at an annual budget saving in diabetes related complications of CHF21 Mio. per year, based on an estimate of 160000 non-insulin treated type 2 diabetes patients in Switzerland. In addition, the quality of life is improved for patients performing SMBG. A critical parameter is the number of test strips used. A sensitivity analysis shows that with a weekly consumption of more than 5.25 strips per patient, SMBG is no longer a dominant strategy. No related, evidence-based guidelines are currently available. CONCLUSIONS: The potential economic benefit of self-monitoring of blood glucose among non insulin dependent type 2 diabetes patients seems to be substantial in Switzerland, due to a reduction in long-term diabetes complications.