that the trend in use of insulin in the Czech republic should be interpreted positively. Similarly, the decrease of sulfonylurea use and the increase of that of metformin are good news. New drugs may offer better treatment options, however, their actual value should be properly assessed in clinical practice.

**PDG20**

**A SIMULATION MODEL TO CALCULATE LONG-TERM COSTS AND LIFE EXPECTANCY DEPENDENT ON POST PRANDIAL BLOOD GLUCOSE LEVELS IN DIABETES PATIENTS**

Palmer AJ1; Roze S1; Nicklasson L1; Foos V1

1CORE Center for Outcomes Research, Basel, Switzerland; 1Novo Nordisk A/S, Bagsvaerd, Denmark

**OBJECTIVES:** Recent population studies and meta-analyses indicate that increased post-prandial blood glucose (PPG) level is an independent risk factor for coronary heart disease (CHD), stroke, cardiovascular disease (CVD) death. A modeling study was performed to combine best available data with costs of complications to project possible long-term clinical and cost outcomes for patients with different baseline PPG levels.

**METHODS:** Risks of CHD, stroke, and CVD death derived from Framingham formulas were combined with PPG-dependent hazard ratios for incident CHD, stroke, and CVD death to calculate life expectancy dependent on baseline PPG. Direct costs of cardiovascular complications were projected over patients’ lifetime using a Markov simulation model. Costs of treating cardiovascular complications were retrieved from published sources. A French, third-party-payer cost perspective was taken, and only direct costs were included in the analysis. Costs were discounted at an annual rate of 5%.

**RESULTS:** A typical population of type 2 diabetes patients aged 60.1 years with PPG levels of 15.3, 14.7, or 13.8 mmol/l at baseline was calculated to have life expectancies of 18.9, 19.4, and 19.9 years respectively. Lifetime costs per patient (discounted at 5% per annum) due to CVD complications were calculated to be FF 58,793, FF 57,912, and FF 56,565 respectively.

**CONCLUSIONS:** Patients with lower PPG levels are likely to have improved life expectancy and reduced costs due to cardiovascular complications. It is possible that newer interventions that improve PPG levels will be cost-effective, as the costs of interventions will be offset by reduced costs due to cardiovascular complications.

**PDG21**

**HUMANISTIC IMPACT OF HYPERGLYCEMIA IN TYPE 1 DIABETES MELLITUS**

Summers KH1; Cox D2; Kotvatchev B2

1Eli Lilly and Company, Indianapolis, IN, USA; 2University of Virginia Health System, Charlottesville, VA, USA

**OBJECTIVES:** While the patient-reported effects of hypoglycemia have been investigated, little has been done with hyperglycemia. This research was designed to enhance our understanding in this area.

**METHODS:** Using hand-held computers we assessed the acute and cumulative effects of hyperglycemia on mood and cognitive functioning. The sample consisted of 105 adults with type 1 diabetes mellitus who entered their degree of symptoms (tired/sleepy, dry eyes/nose/mouth, sweet taste, need to urinate), cognitive functioning (subtractions, verbal fluency and choice-reaction time tests) and their blood glucose (BG) over four weeks. In addition, they completed several psychometric instruments, including the Diabetes Quality of Life scale.

**RESULTS:** All four symptoms steadily increased as BG rose in the following increments: 110-144 mg/dl; 145-180 mg/dl; 181-220 mg/dl; 220-270 mg/dl; >270 mg/dl (p < .001). Only verbal fluency and mental arithmetic performance worsened with hyperglycemia (BGs > 270, p < .005). Individuals with more frequent BGs > 160 mg/dl reported more worry about hyperglycemia, poorer quality of life and more hassles around symptoms and complications, while being less likely to perform non-routine tasks to avoid hyperglycemia.

**CONCLUSIONS:** Both between- and within-subject analyses of acute and cumulative effects demonstrated hyperglycemia has psychological consequences in type 1 diabetes mellitus and may result in less motivation to change routines to reduce the frequency of hyperglycemia.

**PDG22**

**EVALUATION OF A GENERIC QOL INSTRUMENT (KINDL) FOR SELF-ASSESSMENT OF QOL IN SINGAPOREAN CHILDREN WITH DIABETES: A PILOT STUDY**

Whee HL1, Lee WWR2, Li SC1, Wee HL1

1National University of Singapore, Singapore, Singapore; 2KK Women and Children’s Hospital, Singapore, Singapore

**OBJECTIVE:** To evaluate the validity and reliability of the English version of KINDL (a self-administered generic quality of life instrument originally developed in German) in Singaporean children with diabetes.

**METHODS:** Consecutive patients with diabetes (both types I and II) attending the endocrinology clinic at Kandang Kerbau Women and Children’s Hospital were asked to fill in the KINDL questionnaire. Healthy controls were recruited via street interview conducted outside community libraries located in different parts of the island.

**RESULTS:** Thirty-five diabetics (mean age: 14.5 ± 1.48 yrs, 17 males and 18 females) and 34 healthy controls (mean age: 14.5 ± 1.05 yrs, 17 males and 17 females) completed the questionnaire. The overall result showed that diabetic patients have a significantly higher overall score compared to the controls (patient vs. control: 57.0 ± 8.7 vs. 48.8 ± 8.8, p < .01). Item reduction of individual domains did not change the overall pattern or the difference in magnitude between scores obtained by the two groups. However, there were improvements (in the vicinity of four to five percent) in overall scores when either the
“Personal” or “School” domain was eliminated, indicating the questionnaire is sensitive to the cultural and social differences between Asian and European cultures. The reliability of the instrument as measured by Cronbach’s alpha for the six domains for the diabetics ranges from 0.31 to 0.75.

CONCLUSION: Although the results appear improbable, they agree with the cultural and social characteristics of Singapore where the educational system is highly stressful. Parents of diabetic children may have lower expectations of their children due to their condition, and hence the perceived better QOL among the diabetic children. However, more data needs to be collected to confirm this observation. *Maximum possible score of 100.

PDG23

PHARMACEUTICAL AND HOSPITAL EXPENDITURE FOR ANTI-DYSPEPTIC TREATMENT: THE EFFECTS OF THE INTRODUCTION OF A DISEASE MANAGEMENT GUIDELINE
Degli Esposti E, Valpiani G, Saragoni S, Triossi O, Degli Esposti E

1) CliCon Srl - Health, Economics and Outcomes Research, Ravenna, Italy; 2) Ravenna, Italy; 3) Gastroenterology Department of S. Maria delle Croci Hospital, Ravenna, Italy; 4) Health Directorate, Ravenna Local Health Unit, Ravenna, Italy

OBJECTIVE: To highlight the effects incurred in the pharmaco-utilization and in the total expenses for dyspeptic patients by the introduction of a disease-management guideline.

METHODS: A retrospective reading of an administrative billing database in the Ravenna Local Health Unit was performed for all health-assisted subjects of 10 GPs who had previously developed and agreed to a clinical guideline to manage dyspeptic patients (Dyspro GPs) as well as by a group of 30 self-regulated GPs (Control GPs). The latter group was selected ex post so as not to be significantly different from the former in terms of personal and patient characteristics. According to anti-dyspeptic treatment, patients were grouped as having had or not prescriptions between 01/01/1999 and 12/31/1999. Dyspeptic subjects were divided as having had or not an earlier anti-dyspeptic treatment (new users/users). The follow-up period lasted 365 days.

RESULTS: A total of 51,904 subjects were enrolled, of which 23.1% were enrolled by the Dyspro GPs and 76.9% by the Control GPs. The percentage of dyspeptic patients accounted for 17.6% and 15.0% respectively of subjects enrolled by the Dyspro GPs and the Control GPs. The average age of dyspeptic patients was 57 ± 18.6 years and 57.3 ± 18.9 years (p = ns) and the percentage of males was 40.1 and 42.0 (p = ns), respectively in the Dyspro GPs and Control GPs groups. The average drug costs for new users (−35.76 vs −38.56) and users (−107.51 vs −113.73) was higher as was the average hospitalization cost for new users (−65.78 vs −70.84) and users (−61.13 vs −87.40) in patients enrolled by the Control GPs. Casualty department access and gastroscopies were not different among patients enrolled by the physician groups.

CONCLUSION: Pharmaceutical and hospital expenditures decreased as a consequence of the introduction of a disease-management guideline.

PDG24

PHARMACOECONOMIC ASSESSMENT OF RABEPRAZOLE IN PEPTIC ULCER IN RUSSIA
Snegova E, Churilin Y, Moisseyev S, Mokhov O, Adanyan N

1) Center for Pharmacoeconomic Research, Moscow, Russia; 2) Center for Pharmacoeconomic Research, Russia; 3) Moscow Medical Academy, Moscow, Russia

OBJECTIVE: Rabeprazole (Pariet) is a new proton-pump inhibitor, which offers fast and consistent acid control. Randomized controlled studies showed that rabeprazole in active peptic ulcer is comparable to omeprazole and more effective than ranitidine. We performed economic evaluations of rabeprazole, omeprazole and ranitidine in active gastric and duodenal ulcers.

METHODS: A decision tree model (DATA 3.0 Treeage Software Inc.) was applied for retrospective analysis of peptic ulcer healing rate in controlled clinical trials of the three drugs. Direct costs of standard treatment in a hospital setting (six and four weeks for gastric and duodenal ulcers respectively) were calculated. They included hospital bills, investigations and drug-acquisition costs. Cost-minimization and cost-effectiveness analyses were used to evaluate rabeprazole vs. omeprazole and rabeprazole vs ranitidine respectively. To calculate the incremental cost-effectiveness ratio, we utilized the rate of improvement in well-being after two weeks of treatment.

RESULTS: The direct costs of rabeprazole and ranitidine in active duodenal ulcer were comparable ($261.21 vs $263.28), but the proton pump inhibitor was significantly more cost-effective than the H2-blocker (incremental cost-effectiveness ratio 0.43 vs 4.66). The difference was due to the higher healing rate and faster effect of rabeprazole. The direct costs of rabeprazole and omeprazole in active duodenal and gastric ulcer were $248.21 vs $266.94 and $311.53 vs $332.77 respectively. The difference was due to lower acquisition cost of rabeprazole.

CONCLUSION: Rabeprazole may offer economic advantages over omeprazole and ranitidine in hospital treatment of active gastric and duodenal ulcers.

PDG25

ECONOMIC DIFFERENTIATION BETWEEN PPIS IN THE TREATMENT OF REFLUX ESOPHAGITIS RELATED TO GERD
Beard S, Gaffney L
RTI Health Solutions, Manchester, UK