OBJECTIVES: To develop a quantitative algorithm that transforms the Unified Parkinson's Disease Rating Scale (UPDRS), which is the most frequently used instrument to evaluate different clinical dimensions of Parkinson's Disease (PD), into EuroQoL (EQ-5D) values. **METHODS:** A total of 157 PD patients (mean age: 67 yrs., 63% male, mean total UPDRS: 44, mean EQ-5D: 0.74) were recruited in a prospective study at a German movement disorders center. Both EQ-5D and UPDRS were evaluated at baseline in 124 patients. Spearman correlation coefficient (R) was used to test whether total UPDRS score, sub scores (U2,U3,U4), and other patient characteristics were univariately associated with EQ-5D. A transformation algorithm with UPDRS sub scores as predictors and EQ-5D as outcome was derived using multivariate regression analysis. Goodness-of-fit was determined by adjusted R-square and the Hosmer-Lemeshow method. **RESULTS:** In the univariate analysis, all UDPRS sub scores were significantly ($p < 0.05$) correlated with clinical stage on the Hoehn & Yahr (HY) scale. Significant inverse correlation (all $p < 0.001$) was found between EQ-5D and total UPDRS ($R = -0.67$), U2 ($R = -0.63$), U3 ($R = -0.60$), U4 ($R = -0.59$), and HY stage ($R = -0.52$). Multivariate analysis showed that 52% of the variance in EQ-5D could be explained by the following equation: $EQ\text{-}5D = (99.62 - 1.36 \times U2 - 0.13 \times U3 - 1.66 \times U4)/100$. The Hosmer-Lemeshow test showed good predictive power. Using different mathematical functions (e.g., log, logit, square) of predictors, utilities or disutilities, and inclusion of interaction terms did not substantially increase adjusted R-square. **CONCLUSIONS:** We suggest a simple, parsimonious, and easily feasible algorithm for the transformation of UPDRS scores into EQ-5D-based utilities. The purpose of this function is not to predict individual quality of life, but mean utilities for populations with a specific UPDRS configuration, which may be used in the evaluation of intervention's overall effectiveness or cost-effectiveness. This algorithm can be applied to existing UPDRS data sets and used in cost-utility analyses of health technologies.

VV7

WILLINGNESS TO PAY FOR HEARING AIDS IN THE NETHERLANDS

Grutters J, Chenault M, Anteunis L, Joore M
University Hospital Maastricht, Maastricht, Netherlands

OBJECTIVE: To measure the maximum willingness to pay (WTP) for a hearing aid (HA) in the Netherlands in both hard of hearing persons and persons accompanying them. **METHODS:** In a survey 151 clients and 55 persons accompanying them were asked about their maximum WTP for a HA, the out of pocket (OoP) payment for the HA(s) currently fitted, and some perceptions about the reimbursement of HAs, when visiting their HA dispenser. **RESULTS:** The mean age of the clients was 70 years, and of the accompanying persons 62 years. In both groups approximately 50% was male, 20% earned an income below €1150 and 7% an income above €3400, and two third were compulsory insured. Most accompanying persons were either the partner (63%) or a child (24%) of the client. The mean OoP payment for the current HA(s) fitted was €461 (sd 392) per HA. Of both the clients and the accompanying persons 46% found it unjust to some extent to pay any OoP contribution for a hearing aid. Over 90% of the clients and the accompanying persons perceived that abolition of the reimbursement would be very problematic. Mean maximum WTP per HA was €277 (sd 296) for the clients and €207 (sd 264) for the accompanying persons. **CONCLUSION:** It can be concluded that there is considerable aversion to an increase of OoP payments as a result of the abolition of the reimbursement. Mean maximum WTP found in this study is considerably lower than the figure observed in a US study: $982 per HA (Chisolm & Abrams, 2001). Mean maximum WTP per HA is also lower than the actual OoP contribution for the HAs currently fitted. This might reflects the difference between revealed and stated preferences, or may be a result of shifted preference.

VV8

CLINICAL INCONTINENCE SCORE RELATES TO HEALTH UTILITY VALUES

Deutekom M, Dijkgraaf MGW, Terra MP, Dobben AC, Stoker J
Academic Medical Center, Amsterdam, Netherlands

OBJECTIVE: The Vaizey score is a tool to assess the severity of faecal incontinence and to determine treatment effect. As clinicians develop the score, it may not reflect the overall health impact of faecal incontinence. This study investigates the association between the Vaizey score and health-related utility before patients received treatment. **METHODS:** Baseline data from a prospective diagnostic cohort study were used to evaluate the incontinence score and the health utility of patients. The Vaizey score (0 (continent)—24 (totally incontinent)) consists of items concerning the type (solid, liquid, gas) and frequency of faecal incontinence, the use of pads and constipating medication, and the amount of social invalidation. Health utility was calculated by a simple additive model using EuroQol5D data on mobility, self-care, daily activities, pain/discomfort and anxiety/depression. **RESULTS:** Data from 89 (13 men; mean age 59) patients were analysed. On average, patients suffered from incontinence for 8.7 years, the mean Vaizey score was 18.5 and mean utility 0.82. Lower Vaizey scores coincided with higher health utility values (Spearman'sr = –0.316, $p < 0.01$). Patients indicating any problems on a EuroQol dimension showed higher Vaizey scores than patients without problems; however, this was only significant for daily activities (Mann-Whitney $U = 597.5$ $p < 0.001$) and anxiety/depression (Mann-Whitney $U = 685$, $p < 0.05$). **CONCLUSION:** Before treatment the Vaizey score was significantly correlated with total utility and was associated with two dimensions of the EuroQol: daily activities and anxiety/depression. Further studies will investigate

whether this significant relation is still present after receiving treatment. If this relation is absent potential mechanisms (e.g. coping style) that could explain discrepancies will be investigated.

GI DISEASE

GD1

COST-UTILITY ANALYSIS OF "ON DEMAND" RABEPRAZOLE AND ESOMEPRAZOLE FOR SYMPTOMATIC GASTRO OESOPHAGEAL REFLUX DISEASE

Hughes DA[1], Dubois D[2]
[1]University of Liverpool, Liverpool, United Kingdom; [2]Johnson & Johnson Pharmaceutical Services, LLC, Beerse, Belgium

OBJECTIVES: To model the 1-year cost-utility of rabeprazole and esomeprazole "on demand" (prn) treatment for symptomatic gastro oesophageal reflux disease from the perspective of the UK National Health Service. **METHODS:** Data relating to treatment discontinuation due to inadequate heartburn control were extracted from two clinical trials; one comparing rabeprazole 10 mg with placebo prn and the other comparing esomeprazole 20 mg, 40 mg and placebo prn. Survival data (proportion of patients continuing therapy) were fitted to Weibull functions, and adjusted for comparability according to placebo data. Data from the trials on drug intake, use of antacids as rescue medication and severity of heartburn symptoms were also used for the analysis. Health care resource utilization included annual frequency of general practitioner and gastroenterologist consultation and of upper GI endoscopy, annual number of drug prescriptions and pharmacy dispensing fees. These were priced according to the latest NHS costs. Health state utilities were derived from a study that assessed EQ-5D utilities in 1003 patients with GERD, and related utility scores to duration and severity of symptoms. A probabilistic model was employed that sampled from Weibull distributions for survival time, assigned Poisson distributions to annual frequency of events, Beta distributions to utilities and Dirichlet distribution to severity of heartburn. **RESULTS:** The mean total costs of therapy with rabeprazole 10 mg, esomeprazole 20 mg and 40 mg were £93, £103, and £121, respectively. The associated utility scores were, respectively, 0.866, 0.861 and 0.860. **CONCLUSIONS:** For non-erosive reflux oesophagitis, treatment with rabeprazole 10 mg prn is less expensive than with either 20 mg or 40 mg esomeprazole prn. All three alternatives are comparable in terms of their effectiveness.

GD2

A COST CONSEQUENCE ANALYSIS OF A NEW ENDOSCOPIC, INJECTABLE TREATMENT AND EXISTING INTERVENTIONS IN GASTRO-OESOPHAGEAL REFLUX DISEASE

Boler A[1], Wenk-Lang A[2], Howard P[1]
[1]Heron Evidence Development, Letchworth, Hertfordshire, United Kingdom; [2]Boston Scientific International, La Garenne Colombes, France

OBJECTIVES: To compare the costs and consequences of Enteryx with Laparascopic Nissen Fundoplication (LNF) and pharmacological therapy (PPIs) in patients with Gastro-Oesophageal Reflux Disease (GORD). The Enteryx Procedure is a new endoscopically injected polymer-based treatment for GORD. **METHODS:** A decision analytical approach was taken to model the ability of the three interventions to successfully treat patients with GORD. The model time horizon was one year with an additional 5-year long-term perspective. The clinical outcomes and the resource consumption data for PPIs were derived from the literature. A multicentre clinical study of Enteryx provided the clinical outcomes for Enteryx. Treatment outcomes following LNF were sourced from the literature. Experienced UK experts provided resource consumption data for the Enteryx procedure and LNF. Patients on pharmacological treatment (PPIs) with relapse followed the recommended route of moving to higher dose therapy for eight weeks and if still not responding received a further eight weeks followed by an endoscopy. **RESULTS:** At 1-year average costs per patient were lower with Enteryx (£2683) than with LNF (£4718). The cost of PPI treatment at 1 year amounted to £394 for all patients and to £691 for patients needing a higher dose of treatment. At 5 years, Enteryx patients had a lower cost of £3004 per patient compared to LNF (£4769) and high dose PPI users (£3457). The average cost for all PPI users at 5 years was £1970. **CONCLUSIONS:** For those patients suitable for surgery, Enteryx provides a less expensive option than LNF largely due to the reduced hospitalisation and procedure costs. Due to the recurrent nature of PPI treatment and cost, Enteryx is a cost saving therapy in the long-term compared to pharmacological therapy, especially for patients on high maintenance dose.

GD3

COSTS OF GASTROENTERITIS IN THE NETHERLANDS

van den Brandhof WE[1], De Wit GA[1], de Wit MAS[2], van Duijnhoven YTHP[1]
[1]National Institute of Public Health, Bilthoven, Netherlands; [2]National Institute of Public Health and the Environment, Bilthoven, Netherlands

OBJECTIVES: To estimate the cost of illness and the disease burden, in terms of disability adjusted life years (DALYs), for gastroenteritis in the Netherlands in 1999. **METHODS:** The study population consisted of a community-based prospective cohort study on gastroenteritis, with a nested case-control study, in cooperation with the Dutch sentinel general practice network. Cases with gastroenteritis identified in the cohorts were requested to submit stool samples, complete a questionnaire on risk factors and complete a medical diary for four weeks. In this diary, cases reported daily about symptoms, absence from work or school, use of medication and use of health services, such as GP and hospital services. Health services use and productivity losses were valued according to