OBJECTIVES: Assess the clinimetric properties of the MIGRAINE-SCREEN-Q (MS-Q) questionnaire for the screening of patients with migraine in the general population.

METHODS: A 16-item tool was developed from the International Headache Criteria (IHS) of Migraine and a review of the literature by a panel of 6 experts in neurology, occupational medicine, clinimetrics, and methodology. The MS-Q instrument was mailed and filled in by the employees working for at least 3 months at the Pfizer company (Step I) and self-administered to patients of a Neurological Clinic (Step II and III) in Spain. All subjects were subsequently referred for an independent diagnosis by a neurologist, blinded of MS-Q results. The diagnosis was assigned according to IHS criteria. Statistical methods included logistic regression, ROC curves analysis and determination of sensitivity, specificity, and positive and negative predictive values with its 95% confidence interval. RESULTS: In all, 413 employees (Step I) and 30 patients (Step II) were recruited. Of them, 325 subjects were evaluable and diagnosed as having migraine (n = 85), other headaches (n = 80) and non-headache subjects (n = 160). A further 140 patients were recruited in a Neurological Clinic and analysed independently to get a sample of 70 migraine and 70 non-migraine patients (Step III). A five-item subset (headache frequency and severity, 4 hours to 3 days duration, nausea, sensitivity to light/noise and disability) out of 16 preliminary items was derived by logistic regression analyses. A cut-off of 4 or more points provided a sensitivity of 0.93 (95%CI, 0.87–0.99), specificity of 0.81 (0.72–0.91), a positive predictive value of 0.83 (0.75–0.91) and a negative predictive value of 0.92 (0.85–0.99). The reliability Cronbach Alpha coefficient was 0.82. CONCLUSIONS: The 5-item MIGRAINE SCREEN-Q instrument was found to be a valid and reliable screening tool for migraine headaches. Further studies are warranted to test its applicability in the general population.

PNL77

MAPPING THE INTERNATIONAL RESTLESS LEGS SYNDROME RATING SCALE (IRLS) TO THE EQ-5D BY FOUR CLINICIANS

Lofthus JV, Connolly M, Allen R, Garcia-Borroreguero D, Billard M, Tidswell P

1GlaxoSmithKline, London, Middlesex, UK; 2Neurology and Sleep Medicine, Baltimore, MD, USA; 3Fundacion Jimenez Diaz, Madrid, Spain; 4Institute for Medicines Research, Chorley, Lancashire, UK

OBJECTIVE: IRLS is used for clinical assessment and severity of Restless Legs Syndrome (RLS). To compare the burden of RLS with other health states, this study has mapped the IRLS to a multi-attribute utility measure, the EQ-5D. METHODS: Four RLS experts from Spain, France, UK and US were identified to participate in mapping the ten IRLS items (each with five ordinal response levels) to the five EQ-5D domains (each with three ordinal response levels). A pilot study conducted by one expert participated in mapping the 10 IRLS items (each item mapped once). "Pain/Discomfort" mapped to five IRLS items and "Anxiety/Depression" mapped to four IRLS items, "Usual Activities" and "Anxiety/Depression" were mapped to appropriate ordinal responses on the three EQ-5D domains. EQ-5D utilities could be established for different combinations of IRLS item responses and corresponding IRLS total scores. Using trial data, a significant correlation between IRLS total scores and EQ-5D utilities was established (r = -0.84, p < 0.0001). CONCLUSION: Based on clinical consensus, the IRLS can be successfully mapped to the EQ-5D. The algorithm resulting from this work may be used to compare health related QoL of RLS sufferers with those of other diseases for resource allocation decisions.

PNL28

CENTERED REGRESSION FUNCTIONS AS A TECHNIQUE TO IMPROVE FLEXIBILITY AND TRANSFERABILITY OF MARKOV MODELS

Siebert U, Bornschein B, Dodel R

1Harvard Medical School, Boston, MA, USA; 2University of Munich, Munich, Germany; 3University of Bonn, Bonn, Germany

OBJECTIVES: The development of Markov decision models for chronic diseases is often time-consuming and sophisticated. Therefore, generic and flexible models have advantages. We present a method that allows to externally adjust decision models for context-specific variables such as epidemiologic, clinical, or economic parameters. METHODS: To allow transfer of decision models across populations or countries with correct adjustment for context-specific parameters, we used centered regression equations instead of fixed values as model parameters. Clinical event probabilities, utilities, and costs were defined as functions of context-specific predictors. Centering the predictors on their means allows to interpret intercepts as grand means and regression coefficients as relative modifiers. We applied this approach to the Parkinson’s Disease Model (PDM) using 1-year follow-up data of target outcomes (clinical events, utilities [EQ-5D], and costs) from the German Parkinson’s Disease Competence Network Study (n = 145). We validated the centered regression approach by comparing model results to those from models with model parameters based on non-centered regression and fixed parameters values. RESULTS: Target outcomes of PDM were defined by 1) centered regression equations; 2) intercepts representing grand means of 1-year target outcomes (anchor value); 3) distribution of disease severity stages; and 4) regression coefficients for each stage representing additive (utilities) or multiplicative (events, costs) modifiers for the anchor value. Assuming constant modifiers, the model can be transferred if data on mean outcomes and severity stage distribution of the target country are available. Sensitivity analyses were facilitated, as changes in overall event risk, utilities, or costs were achieved by simply changing intercepts. Validation of the centered regression-based PDM with non-centered regression equations or using fixed values in the model led to identical results. CONCLUSIONS: The implementation of centered regression-based equations in a decision model enhances model flexibility with respect to sensitivity analyses and transferability to another population or health care context.

PNL29

ESTIMATING THE COST OF ILLNESS IN EUROPE—A MODEL WITH MULTIPLE SCLEROSIS AS AN EXAMPLE

Andlin-Sobacki P, Kobelt G, Pugliatti M, Jonsson B

1Karolinska Institute, Stockholm, Sweden; 2European Health Economics SAS, Speracèdes, France; 3University of Sassari, Sassari, Italy; 4Center for Health Economics, Stockholm School of Economics, Stockholm, Sweden

OBJECTIVES: Estimating the cost of a disease for Europe is a methodological challenge due to differences in epidemiology,