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 50 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 cutoff 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.

PNL27
MAPPING THE INTERNATIONAL RESTLESS LEGS SYNDROME RATING SCALE (IRLS) TO THE EQ-5D BY FOUR CLINICIANS
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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 (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 50 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 cutoff 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.

PNL28
CENTERED REGRESSION FUNCTIONS AS A TECHNIQUE TO IMPROVE FLEXIBILITY AND TRANSFERABILITY OF MARKOV MODELS
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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
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OBJECTIVES: Estimating the cost of a disease for Europe is a methodological challenge due to differences in epidemiology,
treatment patterns, prices and data availability. This study aims at developing a model to overcome these challenges and to combine epidemiology and economic data to estimate the cost of MS in Europe. METHODS: A model was developed, based on the prevalence of the disease and the cost per patient for different degrees of severity of disease, with the following purposes: 1) transform and convert available economic data to a defined time period as well as currency; 2) adjust country specific economic data for purchasing power and relative size of economy; 3) impute data for countries where no data are available; and 4) combine epidemiology and economic data to estimate the total cost of a defined disease. The model was populated with European published data on multiple sclerosis. National and international statistics for the model were retrieved from the OECD and Eurostat databases. The estimates were presented in Euro for 2003. RESULTS: The estimated cost for MS in Europe is 10.76 billion. Mild patients with MS accounted for 53% of the total cost, moderate 25% and severe patients for 22%. The high income countries accounted for 77% of the total cost and the countries with high prevalence in MS constituted 80% of the total cost. The model estimates for drug costs were validated against other data on total costs for MS drugs in Europe. CONCLUSIONS: The model provides a novel approach to estimating the cost of illness of a disease in Europe, as illustrated with the example of MS.

PITUITARY GLAND DISORDERS

PITUITARY GLAND DISORDERS—Cost Studies

COST-OF-ILLNESS STUDY IN ACROMEGALIC PATIENTS IN ITALY

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OBJECTIVES: The lack of epidemiological data has suggested to perform an Italian retrospective study with the objective to assess the health resources consumption that are caused by acromegalic cure and the relative co-morbidities in order to estimate the amount of the direct cost of acromegalic patients.

METHODS: A retrospective study has been performed on a total of 134 patients (142 patients selected, 76 patients by site of Genoa and 66 patients by the site of Turin) for a period of about 7 years preceding the enrolment date. For the observation study period all hospitalizations (ordinary hospitalization and Day-Hospital), all specialist visits and diagnostic and laboratory tests have been collected, for each patient, from the relative medical records independently if the health care resources used were due to the primary disease or to co-morbidities. Only direct costs have been collected, for each patient, from the relative medical records independently if the health care resources used were due to the primary disease or to co-morbidities. Only direct costs have been collected, for each patient, from the relative medical records independently if the health care resources used were due to the primary disease or to co-morbidities. Only direct costs have been collected, for each patient, from the relative medical records independently if the health care resources used were due to the primary disease or to co-morbidities.

CONCLUSIONS: The study support the hypothesis that controlled patients drove more health resources.

PITUITARY GLAND DISORDERS—Quality of Life/Utility/Preference Studies

THE DEFICIT IN HEALTH-RELATED QUALITY OF LIFE (HRQOL) FOR GROWTH HORMONE DEFICIENT (GHD) PATIENTS IN SPAIN AND ENGLAND & WALES: A COMPARISON WITH NORMATIVE POPULATION DATA

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OBJECTIVES: To quantify the differences in health-related quality of life within and between adults with GHD and the general population in Spain and England & Wales (E&W), respectively, using the disease-specific instrument QoL—Assessment of Growth Hormone Deficiency in Adults (QoL-AGHDA).

METHODS: QoL-AGHDA is a 25-item questionnaire that elicits yes/no responses to personal statements describing problems that characterize aspects of HRQoL in growth hormone deficiency. A high QoL-AGHDA score denotes poor HRQoL. The Spanish population sample comprised 940 individuals, and the England and Wales sample 921. These survey data were collected in studies reported elsewhere (Badia and Kolotowska-Hägstrom, respectively). Patient data were retrieved from KIMS (Pfizer International Metabolic Database). The number of patients from the two countries were 315 and 836, respectively. Student t-tests were performed on mean data for groups formed by 10-year age bands and gender. RESULTS: For Spain the mean QoL-AGHDA was 11.0 for patients and 3.1 in the general population. For E&W the corresponding means were 14.7 and 6.7. The mean deficits for patients compared with the general population were similar in all age- and gender groups and were statistically significant (p < 0.0001). The mean patient QoL-AGHDA from E&W were significantly higher in most age and gender categories compared with the Spanish patients (p < 0.05). The general population QoL-AGHDA scores in men did not differ significantly between countries (Spain = 5.9 vs. E&W = 6.2), but women from Spain scored significantly lower (higher HRQoL) than women from E&W (3.9 vs. 7.0; p < 0.0001). CONCLUSIONS: This study confirms the extent of deficit in HRQoL in adults with GHD compared to general population. For patient comparisons, caution is needed in interpreting these results, since the eligibility criteria for GH replacement differ between the two countries. The reasons for gender variability between Spain and E&W general population requires further studies.

URINARY/KIDNEY DISEASES DISORDERS

URINARY/KIDNEY DISEASES DISORDERS—Cost Studies

THE COST-EFFECTIVENESS OF EXTENDED RELEASE TOLTERODINE IN THE MANAGEMENT OF OVERACTIVE BLADDER IN GERMANY AND THE UNITED KINGDOM

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OBJECTIVE: Adequate treatment of patients with overactive bladder (OAB) depends significantly on the rate of persistence