

injection, placebo), scheduled visits (month 1, month 2 etc.), age, sex, prior migraine medication and country were explored as covariates. The final model was selected based on the Akaike information criterion (AIC) value using forward and backward selection. **Results:** In total, 3743 utility values from 970 patients were included in our analyses. The mean observed utility value was 0.83 for patients with 0 MMD and 0.51 for patients with 28 MMD. Fremanezumab decreased the number of MMD, thereby increasing a patient's quality-of-life. The variables MMD, baseline MMD, scheduled visits and country were included in the final model. The regression coefficient for MMD was -0.01 ( $p < 0.001$ ), demonstrating that, after adjusting for baseline MMD, schedule visits and country, utility decreased by 0.01 for every day increase in MMD. **Conclusions:** There was a strong correlation between the number of MMD and quality-of-life in patients with migraine. Estimates derived from the linear mixed-effects model can be used to inform health-state specific utilities in the Japanese cost-effectiveness model for fremanezumab in migraine prevention.

#### P11 DEVELOPMENT OF AN EQ-5D-5L VALUE SET FOR ITALY USING VIDEOCONFERENCING ADMINISTERED PERSONAL INTERVIEWS: REPORTING ON THE FEASIBILITY OF A NEW MODE OF ADMINISTRATION FOR VALUATION STUDIES

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**Objectives:** To derive an Italian value set for the EQ-5D-5L using videoconferencing interviews and to determine the feasibility of this mode of administration. **Methods:** Preferences were collected using the EQ-VT V2. Two valuation methods were employed, composite time trade-off (cTTO) and discrete choice experiment (DCE). The target sample size was 1,000 participants. Participants were recruited using a market research company with experience in quantitative and qualitative data collection. Videoconferencing administered interviews were conducted by 11 interviewers selected among PhD students, researchers, and other academic affiliates. A pilot of 199 interviews was employed to assess the technical, operational and protocol feasibility of videoconferencing interviews. Standard QC parameters were used to monitor interviewers' performance during the data collection. To inform the modelling choices, GLS, Tobit, Logit, Probit and Hybrid models were fitted to the data, with different error specifications. Models were compared in terms of monotonicity of coefficients, statistical significance, and theoretical considerations. **Results:** 1182 videoconferencing interviews were completed between October 2020 and February 2021, including 199 feasibility pilot interviews. Dropouts and technical problems occurred in less than 5% of the interviews, and all interviewers complied with the protocol as well as showing significant improvements in QC parameters. The results suggested videoconferencing was a feasible mode of administration. The final sample was representative of the Italian general population for age, gender, and education as recorded in 2019 by ISTAT. Among the models tested, the Hybrid Tobit heteroscedastic model without constant was selected for the derivation of the tariff. In the selected model, coefficients for all dimensions levels were statistically significant and monotonically decreasing. Values ranged from -0.571 for the PITS state to 1 for health state 11111. **Conclusions:** An Italian societal value set for the EQ-5D-5L was developed. This can be used for economic evaluations and decision making in Italy. Videoconferencing appeared feasible for valuation interviews.

#### P12 ARE GAINS IN HEALTH UTILITY ASSOCIATED WITH GAINS IN WORK PRODUCTIVITY AND ROLE FUNCTIONING IN CHRONIC DISEASES? A SYSTEMATIC LITERATURE REVIEW

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**Objectives:** Disease experience for people living with chronic diseases has changed dramatically with improvements in health utility. It remains unclear, however, the extent to which improvements in health utility leads to gains in work productivity and role functioning. This systematic literature review aimed to explore the relationship between health utility and work productivity or role functioning across chronic diseases. **Methods:** Diseases selected were chronic and severe (based on health utility weights in range 0.50 to 0.70). Records from a structured search conducted in MEDLINE, Embase and PsycINFO were reviewed against inclusion criteria and assessed for study quality/relevance. Articles published from 2000 - February 2021 and available in English were considered. Studies included a measure of health utility (e.g., EQ-5D) and productivity or role function (e.g., employment status, presenteeism and absenteeism). Study quality was assessed in terms of design, analysis approach, missing data and evidence of bias. **Results:** The search identified 876 records; 244 underwent full review, and 34 of the highest quality studies were extracted. Only 4 longitudinal studies were identified. Studies included different diseases including multiple sclerosis, rheumatoid arthritis, and stroke. Weighted mean health utilities of 0.79 were observed for employed (full/part time) people with a chronic disease, compared with 0.71 for part time employed, 0.61 for those unemployed/not in work, and 0.62 for those incapable of working. These associations

held in studies controlling for potential confounders (e.g., age, symptom severity etc). Values corresponded to approximately a 5% increase in employment per 0.1 unit increase in health utility value. **Conclusions:** There is limited longitudinal research among people with chronic diseases exploring how changes in health utility may lead to changes in work productivity and role functioning. However, the findings suggest that amongst people with a chronic and severe disease, better health states are expected to be associated with higher productivity.

### Emerging Opportunities for the Use of Real World Data in Comparative Effectiveness Research

#### P13 USE OF REAL-WORLD BIG DATA TO ASSESS THE EFFECTIVENESS ON OVERALL SURVIVAL AMONG CHEMOTHERAPY OR IMMUNOTHERAPY IN FIRST LINE METASTATIC NON-SMALL CELL LUNG CARCINOMA PATIENTS IN AN ITALIAN SETTING

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**Objectives:** The use of big data to assess the effectiveness of oncological treatments in clinical practice is gaining increasing interest. This analysis aimed to assess the overall survival of metastatic non-small cell lung (met-NSCLC) patients receiving chemotherapy (CT) or immunotherapy (I/O) as 1<sup>st</sup> line by using real-world data in a sample population in Italy. **Methods:** A retrospective observational analysis based on administrative data from a sample of Italian Local Health Units was conducted. Met-NSCLC patients starting a 1<sup>st</sup> line therapy with CT or I/O between 2017-2018 were identified. Stopping inclusion period up to 2018 enabled at least a two-years follow-up period for each included patient. Kaplan Meier overall survival analysis considered time (months) from therapy initiation to death. Multivariable analysis was performed to adjust for cofounders such as age, gender, metastasis, BRAF test prescription and pharmacological treatments. **Results:** A total of 3,126 (mean age $\pm$ SD 68.6 $\pm$ 9.8 years, 68.2% male) and 316 (mean age $\pm$ SD 68.6 $\pm$ 9.7 years, 74.4% male) patients initiated treatment with CT and I/O respectively. In both groups, the more frequent metastases detected were related to lymph nodes (42.1% CT, 24.1% I/O), bone (25.8% CT, 14.9% I/O) and brain (18.3% CT, 10.1% I/O). Median [95%CI] survival was 8.0 [7.4-8.6] and 14.6 [12.2-18.9] months for CT and I/O patients, respectively. Death was not reported in 31.2% of CT and in 44.3% of I/O cohorts. Multivariable analysis showed the risk of death to be significantly lower in patients treated with I/O compared to CT (HR [95%CI] 0.796 [0.681-0.930]). **Conclusions:** Results from our study showed among met-NSCL patients in 1<sup>st</sup>line a better overall survival of the I/O compared to CT patients and a reduced risk of death of I/O vs CT-treated patients. Our findings suggest real-world data could produce valuable insights into treatments and their outcomes in routine daily oncology practice, thus integrating the evidence from clinical trials.

#### P14 EXPLORING THE POTENTIAL FOR EHR-DERIVED REAL-WORLD DATA TO REDUCE UNCERTAINTY IN HTA DECISION-MAKING: A CASE STUDY OF LONG-TERM SURVIVAL OUTCOMES

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**Objectives:** Clinical trials are an important source of evidence for health technology appraisals (HTA). However, a key concern is uncertainty in survival due to immature data. This study investigates whether electronic health record (EHR)-derived data from the US may have the potential to reduce uncertainty in long-term outcomes, using NICE technology appraisal (TA) 531 as a case study. **Methods:** We selected patients with previously untreated, Stage IV NSCLC, with positive or unknown PDL1 status, who initiated first-line pembrolizumab monotherapy between October 2016 and December 2020 from the nationwide de-identified EHR-derived Flatiron Health database. We applied additional lab and ECOG eligibility criteria. Outcomes were overall survival from treatment start and treatment duration. Sensitivity analyses assessed a sub-group with known PDL1 status and a time horizon ending at NICE TA