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

Finch AP,[1] Meregaglia M,[2] Ciani O,[3] Roudijk B,[4] Fattore G,[5] Jommi C[6]
[1]*EuroQol Research Foundation, Amsterdam, NH, Netherlands,* [2]*SDA Bocconi School of Management, Milan, Italy,* [3]*SDA Bocconi School of Management, Milan, MI, Italy,* [4]*EuroQoL Research Group, Rotterdam, ZH, Netherlands,* [5]*Bocconi University, Milano, Italy,* [6]*SDA Bocconi School of Management, Bocconi University, Milano, MI, Italy*

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

Aggio D,[1] Williams A,[2] McNamara L,[3] Lloyd A[1]
[1]*Acaster Lloyd Consulting Ltd., London, UK,* [2]*Kyowa Kirin International, Marlow, BKM, UK,* [3]*Kyowa Kirin Ltd., Galashiels, UK*

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

Degli Esposti L,[1] Sangiorgi D,[1] Ancona DD,[2] Andretta M,[3] Barbieri A,[4] Bartolini F,[5] Cavaliere A,[6] Chinellato A,[7] Ciaccia A,[8] Cillo MR,[9] Citraro R,[10] Costantini A,[11] De Francesco A,[10] Dell'Orco S,[12] Di Manno G,[12] Ferrante F,[13] Gentile S,[14] Lavalle A,[14] Moscogiuri R,[15] Pastorello M,[16] Procacci C,[2] Re D,[17] Santoleri F,[11] Ubertazzo L,[18] Vercellone A,[19]
Perrone V[1]
[1]*CliCon S.r.l. Health, Economics & Outcomes Research, Bologna, Italy,* [2]*ASL BAT, Trani, Italy,* [3]*Azienda ULSS 8 Berica, Vicenza, Italy,* [4]*ASL Vercelli, Vercelli, Italy,* [5]*USL Umbria 2, Terni, Italy,* [6]*ASL Viterbo, Viterbo, Italy,* [7]*Azienda ULSS 3 Serenissima, Mestre (VE), Italy,* [8]*ASL Foggia, Foggia, Italy,* [9]*ASL Salerno, Salerno, Italy,* [10]*Azienda ospedaliero-universitaria Mater Domini, Catanzaro, Italy,* [11]*ASL Pescara, Pescara, Italy,* [12]*ASL Roma 6, Albano Laziale, Italy,* [13]*ASL Frosinone, Frosinone, Italy,* [14]*Direzione Generale per la Salute Regione Molise, Campobasso, Italy,* [15]*ASL Taranto, Taranto, Italy,* [16]*ASP Palermo, Palermo, Italy,* [17]*ASL Teramo, Teramo, Italy,* [18]*ASL Roma 4, Civitavecchia (RM), Italy,* [19]*ASL Napoli 3 SUD, Torre del Greco, Italy*

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 1st 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 1st 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±SD 68.6±9.8 years, 68.2% male) and 316 (mean age±SD 68.6±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 1stline 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

Pittell H,[1] Kent S,[2] Groves B,[2] Mpofu P,[3] Baxi S,[3] Copeland A,[3] Bargo D,[4] Adamson B,[3] Jonsson P[5]
[1]*Flatiron Health, Great Neck, NY, USA,* [2]*National Institute for Health and Care Excellence (NICE), London, LON, UK,* [3]*Flatiron Health, New York, NY, USA,* [4]*Flatiron Health, Brooklyn, NY, USA,* [5]*National Institute for Health and Care Excellence (NICE), Manchester, LAN, UK*

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

publication. ***Results:*** The study included 1109 patients (median age 72, 50% female). Real-world duration of therapy was median 5.0 months (95% Confidence Interval [CI]: 4.2-5.7). Median overall survival was 13.8 months (95% CI: 11.8-16.2) over the full study period. The sensitivity analysis excluding patients with missing PDL1 status found median overall survival of 14.9 months (95% CI: 12.5-17.6). The shorter time horizon (October 2016 to June 2018) estimated median overall survival of 13.1 months (95% CI: 10.8-NR). ***Conclusions:*** In this case, EHR-derived data offered longer follow-up time (max 49 months) than the trial follow-up (max 22 months) used for extrapolation. This cohort had a median overall survival of 13.8 months while the trial (n=154) estimated 30.0 months and a similar Medicare claims analysis (n=3079) estimated 11.4 months. Real-world median age was 7-9 years older than the trial. Our study demonstrates that EHRs can be a source of mature data on specific cohorts of interest with potential to contextualize trial evidence and inform HTA-decision making.

P15
TRANSCATHETER VERSUS SURGICAL AORTIC VALVE REPLACEMENT: A REAL-WORLD COMPARISON OF CLINICAL OUTCOMES BASED ON A GERMAN CLAIMS DATASET

Hardtstock F,[1] Wilke T,[2] Maywald U,[3] Spitzer S[4]
[1]*Cytel Inc, Wismar, MV, Germany,* [2]*IPAM e.V., Wismar, Germany,* [3]*AOK PLUS, Dresden, Germany,* [4]*Praxisklinik Herz und Gefäße, Dresden, Germany*

Objectives: This study aimed to describe clinical outcomes after transcatheter aortic valve implantation (TAVI) and surgical aortic valve implantation (SAVR). ***Methods:*** This study consisted of a retrospective analysis of German health insurance claims data from 01/01/2013-30/06/2019. Continuously insured adults with either TAVI (OPS 5-35a.0) or SAVR (OPS 5-351.0) between 01/01/2014 and 30/06/2018, who had aortic valve stenosis (ICD-10 I35.0, I35.2) were included. Patients with previous TAVI or SAVR were excluded. Both cohorts were described with regards to their baseline characteristics (one-year baseline) and the incidence rate (IR) of events during the follow-up period for death, transient ischemic attack (TIA), stroke, major bleeding event, periprocedural complications, and myocardial infarction (MI). ***Results:*** Overall, 2,932 TAVI and 826 SAVR patients were identified. Compared to SAVR patients, TAVI patients were on average older (81.75 years vs. 69.18 years), more often female (56.92% vs. 42.37%), more comorbid (CCI 5.86 vs. 3.82; CHA2DS2-VASc-Score 3.17 vs. 2.47), and they had a higher probability of previous TIAs (3.07% vs. 1.33%), strokes (8.29% vs. 4.00%), and MIs (10.57% vs. 3.87%). 3.07%/1.21% of TAVI/SAVR patients died during the index hospitalization. Outcomes were observed during a follow-up period of 2.43 years (TAVI) / 3.02 years (SAVR). The following IR have been observed for TAVI/SAVR: death (0.17 vs. 0.04; $p<0.001$), TIA (0.00 vs. 0.01, $p=0.046$), stroke (0.03 vs. 0.01, $p<0.001$), major bleeding event (0.08 vs. 0.04, $p<0.001$), periprocedural complications during index hospital stay (1.87 vs. 1.13, $p<0.001$), and MIs (0.02 vs. 0.00; $p<0.01$). ***Conclusions:*** TAVI has become the new standard of care in recent years and has replaced the classic aortic valve replacement, specifically in more fragile patients. The above results confirm that TAVI procedures are widely used in clinical practice, and that in line with current guidelines, physicians assess which patients should receive a TAVI or a SAVR procedure.

P16
RECENT ESTIMATES OF SURVIVAL IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) IN THE US (2010-2020)

Kalilani L,[1] Chao J,[2] Hogea C,[3] **Stojadinovic A,**[4] Giove TJ,[5] Sun X,[1] Aziez A,[6] Velcheti V[7]
[1]*GlaxoSmithKline, Durham, NC, USA,* [2]*GlaxoSmithKline, Collegeville, PA, USA,* [3]*GlaxoSmithKline, Philadelphia, PA, USA,* [4]*GlaxoSmithKline, Upper Providence, PA, USA,* [5]*GlaxoSmithKline, Mississauga, ON, Canada,* [6]*GlaxoSmithKline, Zug, Switzerland,* [7]*New York University Langone, New York, NY, USA*

Objectives: Despite availability of new treatments, the prognosis of lung cancer remains poor. This study aims to provide recent estimates of survival in patients with advanced non-small cell lung cancer (NSCLC) in the US. ***Methods:*** The survival of patients with advanced NSCLC was estimated using two US databases together covering 2010–2020. The study included patients with stage III or IV NSCLC diagnosed between 2010–2016 in the Surveillance, Epidemiology, and End Results Program (SEER) database, and patients with stage IIIB, IIIC or IV NSCLC, diagnosed between 2017–2020, without known oncogenic driver mutations who had completed ≥4 cycles of 1L treatment (restricted to platinum-based combinations, immuno-oncology monotherapy, or ipilimumab/nivolumab) in the Flatiron Health database, a US Oncology Electronic Medical Record database. Overall survival (OS) was defined as time from diagnosis of stage III or IV NSCLC to death or to date of last confirmed activity. ***Results:*** A total of 49,298 and 133,395 patients with stage III and IV diagnosis respectively were identified in SEER. The 1-, 3- and 5-year OS for patients with Stage III disease were 55.1%, 26.3% and 17.5%, and for stage IV disease were 25.8%, 7.4% and 4.0%, respectively. The Flatiron database had 1,045 patients with stage IIIB, 130 patients with stage IIIC and 3,210 patients with stage IV disease at diagnosis. The 1- and 3-year OS for stage IIIB/IIIC disease were 72.5% and 36.4%, and for patients with stage IV disease were 65.9% and 24.6%, respectively. ***Conclusions:*** Despite differences in study population characteristics between the two databases, the study shows that mortality in patients with advanced NSCLC remains high, underscoring the need for continued efforts to identify novel treatments and synergetic treatment combinations to improve patient outcomes.

Evaluating Individuals and Patients Preferences: Discrete Choice Experiments and Beyond

P17
PREFERENCE OF RHEUMATOID ARTHRITIS PATIENTS FOR TAPERING BIOLOGICS: A DISCRETE CHOICE EXPERIMENT

Suz Jack C,[1] Stamp L,[2] Treharne G,[1] Marra C[1]
[1]*University of Otago, Dunedin, New Zealand,* [2]*University of Otago, Christchurch, New Zealand*

Objectives: Tapering of biologics is a safe and feasible approach in the long-term management of rheumatoid arthritis (RA) patients who are in remission. However, the appeal of tapering strategies needs to be balanced against the risks of disrupting patients' disease control. The aim of this study was to measure the preferences of RA patients and their risk-benefit trade-offs in relation to biologic tapering. ***Methods:*** A web-based discrete choice experiment (DCE) was employed. Seven attributes (identified via focus groups and a systematic review) of varying levels describing three hypothetical choice were presented: frequency of treatment, chances of known adverse effects, chances of regaining disease control and healthcare service-related features. DCE data were analysed using mixed logit model to estimate the preference weights for key treatment features and to quantify trade-offs between the attributes. ***Results:*** A total of 142 complete responses were analysed. Mean age was 60.3 years with an average disease duration of 20.8 years Frequency of biologic treatment was the most important attribute, followed by the chance of flare upon tapering. Time to see the rheumatology team after a flare was ranked the least important among the seven attributes. On average, participants were willing to accept between 25.3% to 50.2% increase in chance of disease flare in exchange for reducing the frequency of biologic treatment, chance of serious infection and chance of skin cancer. ***Conclusions:*** This study provides evidence that RA patients' preference for tapering biologics are most influenced by the frequency of treatment and chance of flare. For these attributes, they are willing to accept a greater chance of flare in exchange for treatment benefits in the form of a reduction in biologic dosing and potential risk of serious infection and skin cancer associated with long-term biologic use. These findings have implications for clinical practice and policy making about tapering.

P18
PATIENT PREFERENCES FOR ATTRIBUTES OF A MULTI-CANCER EARLY DETECTION TEST: A DISCRETE CHOICE EXPERIMENT (DCE) QUANTITATIVE PILOT STUDY

Gelhorn H,[1] **Ross M,**[1] Kansal AR,[2] Fung E,[2] Seiden M,[3] Chung KC[2]
[1]*Evidera, Bethesda, MD, USA,* [2]*GRAIL, Inc., Menlo Park, CA, USA,* [3]*McKesson, The Woodlands, TX, USA*

Objectives: Early cancer detection and intervention can significantly improve patient outcomes and reduce mortality rates. Evidence shows that emerging blood-based multi-cancer early detection (MCED) tests can detect a variety of cancer types across stages and provide a predicted cancer signal origin with high specificity. However, little is known about patients' preferences for MCED tests. This study aimed to quantify preferences for attributes of blood-based MCED tests among the US general population aged 50-80 years. ***Methods:*** A DCE consisting of five attributes (true positives, false negatives, false positives, likelihood of the cancer type unknown [e.g., inaccurate cancer signal origin], and number of cancers tested for) was administered online to US general population members to elicit preferences to quantitatively pilot test the DCE. Data were analyzed using an error-component multinomial logit model and relative attribute importance (RAI) was obtained. ***Results:*** Participants (N=303) were 62.0% male (n=188), mean age 68.2 years (SD=6.4). RAI indicated that the rank order of attribute importance was false negatives (35.7%), true positives (27.6%), false positives (17.3%), number of cancers tested for (16.8%), and cancer type unknown (2.7%). Attributes related to improved test accuracy were important and participants strongly preferred screenings that tested for more cancer types (all $p < 0.05$). Preferences were non-significant for the likelihood of cancer type unknown attribute levels. Overall, 71.9% of participants reported that they would prefer to receive the MCED test in addition to their currently recommended cancer screenings. ***Conclusions:*** Participants' preferences were strongly driven by the desire for a screening test with fewer false negatives and more true positives, with these 2 attributes comprising 63.3% of the RAI. False positive results and number of types of cancer tested for also impacted preferences but were of lower importance. The majority of participants preferred adding a MCED test to supplement current cancer screenings.

P19
ASSESSING HETEROGENEITY IN MAR: METHODS AND MODELS BEYOND DCE

Janssen E,[1] DiSantostefano R,[1] Falahee M,[2] Simons G,[2] Englbrecht M,[3] Radawski C,[4] Raza K,[2] Hauber B,[5] Veldwijk J[6]
[1]*Janssen R&D, Titusville, NJ, USA,* [2]*University of Birmingham, Birmingham, UK,* [3]*Freelance, Eckental, Germany,* [4]*Eli Lily & Company, Indianapolis, IN, USA,* [5]*Pfizer, New York, NY, USA,* [6]*Erasmus University Rotterdam, Rotterdam, Netherlands*