14.96 ± 0.95; Factor 2, 6.10 ± 0.71; Factor 3, 6.24 ± 0.77; Factor 4, 10.58 ± 0.73; Factor 5, 2.61 ± 0.41; Factor 6, 33.96 ± 2.33; and Factor 7, 2.35 ± 0.30. Physical Functioning proved the largest and most influential factor in measuring QOL. Cronbach's alpha was 0.9765, indicating correct allocation of individual items to a particular factor. The tool's robustness was shown by the test-retest scores, which lacked significant differences between two completions of the questionnaire. **CONCLUSIONS:** QOL-NET should be invaluable for clinical trials.

PCN36

DEVELOPING HEALTH STATE DESCRIPTIONS FOR METASTATIC COLORECTAL CANCER: QUALITATIVE STUDY

Lloyd A[1], van Hanswijck de Jonge P[1], Doyle S[1], Walker M[2], Cohen C[2]

[1]United BioSource Corporation, London, UK; [2]Roche Products Ltd, Welwyn Garden City, Herts, UK

OBJECTIVES: The aim of this study was to develop health state descriptions for patients with metastatic colorectal cancer (mCRC)—either stable on treatment, disease progression or "end of life". Health states also contrasted intravenous and oral therapy. These health states can be used subsequently to derive utility values for use in cost utility analyses. **METHODS:** An interview discussion guide was produced based on literature review and clinical input. This focused on the symptoms of mCRC, the impact on different areas of functioning (physical, social, emotional, sexual, and cognitive), and health related quality of life. Draft health states were developed based on analyses of in-depth exploratory interviews with oncologists (n = 1) and specialist oncology nurses (n = 3). These health states were then edited and improved through two further rounds of interviews (nurses n = 5; oncologists n = 7; psychometricians n = 2). The final health states were piloted with five members of the general public for ease of comprehension and obvious errors of interpretation. This piloting involved taking the participant through the full standard gamble interview and then undertaking a full cognitive debrief interview exploring participants' interpretation of the health states. **RESULTS:** The analysis of the literature suggested seven main areas to focus on which included physical, social, sexual, and cognitive functioning, emotional wellbeing, side effects and symptoms. The third round of interviews with clinical staff indicated that the health states were a fair reflection of the disease. The piloting work also indicated that members of the general public were able to easily understand the concepts in the health states. No major changes were required following the pilot work. **CONCLUSIONS:** Health states describing the impact of stages of mCRC have been developed. These health states are designed to be used in societal or patient based valuation studies. An example final health state will be presented.

PCN37

ESTIMATION OF A SET OF PATIENT-BASED UTILITY WEIGHTS FOR THE FACT-G

Dobrez D[1], Pickard AS[2], Cella D[3], Lai JS[4], Nickolov A[5]

[1]University of Illinois at Chicago, Chicago, IL, USA, [2]College of Pharmacy, UIC, Chicago, IL, USA, [3]Evanston Northwestern Healthcare, Chicago, IL, USA, [4]Evanston Northwestern Healthcare, Evanston, IL, USA, [5]Mallinckrodt/Tyco Healthcare, St Louis, MO, USA

OBJECTIVES: The goal of this study was to estimate an algorithm to convert responses to the Functional Assessment of Cancer Therapy—General (FACT-G) to current health time trade-off (TTO) utilities. **METHODS:** Data for 1433 cancer patients were randomly separated in to construction and validation samples. FACT-G questions were selected for inclusion based upon correlation with ECOG-PS scores and TTO utilities, and mean scores, and item response theory was used to collapse response categories. Ordinary least squares regression with the constant constrained to one was used to estimate the algorithm. **RESULTS:** Four FACT-G questions: lack of energy, feel sick, able to work, and able to enjoy life were selected for the algorithm, using between two and four response categories each. The algorithm estimated mean utility for the full validation sample within three points of observed mean utility (0.805 versus 0.832, $p < 0.01$). Mean utilities are well predicted (difference less than three percentage points, and not statistically significant) for most subgroups defined by ECOG-PS and SF-36 physical functioning scores, and responses to the FACT-G overall quality of life item. However, the algorithm systematically over-predicted utility for poor health by each measure. **CONCLUSIONS:** This algorithm estimates mean cancer patient preferences for FACT-G based health states with group level accuracy comparable to other preference-based measures, and may be applied to both retrospectively and prospectively collected clinical trials data. This patient-based preference algorithm expands the tools available for use in cost-utility analyses and treatment comparisons and is useful in multiple situations, including when the patient is the primary payer of care, and when understanding how patients view treatment is desired.

PCN38

PROPENSITY SCORE MATCHING WITH LIMITED OVERLAP

Baser O

Thomson Medstat, Ann Arbor, MI, USA

OBJECTIVES: Propensity score matching fails especially when there is lack of overlap in the covariate distributions. In this paper, we analyzed three different methods to adjust propensity score matching under lack of overlap. **METHODS:** Most commonly used method is to drop all control units with an estimated propensity score lower than the smallest value, or larger than the largest value, for the estimated propensity score among the treated units. The second method is discarding units with covariate values at which the estimated density is below some threshold and newly proposed third method is to estimate average treatment effect on the optimal subpopulation. **RESULTS:** The Market Scan private insurance data base was used in this study which based upon prostate cancer patients. There was significance lack of overlap in data set. Pre-match data set contains 8576 prostate cancer patients and 30,550 control patients. If one-to-one matching is applied, only 581 patients would match. Most commonly method described in the methodology section dropped 1137 patients from control sample. Kernel technique matched 1250 treatment patients with 2126 control patients. By using optimal subpopulation, optimal cut-off point is calculated as 0.02 and it matched 1752 patients from treatment group with 2912 patients in control group. Health care expenditures for prostate patients using three different methods were significantly different from the ones calculated using one-to-one matching technique. **CONCLUSION:** Lack of overlap is the significant drawback of propensity score matching. We can improve propensity score matching estimands by adjusting overlap differences. Optimal subpopulation technique seems better since it does not rely on arbitrary choices regarding thresholds for discarding observations.