parable studies were pooled to obtain summary measures of cost and effect. Cost data were converted to US dollars and expressed as year 2002 prices. **RESULTS:** In total, 53 studies were identified and reviewed, of which 13 were analysed. Median survival of BSC was estimated at 4.90 months (95% CI 4.46–5.35). The 12-month and 24-month survival proportions were 16% (95% CI13–19) and 4% (95% CI 2–7) respectively. Survival was not affected by the stage at which BSC was given. Four papers from two countries were suitable for pooling total costs of BSC, and resulted in an estimate of US $6519 (95% CI $5740–$7297) per person. **CONCLUSION:** Absolute effects, as observed in clinical trials, pooled with meta-analysis techniques can provide key information for outcomes research, such as pharmacoeconomic modeling studies. Here we provide pooled survival and cost estimates for BSC. These can be used for economic evaluations of recently developed drugs in stage IIIb and IV NSCLC where an indirect comparison may need to be made with BSC. Pooling cost data is problematic due to differing treatment patterns and relative prices over years and across countries. Consequently, caution should be taken when pooling costs and it is advised to only pool costs if studies are comparable. Otherwise ranges of costs as observed in the different studies should be reported.

PCN43

MAPPING HEALTH-RELATED QUALITY OF LIFE (HRQOL) MEASUREMENTS INTO GENERIC UTILITY MEASURES (EQ-5D): A CASE STUDY WITH BORTEZOMIB (VELCADE)

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OBJECTIVES: Pharmacoeconomic studies for terminal cancer require preference-based rather than disease-specific measures of QoL. Mapping enables evaluators to elicit information about societal preferences where only disease-specific QoL data are available. **METHODS:** Responses to HRQoL questions from a phase-2 trial of VELCADE for relapsed and refractory multiple myeloma patients (n = 202 in SUMMIT1 trial), were used to derive utility scores from the original scales used in SUMMIT and those from a generic QoL tool (EQ-5D). Questions relevant to the EQ-5D were identified (EORTC-QLQC30, EORTC-MY24, FACT-Fatigue and FACT/GOG-Ntx) and five summary measures of severity (corresponding to the five EQ-5D dimensions) obtained. The summary measures were transformed into the corresponding EQ-5D scale for each dimension. EQ-5D utility scores were validated using the answers to questions on "Overall QoL" and "Overall Health" from EORTC-QLQC30 (Questions 29 & 30). **RESULTS:** Utility scores appear similar across patient groups as defined by serological response to VELCADE, for an overall utility score of 0.65. Utility mapping is sensitive to differences in overall QoL and overall health. This finding is robust to the passage of time for overall QoL differences, but derived utility scores decline as time passes for a given overall level of health. The utility scores are robust to mapping algorithms that use summary measures (i.e. mean/median) to aggregate reported severity levels for relevant questions within each EQ-5D dimension but change markedly if the worst reported level of severity for each dimension is used instead. **CONCLUSIONS:** A method for deriving utility scores from reported HRQoL outcomes is proposed that yields results consistent with previous reports for MM patients. Using mapping algorithms to derive utility scores from generic instruments in situations where information on societal preferences for QoL outcomes is not available is a feasible and sensitive option for providing valid estimates of patient well-being for terminal conditions.

PCN44

META-ANALYSIS OF THE DIAGNOSTIC ACCURACY OF SCREENING TESTS FOR COLORECTAL CANCER

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OBJECTIVES: To conduct a meta-analysis on the diagnostic accuracy of five screening tests for colorectal cancer (CRC): fecal occult blood test (FOBT), double-contrast barium enema (DCBE), flexible sigmoidoscopy (FSIG), conventional colonoscopy (COL) and computed tomography colonoscopy (CTCOL). **METHODS:** A literature search was carried out in MEDLINE for each test. Articles were reviewed by two independent reviewers. Inclusion criteria were: 1) RCTs or observational studies of CRC screening; 2) patients with low/average risk of CRC; 3) complete data to calculate sensitivity and specificity. Exclusion criteria were: 1) non-peer reviewed articles; 2) articles whose primary aim was not to assess CRC screening; 3) articles not in English/French; 4) articles published prior to 1975; and 5) high risk screening populations. Weighted linear regression was used to identify significant covariates. Sensitivity and specificity were pooled for relevant subgroups. **RESULTS:** The initial literature search found 399 articles for FOBT, 253 for DCBE, 394 for FSIG, 434 for COL, and 345 for CTCOL. Of these, 12, 8, 10, 8, and 13 articles respectively, were included in the final analysis. With the exception of colonoscopy the remaining tests showed evidence of heterogeneity and threshold effect. Significant covariates included study design and type of FOBT. Pooled sensitivity and specificity (95% CI) for randomized FOBT and FSIG trials were 0.738 (0.705,0.768), 0.960 (0.959,0.961), 0.822 (0.770,0.864), and 0.997 (0.994,0.998) respectively. For the remaining tests, the pooled sensitivity and specificity (95% CI) were 0.767 (0.728,0.802), 0.975 (0.970,0.979) for all DCBE studies, 0.867 (0.828,0.898), 0.995 (0.991,0.998) for all COL studies and 0.879 (0.840,0.910), 0.964 (0.956,0.971) for all CTCOL studies. **CONCLUSIONS:** When heterogeneity is present within test groups, results from pooled sensitivity and specificity can be misleading. A planned future step is to estimate diagnostic odds ratios and build summary ROC curves which are more reliable estimates of test accuracy for evidence synthesis.

PCN45

MODELING EFFECT IN PHARMACOECONOMICS ANALYSIS USING ARTIFICIAL NEURAL NETWORKS

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OBJECTIVE: The aim of the project is to use Artificial Neural Networks (ANNs)—representatives of computational intelligence—for medical effect prediction, which could help in the extrapolation of pharmacoeconomics analysis' results. **METHODS:** To depict neural data analysis tools, a database containing 100 non-small cell lung cancer (NSCLC) patients in non-operative IIIB and IV stage has been used. Each patient was described using 30 factors (i.e. sex, age, anticancer drugs dosage) and, as an output value, the expected survival time was established. The role of the ANN based system was to predict the patient's survival time based on the above mentioned information. Binary values were tested as outcomes. Positive values (coded as 1) meant that patient survival time would be equal to or longer than 35 weeks. Negative values (coded as 0) meant that the patient survival time would be shorter than 35 weeks.