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% CI 13–19) 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. 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.

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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’s 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.