parameters that can be combined to produce suitable measures of cost (c) and clinical benefit (e) associated with an intervention. Within the Bayesian framework (which is the natural environment for BCEA), this amounts to estimating a posterior distribution for the pair (c, e). Health economic evaluations then proceed by computing some relevant summaries of the resulting decision process: is the innovative intervention more "cost-effective" than the standard intervention? METHODS: BCEA provides a set of functions that can be used to produce a standardised analysis, by synthesising the decision process given the current evidence and uncertainty, as well as producing model outputs that can be used to produce Probabilistic Sensitivity Analysis (PSA) outputs, and parameter and model structure uncertainty. These include the Cost-Effectiveness Acceptability Curve and the analysis of the Expected Value of Information, which can be used to prioritize research. RESULTS: BCEA uses as inputs vectors of simulations from economic evaluations of the average costs and benefits. This naturally fits the Bayesian framework, but a frequentist analysis can also be carried out by using tools such as the bootstrap. There is scope for linking R and programs such as Excel to facilitate a comprehensive analysis, including including individual PSA. CONCLUSIONS: In this talk, I will present the main feature of BCEA and its applicability to the wider context of health economic evaluation and cost-effectiveness analysis.

PM42

A METHODOLOGY FOR ESTIMATING THE POPULATION OF ADVANCED OR METASTATIC EGFR + MET - NON-SMALL CELL LUNG CANCER PATIENTS IN THE UK AND IRELAND

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OBJECTIVES: Impact budget models (IBMs) which demonstrate the economic impact of introducing or increasing the use of specific treatments are routinely used to assist the NHS with financial planning. A core component of any IBM is the estimation of the eligible patient population. The objective of this study was to identify an appropriate approach for the size of the population of advanced or metastatic NSCLC patient population eligible for first-line treatment with a tyrosine kinase inhibitor such as afatinib (Giotrif®). METHODS: A review of the relevant stakeholder statements, decision analytic approaches, and the evidence available for patients for advanced (stage IIIb/IV) or metastatic (stage IV) EGFR + NSCLC was conducted. The costing statements of tyrosine kinase inhibitors afatinib, erlotinib and gefitinib were reviewed, as was the costing statement for the chemotherapy agent pemetrexed. RESULTS: Based on the reviewed approaches, the calculation can be broken down into six discrete steps from the estimation of the general population to the target population: (1) Incidence of lung cancer; (2) Proportion of NSCLC; (3) Proportion with stage IIIb/IV NSCLC; (4) Proportion who receive first-line chemotherapy; (5) Proportion with EGFR mutation status; and (6) Proportion who are EGFR +. A detailed breakdown of the methods used to calculate the patient population eligible for treatment with afatinib was not available in the respective NICE costing statements. However, the evidence available to NICE experts indicates that this approach is reasonable. CONCLUSIONS: The methodology employed by NICE to estimate the proportion of stage IIIb/IV EGFR + NSCLC patients was broadly consistent across all costing statements considered. It is reasonable to assume that this approach, used to estimate the population of stage IIIb/IV EGFR + patients in England and Wales is also applicable in Scotland and Ireland.

PM43

ARE CARE-SEEKERS GOOD CANDIDATES FOR SUBGROUPS COST-EFFECTIVENESS ANALYSES?

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OBJECTIVES: There is a growing need for early evaluation of innovative technologies to prevent ineffective and expensive technologies to be widely diffused in health care. The headroom method was introduced for early determination of the potential value of new technologies. In this study we explore the feasibility and usefulness of the headroom method in the early assessment of diagnostic technologies with no immediate treatment implications. METHODS: We applied the headroom method to the implementation of whole exome sequencing (WES) into the current diagnostic trajectory of complex pediatric neurology. We determined the room for improvement regarding health-related quality of life (HRQoL), diagnostic yield and the duration of the current diagnostic trajectory. RESULTS: The headroom is a certain diagnostic trajectory can be calculated after the so-called effectiveness gap is established and monetised. The preferred measure for the effectiveness gap is HRQoL expressed in quality-adjusted life years (QALYs). Since the direct product of diagnostics is information, and not improved health, no impact on HRQoL is expected. Other measures, such as diagnostic yield, can also be used to calculate the effectiveness gap. Unlike QALYs, these appeared difficult to monetise, however. Despite this difficulty, effectiveness gap calculation using these effect measures is very informative on the room for improvement (value for information). In both scenarios, the headroom was high, which suggests that a new technology is needed to improve the current diagnostic trajectory. CONCLUSIONS: Despite some methodological challenges, the headroom method proved to be potentially useful in early health economic evaluation of diagnostic technologies with no immediate treatment implications.

PM44

A REVIEW OF THE UTILITY VALUES USED IN PUBLISHED COST-EFFECTIVENESS ANALYSES OF ANGIOTENSIN-CONVERTING ENZYME INHIBITOR OR ANGIOTENSIN RECEPTOR BLOCKER THERAPY IN PATIENTS WITH DIABETIC NEPHROPATHY

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OBJECTIVES: BCAs are a library specifically designed to post-process the result of a health economic model. Typically, this consists in the estimation of a set of relevant
OBJECTIVES: Diabetic nephropathy (DN) is a progressive kidney disease that occurs in around 40% of patients with diabetes, and the recommended treatment is an angiotensin-converting enzyme inhibitor (ACEi) or angiotensin receptor blocker (ARB). Individuals’ health-related quality of life (HRQoL) can be summarised by utility values, which reflect preferences for different health states, and are used in cost-effectiveness analyses (CEAs). This literature review identified the utility values of CUAs of ACEi/ARB treatment in patients with DN. METHODS: A combined protocol was developed to identify CUAs of ACEi/ARB treatment in DN as well as studies that estimated utility values for other treatments. MEDLINE, EMBASE, NHS EED, CEA Registry, EconLit, RePEc, HTA were searched from 1 January 2000 to 31 July 2013. Search results were assessed for relevance by two reviewers. For eligible CUAs, data extracted included health states with assigned utilities. RESULTS: Of 5366 references identified from the combined search, 28 CUAs were identified. We searched a total of 17 databases (MEDLINE, EMBASE, NHS EED, CEA Registry, EconLit, RePEc, HTA) from 1 January 2000 to 31 July 2013. Search results were assessed for relevance by two reviewers. For eligible CUAs, data extracted included health states with assigned utilities. METHODS: A combined protocol was developed to identify CUAs of ACEi/ARB treatment in DN as well as studies that estimated utility values for other treatments. MEDLINE, EMBASE, NHS EED, CEA Registry, EconLit, RePEc, HTA were searched from 1 January 2000 to 31 July 2013. Search results were assessed for relevance by two reviewers. For eligible CUAs, data extracted included health states with assigned utilities. RESULTS: Of 5366 references identified from the combined search, 28 CUAs were identified. We searched a total of 17 databases (MEDLINE, EMBASE, NHS EED, CEA Registry, EconLit, RePEc, HTA) from 1 January 2000 to 31 July 2013. Search results were assessed for relevance by two reviewers. For eligible CUAs, data extracted included health states with assigned utilities.

PM44

DENOVO ECONOMIC MODEL TO ASSESS CLINICAL AND ECONOMIC CONSEQUENCES OF BRONCHIESTASIS

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OBJECTIVES: Bronchiectasis (BE) is characterised by permanent dilation of bronchi with destruction of elastic and muscular components of their walls. Prolphylactic antibiotic treatment with acute management of exacerbation episodes is an important procedures. We used Visual Basic in a Microsoft Excel to program complex.

PM45

MODELLING DEPENDENCE BETWEEN DISABILITY STATUS AND HEALTH SERVICE COSTS OF PEOPLE WITH RHEUMATOID ARTHRITIS IN HUNGARY

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OBJECTIVES: The main objective of this study is to estimate the impact of the level of functional status and disability on health service costs related to rheumatoid arthritis (RA) disease in Hungary. It is straightforward to think that higher disability implies higher costs, where the nature of the relationship is unclear. In order to explain the relationship, a non-parametric copula is proposed. Instead of fitting trend lines for the cost by regression methods the entire bivariate distribution was modelled. METHODS: Health Assessment Questionnaire’s disability index data were collected for 487 RA patients (with 2004 observations) from National Health Care Center (AC) Buda Hospital of Hospitaller Brothers of St. John from 1st January 2005 to 31st July 2013. The same patients were also found in the database of National Health Insurance Fund Administration (NHIFHA) and further parameters as e.g. relevant treatments, visits, number and costs of health care inputs (in- and outpatient) were collected. After merging AC and NHIFA database the 2 dimensional patterns of the HAQ-index measurements versus costs (sum of relevant costs in the following quarter year) became available for bivariate modelling. The ingredients were the empirical distribution of HAQ-index and quarter year cost, and some parametric copula families (elliptical or Archimedean) measuring the (possibly non-linear) dependency structure. The performance of the different model assumptions were compared by goodness of fit. RESULTS: The fitted bivariate distribution based on the best-performing dependence model is shown in the original “HAQ-index vs cost” scale. The differences of average costs for low/medium/high HAQ-index values are summarised and the conditional distribution functions of costs are presented, respectively. CONCLUSIONS: It has been proved that there is a significant positive dependency between the disability status of RA and health service costs. The dependence cannot be considered as linear but this non-linearity can be tackled easily using copula methods.

PM46

PHARMACY COST CALCULATOR FOR HEPATITIS C VIRUS PATIENTS IN TURKEY

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OBJECTIVES: To design a user-friendly cost calculator to estimate and project health care costs of patients diagnosed with hepatitis C virus (HCV) infection in Turkey. METHODS: We used Visual Basic in a Microsoft Excel to program complex.

PM47

AN ECONOMIC MODEL TO ASSOCIATE CLINICAL AND ECONOMIC OUTCOMES OF DRUG RESISTANCE EVALUATION

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OBJECTIVES: The aim of this study is to assess how cost-effectiveness analyses of personalized medicine approaches (PMA) can be efficiently designed by using a case study in the field of acute myeloid leukemia. METHODS: The cost-effectiveness of a personalized medicine approach for 2014 and approximately £2 million in 2015, using these rates. CONCLUSIONS: The economic burden of HCV in Turkey is significant. A simple-to-use calculator that uses real-world data and econometric models to estimate health care costs of patients with HCV can help payers and providers to make informed evidence-based health care decisions.

PM48

DIFFERENT STRATEGIES FOR LATENT TB ASSESSMENT IN PATIENTS UNDERGOING ANTI-TNF TREATMENT: AN ECONOMIC MODEL

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OBJECTIVES: Since treatment with biologics may reactivate latent TB, testing and prophylaxis before initiating therapy are mandatory. However, there is not a unique solution in terms of to be used TB test and related costs for patients may result in a reduction of 15.53 exacerbations and 3.23 hospitalisations per patient outcome. We used Visual Basic in a Microsoft Excel to program complex.