OBJECTIVES: To summarize the modeling methods used in published cost-effectiveness evaluations of first-line treatment for advanced NSCLC patients. **METHODS:** To identify relevant studies, a systematic literature search was performed in Medline®, EMBASE®, Medline-In-Process and the CRD database from 2000 to 2013. In addition, Technology Appraisals (TA) were identified by searching the NICE, SMC and pCODR websites. Studies were included for review based on the following pre-defined criteria; 1) description of cost-effectiveness or cost-utility analysis; 2) inclusion of a comparison of drug interventions in first-line treatment of advanced NSCLC patients; and 3) results were expressed as cost per LY or QALY gained. **RESULTS:** Out of 1009 unique citations, 21 publications and 18 TA met the inclusion criteria. The identified cost-utility and cost-effectiveness analyses were all performed from a payer perspective for a variety of countries in Europe, Asia and North America. The economic value of targeted therapies for first-line and maintenance treatment for advanced NSCLC patients were evaluated for different subpopulations according to histology type (non-squamous, squamous). The most commonly used modeling approach was the state-transition model with health states reflecting stable disease, progression, and death. Transitions between these health states were based on either fixed or time varying transition probabilities. Cost-effectiveness analyses that were based on a synthesis of clinical efficacy evidence primarily relied on the constant hazard ratio assumption. The impact of structural modeling assumptions on cost-effectiveness findings was frequently not reported. **CONCLUSIONS:** Based on a review of published cost-effectiveness evaluations, it was concluded that the rational for certain modeling choices are frequently not provided. In particular, choices pertaining to methods for clinical evidence synthesis and the impact on cost-effectiveness findings need to be justified in a more structured way.

PCN129

COST-MINIMIZATION ANALYSIS (CMA) OF DIFFERENT STRATEGIES TO TREAT NEWLY DIAGNOSED LOCALLY CONFINED LOW-RISK PROSTATE CANCER (LCLRPC) IN GERMANY: RESULTS OF THE HAROW STUDY

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OBJECTIVES: The optimal treatment choice for the about 64,000 men diagnosed with prostate cancer each year in Germany still remains unclear. The objectives therefore were to estimate and compare costs under day-to-day conditions of caring for men in Germany with newly diagnosed LCLRPC using hormonal therapy (HT), active surveillance (AS), radiotherapy (RT), operation (OP), or watchful waiting (WW) – HAROW. **METHODS:** The long-term observational multi-centre HAROW study combined data collection from urologists (clinical data; utilized outpatient medical services, OMS) and from patients (employment status, QoL by EQ-5D, numerous health resource use items). Resource use was valued by year 2010 official prices in €. Direct costs (DC) were given by hospital treatment, OMS and drugs, inpatient rehabilitation, patients' co-payments. Indirect costs (IC: sick leave, premature retirement, premature mortality) were estimated by 2010 gross domestic product/capita/day. Costs and quality-adjusted life-years (QALYs) were discounted by 3% per annum. Strategies without significant differences in QALYs/patient-year (PY) were compared by cost-minimization analysis (CMA) using mean costs/PY, remaining strategies by cost-utility analysis. **RESULTS:** From 07/2008 to 03/2013, 3063 LCLRPC patients (T1a–T2c, N0, M0; 67.3±7.5 years) were included from 257 urologists: AS n=452, RT n=378, HT n=210, HT+RT n=80, combination therapy (CT) n=137, OP n=1647, other therapy (OT) n=18, WW n=141. Observation period: average 1.9 years, maximum 4.6 years. From the societal perspective (DC+IC), HT+RT had the lowest cost/PY (€1033), followed by AS (€1265), RT (€1313), WW (€1316), HT (€1522), CT (€3209), OT (€5705), and OP had highest cost/PY (€6656). From the perspective of DC, WW showed he lowest cost/PY (€894), followed by RT (€905), HT+RT (€987), AS (€1014), HT (€1169), OT (€2176), CT (€2204), and OP had highest cost/PY (€5374). **CONCLUSIONS:** The HAROW study provides meaningful results on costs of different LCLRPC treatment strategies under day-to-day conditions of care in Germany to support decision making.

PCN130

HEALTH TECHNOLOGY ASSESSMENT OF CONTRAST-ENHANCED ULTRASOUND (CEUS) TECHNIQUES

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The second generation of contrast-enhanced ultrasound (CEUS) techniques combines the advantages of ultrasound techniques and the additional information provided by the contrast agent. **OBJECTIVES:** To prove that sulphur hexafluoride microbubbles contrast agent used for CEUS is as effective in detecting and analyzing abnormal-looking areas in the liver as currently used imaging techniques (contrast-enhanced CT and MRI: CECT and CEMRI), however the costs of CEUS are considerably lower. **METHODS:** Cost-minimization analysis was based on literature review (last 5 years MEDLINE research, evidence level 1++) and on Hungarian financing data. National medical protocols were also considered. **RESULTS:** Average cost per patient of CEUS was 64,5 EUR, while costs of currently used techniques were 129 EUR. According to the literature 70% of currently used CT and MRI techniques could be replaced by CEUS. Results made it evident that the equally effective contrast-enhanced ultrasound technique is more cost-effective than the currently used contrast-enhanced CT and MRI techniques. Health technology assessment suggested that the change for the new technology would save 64 509 million EUR for the National Health Insurance Fund at the end of the third year of application, counting with 5000 cases. **CONCLUSIONS:** The widespread use of cost-effective CEUS technology is highly recommended as it is an evidently cost-saving technique from the insurer's point of view. Further assessment is recommended to measure clinical parameters, burden of radiology and other quality of life parameters of patients, possibly by using a control group if this is ethically viable.

PCN131

COST-EFFECTIVENESS OF BENDAMUSTINE-RITUXIMAB IN FIRST-LINE INDOLENT NHL: A PATIENT-LEVEL SIMULATION

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OBJECTIVES: To evaluate the cost-effectiveness of bendamustine-rituximab (B-R) compared with standard of care as first-line treatment for patients with advanced indolent non-Hodgkin's lymphoma (NHL) in England and Wales. **METHODS:** A patient-level simulation was adapted from the model used by the University of Sheffield School of Health and Related Research (ScHARR) in a health technology appraisal of rituximab for first-line treatment of follicular lymphoma (the most common type of indolent NHL). This approach allowed modelling of the complex treatment pathways in indolent NHL; specifically, first-line maintenance and second-line treatment choice could be modelled as a function of patient age, and prior treatment choice and outcome. Data from a Phase 3 randomised, open-label trial by the Study group indolent Lymphomas (StiL) in Germany were used to compare B-R with CHOP-R (cyclophosphamide, doxorubicin, vincristine, prednisone, rituximab). The relative efficacy of CHOP-R and CVP-R (cyclophosphamide, vincristine, prednisone, rituximab) was estimated as per the original ScHARR approach. The analysis was conducted from the perspective of the National Health Service, using a lifetime time horizon. One-way sensitivity and scenario analyses were conducted, including one using recently published randomised trial data comparing CVP-R with CHOP-R. **RESULTS:** The base-case deterministic incremental cost-effectiveness ratio (ICER) was £5,249 per quality adjusted life year (QALY) for B-R *vs.* CHOP-R, and £8,092 per QALY for B-R *vs.* CVP-R. The alternative scenario using direct data comparing CVP-R with CHOP-R more than halved the ICER for B-R *vs.* CVP-R to £3,468. Owing to its better toxicity profile, B-R reduced the cost of treating adverse events by over £1,000 per patient *vs.* CHOP-R. None of the one-way sensitivity or scenario analyses increased the ICER above £20,000. **CONCLUSIONS:** The ICERs for B-R *vs.* CHOP-R and CVP-R were below the thresholds normally regarded as cost-effective in England and Wales (£20,000 – 30,000 per QALY).

PCN132

COST-UTILITY OF GRANULOCYTE-COLONY STIMULATING FACTORS (G-CSFS) FOR PRIMARY PROPHYLAXIS (PP) OF CHEMOTHERAPY INDUCED FEBRILE NEUTROPENIA (FN) IN BREAST CANCER PATIENTS IN THE NETHERLANDS

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OBJECTIVES: To assess number needed to treat to avoid an episode of FN (NNT) and cost-utility in The Netherlands of PP with once-per-cycle pegfilgrastim vs. no prophylaxis and vs. PP with daily G-CSF filgrastim (11-days as per label or 6-days suboptimal use) for reducing FN incidence in women with primary breast cancer receiving high risk chemotherapy for FN (e.g. TAC, a frequently used reference regimen in The Netherlands). **METHODS:** A decision-analytic model was constructed from health care-payer perspective. Costs were from official list prices (April 2013) or literature and included drugs, drug administration and FN-related medical costs and hospitalisations. Effectiveness inputs in terms of relative risk reduction (RRR) for FN were based on a recent meta-analysis. Survival and utility inputs were modeled from available data for breast cancer patients in the US and the UK. Outcomes included NNT and incremental cost effectiveness ratio (ICER) as cost per quality-adjusted life-year gained (QALY). Univariate sensitivity analyses evaluated the robustness of the model. **RESULTS:** NNT with pegfilgrastim PP was lowest at 4.4, with filgrastim 11-days at 5.6 and filgrastim 6-days at 13.4. In terms of cost-utility, pegfilgrastim PP was dominant vs. 11-days filgrastim PP and was considered cost-effective vs. no prophylaxis (€29,896/QALY) and vs. PP with 6-days filgrastim (€7,615/QALY). In a scenario analysis reducing the prices of daily G-CSFs by 40%, pegfilgrastim PP remained cost-effective. The sensitivity analyses revealed that most sensitive variables were FN effectiveness (relative risk reductions), incremental survival assumptions and cost of G-CSFs, and overall the model was robust to sensitivity analyses. **CONCLUSIONS:** In a Dutch setting, pegfilgrastim PP offers a cost-effective approach to PP of FN. In the cost-utility analysis pegfilgrastim PP was dominant vs. 11-days filgrastim PP and cost-effective vs. no prophylaxis and 6-days filgrastim PP.

PCN133

COST-EFFECTIVENESS ANALYSIS OF ABIRATERONE ACETATE AS SECOND LINE TREATMENT FOR METASTATIC CASTRATION-RESISTANT PROSTATE CANCER AFTER DOCETAXEL TREATMENT IN JAPAN

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OBJECTIVES: Abiraterone acetate improves overall survival of patients with metastatic castration-resistant prostate cancer (CRCP). The NICE in the UK has recommended abiraterone as a second line treatment for CRCP after docetaxel. Ministry of Health, Labour and Welfare (MHLW) has begun to discuss whether or how to use cost-effectiveness data for reimbursement or pricing. The purpose of this study is to evaluate cost-effectiveness of abiraterone plus prednisolone compared to prednisolone alone in Japan. **METHODS:** Cost-effectiveness analysis was performed using a Markov model (TreeAge Pro 2013) based on data from the randomized control trial (COU-AA-301 study) and literature review conducted from the public health care payer's perspective. The (1) abiraterone (1,000 mg once daily and orally) plus prednisolone (5 mg twice daily and orally) was compared with (2) prednisolone alone. The base case was assumed to be a 69 year-old man with metastatic CRPC. The model used a time horizon of 10 years. Outcomes were measured in quality-adjusted life years (QALYs), and incremental cost-effectiveness ratio (ICER) was calculated. MHLW has yet to approve abiraterone due to the delay in development, and drug cost was estimated based on prices in the UK and the US. Both cost and outcomes were discounted at a 2% annual rate based on Japanese guidelines for eco-