mortality rate at 5 years following treatment as well as recurrence rates following chemotherapy. CONCLUSIONS: Cost-effectiveness analysis comparing chemotherapy to cytoreductive surgery as primary treatment for MBIC reveals that chemotherapy is not cost-effective when compared to cytoreduction.

PCN121

COST-EFFECTIVENESS OF DIFFERENT DIGITAL MAMMOGRAPHY SCREENING SCENARIOS FOR BREAST CANCER IN THE CANADIAN CONTEXT

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OBJECTIVES: To determine the value of different mammography screening modalities from the societal context. METHODS: The Wisconsin CISNET breast cancer model was adapted to reflect the Canadian context (incidence, resource utilization, and unit costs (2012 CAN$)). Predictions were made of age-specific breast cancer incidence for a 1960 birth cohort of 2,000,000 women for a number of screening scenarios varied by age bands (start at 40 or 50 years, end at 69 or 74 years), frequency (annual, biennial, triennial) from a societal perspective. Incremental cost-effectiveness and cost-utility analyses were examined for different screening scenarios compared to the base-case scenario of a 50 to 74 years screening strategy.

Results: Sensitivity analyses considered screening tool performance, compliance, costs and treatments. Results were expressed for 1,000 women alive at age 40 years. RESULTS: Our model showed that all annual screening strategies were found to be more effective than the base-case. The most aggressive annual screening strategy (40 to 74 years) saved the lives of 21 more women per 1,000 than the base-case at an additional $3,800 per woman. Our model predicted that annual screening from age 40 to 74 years had a slightly lower incremental ratio compared to annual 40 to 69, biennial 50 to 74 years when compared to the base-case. Cost drivers were discount rate, screening frequency, utility values, treatment and sensitivity of mammography accuracy. CONCLUSIONS: The greatest single cost contributor in a breast cancer screening program is the mammography itself. The more scans that a women receives in her life, the greater the financial cost to society. Because both the life savings and costs rise together, the cost of mammography per patient rises with the number of lifetime scans.

The decision on how to screen is mainly related to willingness to pay and avoiding recalling women for too many follow-up examinations after positive screens.

PCN122

VALUE OF INNOVATION IN LEUKEMIA, LYMPHOMA, AND MYELOMA: A SYSTEMATIC REVIEW

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OBJECTIVES: Analyzing the cost-effectiveness of blood cancer-related therapies has become more important as expensive drugs have been introduced. This study reviewed cost-utility analyses (CUAs) of innovative blood cancer-related interventions and examined the number and methodology of studies and the cost-utility ratios (CERs) published. We analyzed studies related to blood cancers from the Tufts Cost-Effectiveness Analysis Registry (www.careregistry.org), a database including over 9,800 CEAs published through 2012. We focused on innovative agents and excluded hematopoietic stem cell transplant, symptom management, and supportive care. Studies that met the inclusion criteria were categorized by four cancer sites: chronic myeloid leukemia (CML), chronic lymphotic leukemia (CLL), non-Hodgkin’s lymphoma (NHL), and multiple myeloma (MM) and nine treatment types (a) interferon/r, bendamustine, bortezomib, daratumumab, imatinib, lenalidomide, rituximab alone or in combination, and thalidomide). Cost-effectiveness ratios were stratified by funder and cancer type. RESULTS: Twenty-nine studies published from 1996-2012 (including 45 cost-effectiveness ratios) met the inclusion criteria. Thirty-one percent were conducted in the US. The majority (62%) used the health care payer perspective, 24% used the recommended societal perspective. Seventy-six percent were industry-funded. In 21%, economic data were collected along with clinical trial data. Most ratios pertained to NHL (41%) or CML (30%) and treatment with rituximab (43%), interferon (18%), or imatinib (16%). Across cancers, the median ratio was highest for CML ($55,000/QALY) and lowest for NHL ($21,500/QALY). Median ratios over time were $85,000/QALY (1996-2002), $52,000/QALY (2003-2006), and $2,000/QALY (2007-2012). A majority of ratios (73%) fell below $50,000/QALY, and most (86%) fell below $100,000/QALY. The median was lower for industry-funded studies ($25,000/QALY) than others ($33,000/QALY). CONCLUSIONS: Published CUAs of these blood cancer treatments demonstrate relatively good value. While the treatments may have high unit prices, many also seem to confer considerable health benefits at reasonable overall costs.

PCN123

COST-EFFECTIVENESS OF USING A PROGNOSTIC TEST TO GUIDE TREATMENT DECISIONS IN EARLY STAGE NON-SMALL CELL LUNG CANCER (NSCLC)

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OBJECTIVES: Limited guidance exists for health care providers deciding when to treat patients with adjuvant chemotherapy (ACT) in early stage NSCLC. This leads to high levels of untreated patients that could benefit, and low-risk patients who could avoid the toxicity and cost, from ACT. This study examined the cost-effectiveness of the prognostic test myFlan Lung Cancer vs. current standard of care (SoC) in directing ACT treatment decisions in stage I-II NSCLC. METHODS: A Markov model was constructed to examine costs ($US) and effectiveness (quality-adjusted life years [QALYs]), from a US third-party payer perspective over a lifetime horizon. Patients were classified as high or low risk based on a prognostic score derived from stage and an expression signature based on cell cycle progression. The probability of receiving ACT was estimated from a physician survey. Benefit of ACT treatment was based on stage and prognostic score. Other model inputs were literature-derived or assumption-based. Costs and QALYs were discounted at a 3% annual rate. One-way and probabilistic sensitivity analyses examined the relative impact of model inputs. RESULTS: In the base case scenario 44% of patients received ACT using the prognostic test vs. 38% based on SoC. Total costs were $34,267 and $25,594 and total QALYs gained were 5.33 and 5.16 for the prognostic test and SoC, respectively. The incremental cost-effectiveness ratio (ICER) for the prognostic test was $34,055/QALY gained. One-way sensitivity analyses indicated the probability of receiving ACT for high-risk, stage IIb patients and the ACT treatment benefit were the largest drivers of cost-effectiveness. The probabilistic sensitivity analysis ICER was $44,196/QALY gained. The prognostic test was cost-effective in 51.1% of the simulations at a willingness-to-pay threshold of $50,000/QALY gained. CONCLUSIONS: The results of this study suggest that using myFlan Lung Cancer to guide ACT decisions is cost-effective compared to a SoC approach according to globally accepted thresholds.

PCN124

ESTIMATION OF THE QUALITY Adjusted PROGRESSION FREE SURVIVAL OF THE TREATMENT ARMS OF THE BOLERO-2 TRIAL

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OBJECTIVES: The Breast Cancer Trials of Oral Everolimus-2 (BOLERO-2) is a double-blind, phase 3 trial that compared Everolimus plus Exemestane (n = 485) versus placebo plus Exemestane (n=275). Postmenopausal women with advanced hormone receptor positive breast cancer (ABC) were included in the study. The trial demonstrated that Everolimus plus Exemestane significantly prolonged progression-free survival (PFS). PFS as an outcome measure to compare treatment strategies for ABC is incomplete as it fails to account for the quality of life of patients living in that disease state. To address this issue, researchers can estimate the quality adjusted progression free survival (QAPFS) of treatments as an effectiveness measure. This study aims to estimate the QAPFS of the treatment arms of the BOLERO-2 trial. METHODS: For each treatment arm of the trial, QAPFS was estimated by multiplying the overall survival (OS) with the quality of life (QoL) adjusted quality of life (QoL) PFS. QAPFS as an outcome measure provides a better assessment of the benefit of the treatment of the BOLERO-2 trial. The benefit of Everolimus + Exemestane over Placebo + Exemestane observed in the trial was maintained in this analysis. The estimates obtained as part of our analysis can be used in future cost effectiveness studies.

PCN125

WITHDRAWN

PCN126

COST-UTILITY ANALYSIS OF ENZALUTAMIDE FOR PATIENTS WITH PREVIOUSLY TREATED METASTATIC CAstration-Resistant Prostate CANcer (mCRPC)

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OBJECTIVES: mCRPC is a terminal disease, with a median survival of approximately 2–12 months. It is associated with high rates of pain, fatigue, and bone metastases, and is currently treated with docetaxel and prednisone. A recent study demonstrated that enzalutamide is efficacious, prolonging overall survival and progression-free survival compared to placebo in patients with mCRPC previously treated with docetaxel-based chemotherapy. The aim of this analysis was to assess the cost-effectiveness of enzalutamide in terms of both health outcomes and incremental cost-effectiveness compared to docetaxel and prednisone, and to provide insights into the potential cost-effectiveness of enzalutamide in different country settings, the Netherlands (NL) and Serbia (SRB).

METHODS: A Markov model was developed to compare outcomes between enzalutamide and docetaxel-based chemotherapy. The model was developed using a virtual population in both NL and SRB, stratified by age and disease stage. The model simulated the progression of patients through different health states, including health care resource use and costs, and quality-adjusted survival outcomes. The model was calibrated using data from the AFFIRM trial and an indirect treatment comparison from available published literature. Final outcomes were compared between the two treatments for patients with mCRPC, previously treated with docetaxel-based chemotherapy.

RESULTS: From the perspective of the Ministry of Health, the incremental cost-effectiveness ratio (ICER) for enzalutamide compared to docetaxel-based chemotherapy was $19,388 per QALY gained compared to $33,226 per QALY gained for docetaxel. The model showed that enzalutamide is highly cost-effective in both NL and SRB, with ICERs below the willingness-to-pay threshold of $20,000 per QALY in both settings.

CONCLUSIONS: Enzalutamide is a cost-effective treatment compared to docetaxel-based chemotherapy in NL and SRB. Further research is needed to confirm these findings and to understand the cost-effectiveness of enzalutamide in other country settings.

PCN127

OBJECTIVES: To assess the cost-effectiveness of first-line metastatic renal cell carcinoma (mRCC) drugs in two different economic and clinical settings, The Netherlands (NL) and Serbia (SRB). METHODS: The research included all first-line mRCC therapeutics recommended by the European and American guidelines: sunitinib, pazopanib, bevacizumab, and temsirolimus. Clinical efficacy data for each drug was reported in the non-clear cell setting, and the cost-effectiveness of these drugs was compared for patients treated with each agent in the treatment setting. The cost-effectiveness of mRCC drugs was calculated from the perspective of various health care payers, including government agencies, health insurers, and hospital authorities. The model included all first-line therapies recommended by the European and American guidelines and was designed to be used as a decision-making tool for health care providers in NL and SRB.

RESULTS: In NL, sunitinib was the most cost-effective option, with an ICER of $15,522 per QALY gained compared to pazopanib. In SRB, sunitinib was the least cost-effective option, with an ICER of $39,625 per QALY gained compared to pazopanib. The cost-effectiveness of mRCC drugs was highly sensitive to the baseline risk of each drug, with sunitinib being the most cost-effective option in NL and the least cost-effective in SRB.

CONCLUSIONS: The cost-effectiveness of mRCC drugs varies between NL and SRB, with sunitinib being the most cost-effective option in NL and the least cost-effective in SRB. The results of this study provide important insights for health care decision-makers in these settings.

PCN128

OBJECTIVES: The cost-effectiveness of 2nd line crizotinib in EML4-ALK re-arranged NSCLC in Ontario. Dallalay S1, Graham DM2, Becca J1, Hoch JS3, Tao M4, Cuiz JC5, Leigh N6

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OBJECTIVES: Targeted therapy with ALK inhibitor crizotinib offers significant improvement in clinical outcome for treatment of EML4-ALK fusion positive non-small cell lung cancer (NSCLC) patients. We estimated the cost-effectiveness of companion EML4-ALK genetic testing in combination with crizotinib treatment in Ontario, Canada. METHODS: A Markov model was performed as a cost-effectiveness analysis using a Markov model from a Ministry of Health perspective and a lifetime horizon. Transition probabilities and mortality rates were calculated based on the data of a recent second-line randomized trial of crizotinib versus placebo (Bhatia et al. New Engl J Med 2013). Costs were derived from an OCCI database, public labs and Princess Margaret Hospital. All parameters were varied separately in one-way and selected two-way sensitivity analyses. Various scenarios were assessed to assess the impact of model assumptions on the results. RESULTS: The utility of crizotinib treatment was 0.982 and 0.988 for crizotinib and placebo, respectively. The cost of genetic testing was $19,388 for crizotinib and $33,226 for placebo, with incremental cost-effectiveness ratios of $333,595/QALY and $125,812/QALY, respectively. The one-way sensitivity analysis indicated that the primary drivers of the ICER were the utilities and cost of crizotinib treatment. The model was less sensitive to IC50 and FISH genetic test costs, re-biopsy cost, probability of progression while on pemetrexed, and uncertainty about the EQ-5D. CONCLUSIONS: EML4-ALK genetic testing in combination with crizotinib treatment for all NSCLC patients eligible for chemotherapy is not economically attractive in the current setting. Lower drug costs would be required to make this strategy economically feasible.

PCN129

OBJECTIVES: Compare the costs and effectiveness of a nonpharmacologic interventional, mindfulness-based art therapy (MBAT) aimed at psychological stress reduction from the perspective of two different economic and clinical settings. METHODS: Participants were randomized into three groups: MBAT, Usual Breast Cancer Support (BCSG), or Untreated Control (UC). The MBAT intervention involved mindfulness-based stress reduction techniques along with art therapy. BCSG provided didactic lectures and discussion among participants. RESULTS: Follow-up was done at 9 weeks. Health care costs due to psychological problems were captured in the form of health care utilization, including outpatient visits, physician visits, emergency room visits, and inpatient admissions, as well as cost of medications. Effectiveness was measured using health utility derived from the Medical Outcomes Study 36-item Short Form Health Survey (SF-36). RESULTS: The number of women in each group was 98 completing MBAT, 93 completing BCSG, 44 UC: Mean health care costs due to problems were decreased at 9 weeks in the MBAT group (from $98.96/month to $0.00/month), increased in BCSG (from $3.60/month to $32.06/month), and stayed consistent with no MBAT or BCSG in the UC group. Medication costs decreased in all groups: MBAT from $0.47/month to $0.50/month, BCSG from $0.50/month to $0.52/month (UC: from $0.52/month to $0.55/month). CONCLUSIONS: All groups experienced similar utility improvements at 9 weeks, suggesting that the decision as to whether to choose MBAT, BCSG, or UC should be based on costs. However, these data are short-term and should be extended to examine sustained quality of life in important to the decision. Findings suggest that MBAT may reduce health care costs due to psychological problems but a larger sample is necessary to confirm this.

PCN130

OBJECTIVES: To assess the cost-effectiveness of targeted therapeutic MET INHIBITORY TARGETS IN METASTATIC RENAL CELL CANCER SEEN FROM TWO DIFFERENT ECONOMIC PERSPECTIVES Alhazzani J1, Postma M1

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OBJECTIVES: To assess the cost-effectiveness of first-line metastatic renal cell cancer (mRCC) drugs from the perspective of two different economic and clinical settings, The Netherlands (NL) and Serbia (SRB). METHODS: The research included all first-line mRCC therapeutics recommended by the European and American guidelines: sunitinib, pazopanib, bevacizumab, and temsirolimus. Clinical efficacy data for each drug was reported in the non-clear cell setting, and the cost-effectiveness of these drugs was compared for patients treated with each agent in the treatment setting. The cost-effectiveness of mRCC drugs was calculated from the perspective of various health care payers, including government agencies, health insurers, and hospital authorities. The model included all first-line therapies recommended by the European and American guidelines and was designed to be used as a decision-making tool for health care providers in NL and SRB.

RESULTS: In NL, sunitinib was the most cost-effective option, with an ICER of $15,522 per QALY gained compared to pazopanib. In SRB, sunitinib was the least cost-effective option, with an ICER of $39,625 per QALY gained compared to pazopanib. The cost-effectiveness of mRCC drugs was highly sensitive to the baseline risk of each drug, with sunitinib being the most cost-effective option in NL and the least cost-effective in SRB.

CONCLUSIONS: The cost-effectiveness of mRCC drugs varies between NL and SRB, with sunitinib being the most cost-effective option in NL and the least cost-effective in SRB. The results of this study provide important insights for health care decision-makers in these settings.

PCN131

OBJECTIVES: To assess the cost-effectiveness of paclitaxel versus mitomycin in Egyptian patients with metastatic renal cell carcinoma treated with first-line therapy. El-Sayed M.1, Al-Absi S.2, El-Bahary A.3, El-Kharashi A.4, Givens A.5,6

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OBJECTIVES: The cost-effectiveness of paclitaxel versus mitomycin in Egyptian patients with metastatic renal cell carcinoma has not yet been established. The aim of the present study was to evaluate the cost-effectiveness of these two agents in Egyptian patients with metastatic renal cell carcinoma over a ten-year period from the perspective of the health insurance. METHODS: A cohort Markov model chain with three health states (first line until progression, progression, and death) based on the treatment duration of the therapy cycle. A cycle length of a year was set. The clinical parameters were derived from random-