cancer after failure of (neo) adjuvant anthracycline-based therapy, relative to paclitaxel (T) monotherapy, in Australia. Paclitaxel monotherapy is a treatment of choice in advanced, anthracycline-resistant breast cancer in Australia. **METHODS:** Economic evaluation was based on the global, randomised trial of GT versus T (N = 529) (Albain et al, ASCO 2004). Median survival for the intention-to-treat population was 18.5 months (95% CI, 16.5 to 21.2 months) for the GT arm versus 15.8 months (95% CI, 14.4 to 17.4 months) for the T arm (hazard ratio = 0.78 [95% CI, 0.63 to 0.96]. Higher toxicity in the combination arm did not have a negative impact on quality of life (Moinpour et al, ASCO 2004). Mean survival time for each treatment arm was estimated from Kaplan-Meier survival curves. Resource use (chemotherapy, administration, hospitalisation due to adverse events [AEs], treatment emergent AEs) was applied as per the trial and costed accordingly, using Australian dollars (2004 value). Threshold of <$50,000 per life-year gained was considered cost-effective. **RESULTS:** Mean cost per patient on GT arm was $21,695 ($19,389 for chemotherapy, $1003 for administration, and $1304 for AE management). Mean cost per patient on T arm was $13,635 ($12,397 for chemotherapy, $567 for administration, and $670 for AE management). Mean survival gain for GT over T was 0.176 years. Cost per life-year gained for GT was $45,799. **CONCLUSION:** This survival benefit is a highly patient-relevant outcome for advanced breast cancer. This economic evaluation found that gemcitabine plus paclitaxel offers an acceptable cost-effectiveness ratio and good value-for-money for patients with advanced breast cancer in Australia.

PCN11

COST EFFECTIVENESS OF ADJUVANT, INTRAVESICAL THERAPY FOR NON-INVASIVE TRANSITIONAL CELL CARCINOMA OF THE BLADDER

Kerrigan M[1], Ramsey SD[2], Penson D[3], Blough DK[1], Garrison L[1]
[1]University of Washington, Seattle, WA, USA, [2]Fred Hutchinson Cancer Research Center, Seattle, WA, USA, [3]University of Southern California / Norris Cancer Center, Los Angeles, CA, USA

OBJECTIVES: Estimate the costs of care and outcomes associated with adjuvant, intravesical therapy (AIT)—either BCG or chemotherapy—for non-invasive bladder cancer compared to no AIT. **METHODS:** Subjects diagnosed with non-invasive transitional cell carcinoma of the bladder between 1992 and 1999 were drawn from the SEER-Medicare dataset. We estimated the effect of treatment on costs and outcomes within five risk groups defined by stage and grade of disease. We included subjects that were at least 66 years old and who had fee-for-service coverage. We estimated direct medical costs (for Medicare) using the Kaplan-Meier sample average estimator. Using Cox models, we estimated the effectiveness of AIT using three measures: survival time, time to cystectomy (surgical removal of the bladder) and time to repeat transurethral resection (TUR: surgical removal of lesions in the bladder). The models adjusted for age, sex, race, comorbidities and socioeconomic status. **RESULTS:** Subjects had 2 to 10 years of follow-up. A total of 13,658 subjects were included: 2137 received AIT. Mean costs (2004 dollars) were $53,834 for those that received AIT and $47,884 for those that did not receive AIT. Difference in costs between treatment groups was similar for the five risk groups. AIT reduced the risk of death for subjects with stage 1, grade 3 or 4 tumors (hazard ratio: 0.82; 95% CI: 0.71 to 0.94). Survival was not statistically significantly different in other risk groups. AIT reduced the risk of repeat TUR in each risk group. Conversely, AIT increased the risk of cystectomy for subjects with low grade disease and carcinoma in situ. **CONCLUSIONS:** AIT increased Medicare costs over 10 years by $5950. AIT reduced mortality for high risk subjects only, reduced the risk of TUR for all risk groups and increased the risk of cystectomy for low risk subjects. Residual confounding may explain mixed findings.

PCN12

COST-EFFECTIVENESS ANALYSIS OF G-CSF IN ELDERLY PATIENTS WITH AGGRESSIVE NON-HODGKIN'S LYMPHOMA (NHL) RECEIVING CHOP

Lyman GH[1], Cosler LE[2]
[1]University of Rochester School of Medicine and Dentistry, Rochester, NY, USA, [2]Albany College of Pharmacy, Albany, NY, USA

OBJECTIVES: A recent randomized trial compared granulocyte colony-stimulating factor (G-CSF; filgrastim) to no G-CSF in elderly patients with aggressive NHL receiving CHOP chemotherapy [Osby, 2003]. A cost-effectiveness analysis is presented comparing CHOP alone to CHOP + G-CSF. **METHODS:** An economic model based on this trial compares the risk of neutropenia, disease relapse, and 5-year survival among patients receiving CHOP with or without G-CSF. Cost estimates were derived from published literature and data from U.S. health centers. Incremental cost-effectiveness ratios (ICERs) of $US/life year saved (LYS) were estimated, and sensitivity analyses performed. **RESULTS:** CHOP + G-CSF was associated with significantly fewer episodes of severe neutropenia ($P < 0.001$), FN ($P < 0.001$), greater dose intensity ($P < 0.05$), fewer deaths ($P = 0.04$), and improved 5-year survival ($P = 0.04$). Based on five years of followup, the life years averaged 2.93 years in the CHOP alone group compared to 3.52 years in the CHOP + G-CSF arm. Expected costs were $41,400 and $39,747 for the G-CSF and control arms, respectively. Under baseline assumptions, the ICER for G-CSF support was estimated at $2769/LYS. Sensitivity analyses revealed G-CSF support to be cost saving across most plausible values for baseline FN risk, relative risk reductions for FN, infection-related mortality, and risks of disease relapse. G-CSF support remained cost saving until the control risk for disease relapse fell to <2%. Net cost savings were observed for FN relative risk reductions >56%. **CONCLUSIONS:** A recent clinical trial of G-CSF support demonstrated a reduction in neutropenic complications and improved survival. Incorporation of cost data into an economic model based on this trial demonstrates that G-CSF support is within accepted limits for cost-effectiveness across a broad range of assumptions.

PCN13

COST-EFFECTIVENESS ANALYSIS OF APREPITANT IN THE PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING IN PATIENTS RECEIVING EITHER CISPLATIN-BASED CHEMOTHERAPY REGIMENS OR MODERATELY EMETOGENIC CHEMOTHERAPY

Annemans L[1], Strens D[1], Lox E[2], Petit C[2], Malonne H[2]
[1]HEDM-IMS Health, Brussels, Belgium, [2]Merck Sharp & Dohme bv, Brussels, Belgium

OBJECTIVES: Aprepitant is effective in preventing chemotherapy-induced nausea and vomiting (CINV), achieving higher complete response (CR = no emesis and no rescue therapy) compared to standard prevention, in patients receiving either highly (HEC) or moderately emetogenic chemotherapy (MEC) (absolute improvement = 11% and 13% respectively). We assessed the cost-effectiveness of aprepitant based versus standard prevention in these indications in Belgium. **METHODS:** A decision analytical model was developed in MS Excel. To estimate resource use, two approaches are used. The first is based on the preventive regimens applied in randomized controlled trials comparing aprepitant based CINV prevention

(for HEC: aprepitant days1–3, ondansetron 32 mg IV day1; for MEC: aprepitant days1–3, ondansetron 16 mg PO day1), versus a standard regimen (for HEC: ondansetron 32 mg IV day1 and 16 mg PO days2–4; for MEC: ondansetron 16 mg PO days1–3). The second analysis is based on current real-world resource use in the prevention of CINV using the IMS Longitudinal Hospital Database (with ondansetron PO only used in 53% (MEC) to 58% (HEC) of patients but at 132% (MEC) and 66% (HEC) higher doses). CINV-specific utility values adapted from Sun et al. (2002) were used to calculate QALYs. Drug costs were obtained from official listings. Treatment costs for CINV were obtained from a German study and adapted to Belgium. **RESULTS:** The aprepitant-based regimen is associated with 0.003 and 0.014 more QALY's in HEC and MEC respectively and with savings of 66.84€ (trial based) and 74.62€ (real life based) for HEC and 17.95€ (trial based) and 21.70€ (real life based) for MEC. Hence, aprepitant is both more effective and less expensive (= dominant). Sensitivity analyses were performed on treatment cost of emesis and on the clinical benefit of aprepitant and showed that the results were very robust. **CONCLUSIONS:** In both approaches the aprepitant-based strategy is dominant.

PCN14

COST-EFFECTIVENESS OF TAXANES AS SECOND LINE AGENTS IN TREATMENT OF METASTATIC BREAST CANCER

Kawatkar AA, Hay JW

University of Southern California, Los Angeles, CA, USA

OBJECTIVES: To evaluate cost effectiveness (CE) of Paclitaxel compared to Docetaxel for Anthracycline pretreated metastatic breast cancer (MBC) patients from a societal perspective. **METHODS:** A two year decision model was developed with parameter inputs from published literature and the first phase III randomized clinical trial which compared the taxanes for treatment of MBC. Direct cost (in 2005 $) included in the model were drug and premedication cost, administration and personnel cost, cost of hospitalization and adverse effects, laboratory cost, home health aide cost along with follow up and terminal care cost. Indirect cost consisted of informal caregiver time and patient time cost. Effectiveness was measured in terms of quality adjusted life years (QALYs), which was based on utilities elicited from US oncology nurses and life expectancy calculated using declining exponential approximation of life expectancy (DEALE) method. All costs and QALYs were discounted at 3% and an incremental cost effectiveness ratio (ICER) was calculated. Uncertainty of point estimates was analyzed in Univariate sensitivity analysis. Threshold sensitivity analysis was also conducted to evaluate the values where the CE ratio changed. **RESULTS:** Paclitaxel was more cost effective for treatment of MBC, amongst the two taxanes. Docetaxel drug cost and adversity profile made the ICER $145,837/QALY gained. The model was robust to reasonable changes to the parameter estimates. Response to treatment was one of the key parameters which affected the CE ratio. Threshold analysis suggested, either Docetaxel response rate should increase to 42% or Paclitaxel response rate decrease by a third or the price of Docetaxel decrease by one sixth, to bring the ICER close to the $100,000/QALY. **CONCLUSIONS:** Docetaxel may be a better choice from clinical stand point for treatment of MBC patients, but its economic justification is questionable in a cost conscious society with limited resources.

PCN15

THE ANNUAL HEALTH INSURANCE COST OF COLORECTAL CANCER TREATMENT IN HUNGARY: A COST OF ILLNESS STUDY

Boncz I[1], Sebestyén A[1], Palásti J[1], Betlehem J[2]

[1]National Health Insurance Fund Administration (OEP), Budapest, Hungary, [2]University of Pécs, Pécs, Hungary

OBJECTIVES: The purpose of the study is to calculate the annual health insurance cost of treatment of colorectal cancer at nationwide level in Hungary for the year 2001. **METHODS:** Data derive from the nationwide database of the Hungarian National Health Insurance Fund Administration (OEP), the only health care financing agency in Hungary. The cost of treatment includes: out-patient care, acute and chronic inpatient care, subsidies of medicines' prices (ATC groups: "L", antineoplastic and immunomodulating agents, "N02", Analgesics and "A04" Antiemetics and antineuseants) and expenditure on disability to work (including sickness-pay). According to standard cost categories direct medical and direct non-medical costs, indirect (productivity) costs are included while informal care and intangible costs are excluded. Disease was identified with the following ICD-10 codes: C18, C19, C20, C21 (Malignant neoplasm of colon, rectosigmoid junction, rectum and anus and anal canal), D01.0, D01.1, D01.2, D01.3, D01.4 (carcinoma in situ), D12 (Benign neoplasm of colon, rectum, anus and anal canal). **RESULTS:** The results showed the following cost structure. Outpatient care: $1,889,315 or €2,109,102 (5.4% of total costs), acute inpatient care: $25,994,160 or €29,018,103 (74.7% of total costs), chronic inpatient care: $1,293,650 or €1,444,142 (3.7% of total costs), sickness-pay: $1,293,057 or €1,443,480 (3.7% of total costs), drugs from outpatient care's budget: $4,350,714 or €4,856,839 (12.5% of total costs). The National Health Insurance Fund Administration (OEP) spent alltogether $34,820,895 or €38,871,666 on colorectal cancer in 2001. Most of the costs (82.8%) derived from malignant neoplasms, 17.0% from benign neoplasms including polyps and 0.2% from in situ cancers. **CONCLUSIONS:** Colorectal cancer represents a large burden in Hungary. Benign neoplasms including polyps represents an important cost element. Most of the costs come from acute in-patient care.

PCN16

ECONOMIC OUTCOMES IN HEPATOCELLULAR CARCINOMA AND METASTATIC LIVER DISEASE PATIENTS: A MEDICARE PERSPECTIVE

Pelletier EM[1], Dembek CJ[1], Gazelle GS[2]

[1]Boston Scientific Corporation, Natick, MA, USA, [2]Massachusetts General Hospital, Boston, MA, USA

OBJECTIVES: Published data on costs associated with treating Medicare patients with hepatocellular carcinoma (HCC) or metastatic liver disease (MLD) are limited. This study evaluated health resource use and medical costs in patients newly diagnosed with HCC or MLD. **METHODS:** Patients ≥ 65 years of age with an HCC or MLD diagnosis were identified in the 2002 Medicare 5% sample Standard Analytic File and followed for 1 year after the first diagnosis. Patients with HMO enrollment or a prior HCC or MLD diagnosis were excluded. Total health resource use and medical costs, including hospital inpatient, outpatient, and physician and supplier services, were measured from the Medicare payment perspective. **RESULTS:** The study included 281 HCC and 1371 MLD patients (mean age 74.8 years; 45% male). Over 1 year, MLD patients had significantly higher outpatient services than HCC patients (10.3 vs. 13.3, $p < 0.001$), as well as significantly more physician encounters, including office visits ($p < 0.001$). There was no difference in hos-