EGFR mutation is cost-effective with a willingness to pay above $1379.49 per extra progression-free month. In the testing strategy, patients with mutation positive disease treated with gefitinib benefited from an extra 4.32 progression-free months compared to patients in the non-testing strategy.

**PCN67**

**COST-EFFECTIVENESS OF WHITE BLOOD CELL GROWTH FACTOR USE AMONG ELDERLY NON-HODGKIN’S LYMPHOMA PATIENTS TREATED WITH CHEMOTHERAPY**

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**OBJECTIVES:** We identified a large population-based cohort of elderly non-Hodgkin’s lymphoma (NHL) patients treated with chemotherapy to measure the cost-effectiveness (as measured as cost per life-year saved) of white blood cell growth factor (CSF) use in a real-world setting. METHODS: We identified 13,203 NHL patients from the SEER-Medicare database diagnosed from 1992 to 2002 who received chemotherapy within 12 months of diagnosis. Patients were followed from initial chemotherapy date until death or end of study period (October 31, 2006). Effectiveness of CSF use (primary and secondary prophylaxis) was measured as improved overall survival. Costs were estimated by summing reimbursement amounts derived from claims. Cost-effectiveness was estimated by modeling the joint influence of CSF use on costs and effectiveness using a propensity-score net monetary benefit approach. RESULTS: Primary prophylactic CSF use was cost-effective at lower willingness to pay thresholds, whereas at higher thresholds, not providing prophylactic CSF use came the cost-effective strategy. For secondary prophylactic CSF use, efficacy and effectiveness were associated with CSF use. For low willingness to pay thresholds (less than $20,000 per life year gained), not administering CSF was the cost-effective strategy, while CSF use became cost-effective as willingness to pay increased (from $100,000+ per life year gained). CONCLUSIONS: To our knowledge, this is the first population-based study to empirically measure the cost-effectiveness of CSF among cancer patients treated with chemotherapy. Results suggest that CSF use as primary or secondary prophylaxis may be cost-effective depending on society’s willingness to pay for improvements in outcomes.

**PCN70**

**COST-EFFECTIVENESS ANALYSIS OF ERLOTINIB IN THE TREATMENT OF ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) IN ROMANIA**

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**OBJECTIVES:** Erlotinib (Tarceva®) is the first and only oral targeted therapy with EGFR mutation is cost-effective with a willingness to pay above $1379.49 per extra progression-free month. In the testing strategy, patients with mutation positive disease treated with gefitinib benefited from an extra 4.32 progression-free months compared to patients in the non-testing strategy.

**RESULTS:** Erlotinib (Tarceva®) is the first and only oral targeted therapy with EGFR mutation is cost-effective with a willingness to pay above $1379.49 per extra progression-free month. In the testing strategy, patients with mutation positive disease treated with gefitinib benefited from an extra 4.32 progression-free months compared to patients in the non-testing strategy.

**CONCLUSIONS:**

1. Neutropenia, fever, and/or infection, the opposite trend was observed. For low willingness to pay thresholds (less than $20,000 per life year gained), not administering CSF was the cost-effective strategy, while CSF use became cost-effective as willingness to pay increased (from $100,000+ per life year gained).

2. CONCLUSIONS: To our knowledge, this is the first population-based study to empirically measure the cost-effectiveness of CSF among cancer patients treated with chemotherapy. Results suggest that CSF use as primary or secondary prophylaxis may be cost-effective depending on society’s willingness to pay for improvements in outcomes.

**PCN79**

**REVIEW OF COST-EFFECTIVENESS STUDIES ON AROMATASE INHIBITORS FOR THE TREATMENT OF EARLY-STAGE BREAST CANCER**

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**OBJECTIVES:** With the recent updates of clinical guidelines of the National Comprehensive Cancer Network (NCCN) and the American Society of Clinical Oncology (ASCO), aromatase inhibitors have been included in the management of early-stage breast cancer. There has been a great interest to understand the cost-effectiveness of this new alternative therapy which is becoming an “optimal therapy” for breast cancer. The objective of this study is to review the cost-utility studies on aromatase inhibitors for the treatment of early-stage breast cancer and compare reported incremental cost-effectiveness ratios (ICERs). METHODS: We conducted a literature for cost-utility studies on aromatazole, letrozole and exemestane. We reviewed the papers to extract the information on intervention, comparator, ICER, cost perspective, horizon and clinical data used. For the comparison of reported ICERs, we converted all currencies to US dollars by exchange rate for the cost-year used, then inflated the values to 2008. RESULTS: A total of 20 papers were identified (8 on aromatazole, 8 on letrozole and 4 on exemestane). All studies were conducted from health care perspective and sponsored by manufacturers. The time horizon modeled ranged from 7.5 years to lifetime, however majority of the studies modeled lifetime. The studies were from EU countries and North America such as US, Canada, Belgium, Italy, Sweden and UK. The mean ICER values were $24,932 for aromatazole, $21,113 for letrozole and $21,428 for exemestane. CONCLUSIONS: The mean ICERs for all three aromatase inhibitors are below $25,000; hence they appear to be cost-effective compared to tamoxifen therapy for the treatment of early-stage breast cancer.

**PCN80**

**A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS OF PROSTATE-SPECIFIC ANTIGEN (PSA) IN PROSTATE CANCER SCREENING**

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**OBJECTIVES:** Prostate cancer screening in the general population aged 50–79 years. RESULTS: We identified 10 CEA in PCa screening using PSA, 30% of the studies investigated efficacy of PSA on PCa detection, and 70% for efficacy of PSA on both PCa risk sample, or Medicare population. Four types of screening strategies were compared: 1) no screening vs. PSA, or PSA combined with digital rectal examination (DRE); 2) different thresholds of normal PSA; 3) isoforin of PSA (PSA, free PSA, complexed PSA); 4) different screening intervals. Method of cost-effectiveness measures varied from studies. Outcomes were presented as costs/quality adjusted life years (QALY) (30%), costs/life-years saved (40%), costs/curable cancers (20%), costs/life-years gained (10%), costs/QALY gained (10%), costs/extra cancers detected (10%), costs/extra cancers cured (10%), costs/extra cancers prevented (10%), costs/extra life-years gained (10%). RESULTS: We found 10 CEA in PCa screening using PSA, 30% of the studies investigated efficacy of PSA on PCa detection, and 70% for efficacy of PSA on both PCa detection and consequent treatments. All studies were based on either decision tree (60%) or Markov models (40%). Majority of studies only modeled single-episode screening (80%). The screening population included men age 40–79 years old, high PSA risk sample, or Medicare population. Four types of screening strategies were compared: 1) no screening vs. PSA, or PSA combined with digital rectal examination (DRE); 2) different thresholds of normal PSA; 3) isoforin of PSA (PSA, free PSA, complexed PSA); 4) different screening intervals. Method of cost-effectiveness measures varied from studies. Outcomes were presented as costs/quality adjusted life years (QALY) (30%), costs/life-years saved (40%), costs/treatable cancers (20%), costs/detected cancer (10%). Only five studies originated in U.S. As compared to no screening, several studies reported an increased cost-effectiveness of screening with PSA or combined with DRE that ranged from $12,502 to $65,909/life-year saved in Medicare population aged 65–69 years, and general population aged 70–79 years, respectively. One study reported that PSA-alone screening was dominated by no screening in the general population aged 50–79 years.

**CONCLUSIONS:** Cost-effectiveness ratios reported from studies varied from screening populations, calendar year, and country original, which made the comparisons difficult.