more economically effective alternative drug but it can be used only as second or third line of treatment with biological drugs according to Russian standards of rheumatoid arthritis' management.

**PM524**

**COST-EFFECTIVENESS COMPARATIVE ANALYSIS OF BISPHOSPHONATES FOR THE TREATMENT OF POST-MENOPAUSAL OSTEOPOROSIS**

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OBJECTIVES: This study seeks to compare the cost-effectiveness of bisphosphonates for the treatment and prevention of post-menopausal osteoporosis (PMO). METHODS: A literature review was conducted to obtain all relevant articles published through the end of 2007 that evaluate the cost-effectiveness of bisphosphonates for the treatment and prevention of PMO. PubMed and the Cochrane Database were used to search for the terms “bisphosphonates” and “cost-effectiveness.” Articles were limited to those evaluating at least one of the four products with an indication approved by the United States Food and Drug Administration for PMO: alendronate, ibandronate, risedronate, or zoledronic acid. Articles focusing on screening efforts, or evaluating the treatment of men, glucocorticoid-induced osteoporosis, or cancer-related bone complications were excluded. A manual review of the included articles’ references was also performed. RESULTS: The literature search resulted in 189 articles of which 18 met the criteria for inclusion in this evaluation. Of these 18 studies, many examined the use of more than one bisphosphonate, therefore, the total number of comparisons identified for alendronate, ibandronate, risedronate, and zoledronic acid were 13, 3, 8, and 1, respectively. The incremental cost-effectiveness ratios obtained from this analysis varied greatly for all included agents. Alendronate ranged from $25,296,12 (cost-saving) to $934,883,71 ibandronate from $10,156.68 to $15,023,90; risedronate from $1,468.75 to $341,410,15; and zoledronic acid from $1,791.42 to $2,078,39. These results varied based on the included women’s age and underlying risk factors, the specific costs accounted for in each analysis, and the total duration of treatment. CONCLUSIONS: Bisphosphonates represent cost-effective treatment options for the prevention and treatment of PMO. Given the evidence available, it is difficult to determine whether one agent is conclusively more cost-effective than another for this indication. Further studies directly comparing bisphosphonates should be conducted to evaluate their comparative cost-effectiveness.

**PM525**

**A PHARMAECONOMIC REVIEW OF ECONOMIC ANALYSES OF BIOLOGIC THERAPY IN PATIENTS WITH ANKYLOSING SPONDILITIS**

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OBJECTIVES: To conduct a systematic review of economic analyses of biologic therapies in patients with ankylosing spondylitis (AS) METHODS: A systematic literature search was conducted by one researcher from January, 2009 to January, 2009 using Pubmed, Evidence-Based Medical Reviews, and Medline databases to identify all economic studies of biologic therapies in AS. Search key terms included ankylosing spondylitis, biologies, Adalimumab, Infliximab, Etanercept, cost, phar-macoconomics, and combination of search terms. The Quality of Health Economic Studies (QHES) instrument was used to assess the quality of economic studies included in the final review. RESULTS: The initial search yielded nine studies out of which three review studies were excluded. The remaining six studies compared the biologics Etanercept, Infliximab, and Adalimumab against comparators such as NSAIDs and placebo. One study employed a cost-effective analysis (cost/BASDAI score), while the remaining studies employed cost-utility analysis (cost/QALY). Infliximab and Adalimumab were found to be cost-effective compared to NSAIDs and placebo with a CE ratio of $10,000/QALY (US) and $5,093/QALY (UK). A combination therapy of Etanercept and Adalimumab was found to be cost-effective (≤ $25,000, UK) versus NSAIDs. A combination of Infliximab and Etanercept versus NSAIDs alone was not cost-effective (Etanercept $42,494/QALY, Infliximab $67,207/QALY). CONCLUSIONS: In most studies the CE ratio of Adalimumab and Infliximab was below the accepted threshold of $50,000/QALY (US) and £25,000/QALY (UK). However, a study conducted in the The Netherlands did not approve the combinational use of Infliximab and Etanercept in the treatment of AS, since the total treatment cost was higher than the accepted threshold of $18,000/QALY. The differences in total and department-specific direct medical costs incurred during the index inpatient or outpatient procedure. RESULTS: A total of 3617 patients received vertebroplasty (64% inpatient and 36% outpatient) and 8,118 received kyphoplasty (54% inpatient and 46% outpatient) for treatment of VCF. Patients in the vertebroplasty group had a mean age of 78, and patients in the kyphoplasty group had a mean age of 76. More patients in the vertebroplasty group (14.5%) had an APR-severity rating of”major” or “extreme” than patients in the kyphoplasty group (9.5%). Mean total outpatient costs were $9,837 for vertebroplasty compared to $13,187 for kyphoplasty (p < 0.0001). Mean total outpatient costs were $3,319 for vertebroplasty compared to $8,100 for kyphoplasty (p < 0.0001). Adjustments to control for differences in age, sex, admission status, and disease severity accentuate these differences. RESULTS: At a $60,000 willingness-to-pay (WTP) for VCF, reducing hospital costs by nearly $5000 for outpatient procedures and by more than $3000 for inpatient procedures. These differences occurred despite older age and greater disease severity for patients in the vertebroplasty group. Further research is necessary to determine the incremental cost effective-ness of treatment options for VCF.

**PM527**

**THE COMMON PRACTICE OF ANTI-TNF PRESCRIPTION AND DISPENSING CONDITIONS**

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OBJECTIVES: The objective was to compare Etanercept and Adalimumab in terms of adequacy of recommended indications and of the health care costs. METHODS: This survey of cost minimization was performed by an office based pharmacist panel answering to a questionnaire at the moment of the delivery of one among two ambula-tory biologics, Etanercept and Adalimumab. RESULTS: The results show that these biologics are mainly prescribed in rheumatology, 94% and 79% for Etanercept and Adalimumab respectively. The prescriptions are consistent with recommended indica-tions for both products. In rheumatology, the retailing of consumption by pathology is closed for the two treatments. The follow of treatment scheme and of the associated costs have been realized only for the adult rheumatologic indications. At 93.8%, “Etanercept 50 mg” is prescribed at the recommended dosage. In 2.2% of cases, the dosage increased at two injections per week and decreased at one injection all 2 weeks in 2.5% of cases. For Adalimumab, 82.6% of treatments followed the recommended dosage, 3.6% at an inferior dosage and 13.8% at a superior dosage with one or two injections per week. The differential between the recommended treatment scheme and the common practice have a direct impact on the annual treatment cost. The health care costs with Etanercept appeared less expensive. The mean annual cost per patient is of $12,566 with Etanercept and of $16,252 with Adalimumab. CONCLUSIONS: This survey demonstrates that the health care cost is 29% superior with Adalimumab. The health care with Etanercept seems to have a better stability of the recommended treatment scheme.

**PM528**

**COST-UTILITY ANALYSIS OF TUMOR NECROSIS FACTOR-ALPHA INHIBITORS FOR THE TREATMENT OF RHEUMATOID ARTHRITIS USING A MARKOV MODEL**

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OBJECTIVES: To determine which tumor necrosis factor-alpha (TNF-alpha) inhibitor is the most cost-effective agent for the treatment of rheumatoid arthritis, METHODS: A Markov model was designed to analyze the cost-utility of certolizumab, etanercept, adalimumab and golimumab versus infliximab (with methotrexate) for the treatment of moderately to severely active rheumatoid arthritis from a U.S. health care payer perspective. A cohort of 10,000 patients was simulated using half-cycle correction with a cycle length of three months for a total of five years. The probability of achieving ACR70, serious infections, and hospitalization were based on data from published literature and assumed to follow a beta distribution. Utility scores were based on a visual analog scale. Costs were adjusted for 2009 U.S. dollars using the medical consumer price index and a discount rate of 3% per annum. Cost and utility scores were assumed to follow a gamma distribution. Probabilistic sensitivity analysis (PSA) was performed to test the robustness of the base-case model. RESULTS: Certolizumab, etanercept, adalimumab and golimumab were compared with infliximab with incremental cost-effectiveness ratios (ICERs) of $101,177,60, $137,606,34, $102,689,18, and $63,415.60/additional QALY gained, respectively. The cost-effectiveness ratios of certolizumab, etanercept, adalimumab and golimumab were $63,415.60, $64,741.41, $65,931.74, and $75,016.16, respectively. Certolizumab resulted in the lowest cost and highest gain in QALYs compared to all comparators. In the PSA, there was a higher proportion of ICERs that were cost-effective with certolizumab (91.06%), etanercept (85.89%), adalimumab (84.67%), and golimumab (79.23%) when compared to infliximab. Conclusions: Certolizumab had a higher probability of being cost-effective compared to all other comparators at a WTP of $60,000/additional QALY gained. CONCLUSIONS: At a $60,000