vertebral, hip and wrist fracture or death (either natural or excess mortality due to fracture). Swedish data on fracture costs, utility reductions after fracture, fracture risks and mortality rates were used. Uncertainty was investigated using one-way and probabilistic sensitivity analyses. Costs and utilities were discounted at annual discount rates of 3%. **RESULTS:** The analyzed cohort comprised patients aged 69 years (80% female) with a BMD T-Score of –2.5 SD and an historical vertebral fracture (5 years previous) and an incident vertebral fracture. In the base-case analysis of this cohort the costs in the teriparatide treatment group were 558,918 SEK per patient compared to 552,026 SEK in the no teriparatide group. The cost per QALY gained of teriparatide compared to no teriparatide was estimated to be SEK 25,000. The results were robust under a wide range of assumptions. **CONCLUSIONS:** For the analyzed cohorts, the base-case and one-way sensitivity analyses performed indicate that an 18-month teriparatide regimen versus no treatment in patients with glucocorticoid induced osteoporosis is cost-effective from the perspective of the Swedish payer.

PMS36

COST-EFFECTIVENESS OF TOCILIZUMAB FOR THE MANAGEMENT OF PATIENTS WITH ACTIVE RHEUMATOID ARTHRITIS DESPITE PREVIOUS DMARD THERAPY IN COSTA RICA

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OBJECTIVES: Rheumatoid arthritis (RA) is a chronic, progressive, inflammatory disease that affects physical functioning and quality-of-life and is associated with premature mortality and substantial economic burden. We aimed to assess the cost-effectiveness of tocilizumab added to disease-modifying antirheumatic drugs (DMARD) in patients with active RA despite DMARD therapy from the perspective of public health care system in Costa Rica. **METHODS:** A decision analysis was carried out to compare tocilizumab 8 mg/kg given every 4 weeks; infliximab 3 mg/kg (weeks 0, 2, 6, 14) and 5 mg/kg (every 8 weeks from week 22); etanercept 25 mg given twice a week and adalimumab 40 mg given every other week. The model included acquisition costs of biological agents during first year of treatment besides infusion-related costs for infliximab and tocilizumab. Indirect comparison techniques were needed to adjust American College of Rheumatology (ACR) responses rates found in 10 placebo-controlled clinical trials with biological agents used as add-on therapy to DMARD. ACR70 response rate, which can be regarded as a close measure of remission, was selected as primary efficacy outcome. Unitary costs were gathered from the 2010 Official Price List of the Public Health Care System in Costa Rica. All costs are expressed in 2010 US dollars. **RESULTS:** First-year costs for an average 70 kg weight patient were lower with tocilizumab (US$12,272) than with etanercept (US$13,000), adalimumab (US$13,650) and infliximab (US$14,340). Adjusted ACR70 response rate was higher for tocilizumab (26%) than for adalimumab (19%), etanercept (18%) and infliximab (12%). Incremental cost per patient achieving an ACR70 response with tocilizumab instead of anti-tumor necrosis factor (TNF) agents were estimated at –US$9,100, –US$14,771 and –US$19,686 for etanercept, adalimumab and infliximab, respectively. **CONCLUSIONS:** When used instead of anti-TNF agents, add-on treatment with tocilizumab brings both health benefits and cost-savings for RA patients with inadequate response to previous DMARD therapy.

PMS37

THE COST-EFFECTIVENESS OF ABATACEPT IN COMBINATION WITH METHOTREXATE FOR THE TREATMENT OF PATIENT WITH ACTIVE RHEUMATOID ARTHRITIS AFTER AN INADEQUATE RESPONSE TO METHOTREXATE IN THE UNITED KINGDOM

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OBJECTIVES: Abatacept in combination with MTX has recently been granted a positive opinion from the European Medicines Agency for use for the treatment of moderate to severe active rheumatoid arthritis in adult patients who responded inadequately to previous therapy with one or more conventional disease-modifying antirheumatic drugs (cDMARDs) including methotrexate (MTX). This analysis explores the cost-effectiveness of abatacept in this new indication. **METHODS:** A patient-simulation treatment-sequence economic model was constructed to estimate the incremental cost per quality adjusted life-year (QALY) for patients with RA in the United Kingdom. Abatacept with MTX , followed by a sequence of DMARDs was compared against a sequence of cDMARDs. Treatment-specific efficacy in terms of Health Assessment Questionnaire (HAQ) was used to calculate the patient's utility medical resource use and cost over a lifetime. Mortality was HAQ dependent. The analysis is performed from a National Health Service. Costs and outcomes were discounted at 3.5% each. **RESULTS:** Abatacept with MTX was estimated to yield 1.09 QALYs per patient (6.42 vs. 5.33) over lifetime, compared to DMARDs. The total lifetime costs associated with abatacept with MTX were £110,094 and total costs for cDMARDs were £79,933 resulting in an incremental cost-effectiveness ratio (ICER) of £27,657 per QALY gained. Sensitivity analysis confirmed the robustness of the model findings. **CONCLUSIONS:** This study has demonstrated that abatacept with MTX is a cost-effective treatment option compared to cDMARDs for patients with rheumatoid arthritis after an inadequate response to MTX.

PMS38

COST-EFFECTIVENESS OF RITUXIMAB VERSUS ALTERNATIVE ANTI-TUMOR NECROSIS FACTOR (TNF) THERAPY AFTER PREVIOUS FAILURE OF ONE ANTI-TNF AGENT FOR TREATMENT OF RHEUMATOID ARTHRITIS IN MEXICO

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OBJECTIVES: About 30% of patients treated with an anti-TNF agent failed to achieve an improvement of 20% in American College of Rheumatology (ACR) response. Recent clinical practice guidelines recommend the use of rituximab after previous failure of one anti-TNF. This study aims to assess the cost-effectiveness of rituximab compared to cycling between anti-TNF agents in this population from the perspective of the public health care system in Mexico. **METHODS:** A decision analysis was carried out to compare 2 rituximab courses (1 course, consisting of 2 infusions of 1 g each) given 6 months apart; infliximab 3 mg/kg (weeks 0, 2, 6, 14) and 5 mg/kg (weeks 22, 30, 38 and 46); etanercept 25 mg twice a week and adalimumab 40 mg every other week. Only direct medical costs cumulated during a one-year timeframe were accounted for and these included acquisition cost of biologic drugs besides infusion costs for rituximab and infliximab. Primary efficacy outcome was defined as an improvement of 70% in ACR response (ACR70), which is a close measure of remission. Indirect comparison techniques were used to adjust ACR responses rates found in 9 clinical trials. Number needed to treat (NNT) to obtain an ACR70 was then calculated. All costs are reported in 2009 US dollars (USD). **RESULTS:** For a 70 Kg patient, annual mean costs were estimated at USD$13,025 for rituximab, USD$12,938 for infliximab, USD$12,226 for adalimumab and USD$10,850 for etanercept. Adjusted ACR70 rates were higher in rituximab (12.4%) than in adalimumab (9.0%), etanercept (8.2%) and infliximab (5.4%). Average cost to achieve an ACR70 was lower with rituximab (USD$105,047) than with anti-TNF therapies, leading to savings of USD$27,270; USD$30,797 and USD$134,543 compared to etanercept, adalimumab and infliximab, respectively. **CONCLUSIONS:** This study suggests that rituximab treatment after previous failure of one anti-TNF agent is a cost-effective strategy compared to cycling between anti-TNF agents.

PMS39

COST-EFFECTIVENESS OF RITUXIMAB VERSUS ALTERNATIVE ANTI-TUMOR NECROSIS FACTOR (TNF) THERAPY AFTER PREVIOUS FAILURE OF ONE ANTI-TNF AGENT FOR TREATMENT OF RHEUMATOID ARTHRITIS IN COSTA RICA

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OBJECTIVES: About 30% of patients treated with an anti-TNF agent failed to achieve an improvement of 20% in American College of Rheumatology (ACR) response. Recent clinical practice guidelines recommend the use of rituximab after previous failure of one anti-TNF. This study aims to assess the cost-effectiveness of rituximab compared to cycling between anti-TNF agents in this population from the perspective of public health care system in Costa Rica. **METHODS:** A decision analysis was carried out to compare 2 rituximab courses (1 course, consisting of 2 infusions of 1 g each) given 6 months apart; infliximab 3 mg/kg (weeks 0, 2, 6, 14) and 5 mg/kg (weeks 22, 30, 38 and 46); etanercept 25 mg twice a week and adalimumab 40 mg every other week. Only direct medical costs cumulated during a one-year timeframe were accounted for and these included acquisition cost of biologic drugs besides infusion costs for rituximab and infliximab. Primary efficacy outcome was defined as an improvement of 70% in ACR response (ACR70), which is a close measure of remission. Indirect comparison techniques were used to adjust ACR responses rates found in 9 clinical trials. Number needed to treat (NNT) to obtain an ACR70 was then calculated. All costs are reported in 2009 US dollars (USD). **RESULTS:** For a 70 Kg patient, annual mean costs were estimated at US$15,040 for rituximab, US$14,340 for infliximab, US$13,650 for adalimumab, and US$13,000 for etanercept. Adjusted ACR70 rates were higher in rituximab (12.4%) than in adalimumab (9.0%), etanercept (8.2%) and infliximab (5.4%). Average cost to achieve an ACR70 was lower with rituximab (US$121,290) than with anti-TNF therapies, leading to savings of US$30,377; US$37,247; and US$144,266 compared to etanercept, adalimumab and infliximab, respectively. **CONCLUSIONS:** This study suggests that rituximab treatment after previous failure of one anti-TNF agent is a cost-effective strategy compared to cycling between anti-TNF agents.

PMS40

COST-EFFECTIVENESS OF DENOSUMAB COMPARED WITH GENERIC ALENDRONATE IN THE TREATMENT OF POSTMENOPAUSAL OSTEOPOROTIC WOMEN

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OBJECTIVES: Denosumab represents a new therapeutic opportunity for the treatment of osteoporosis, that received a positive opinion from the European Committee for Medical Products for Human Use in December 2009. This study aims to evaluate the cost-effectiveness of denosumab compared with the most relevant alternative (i.e. generic alendronate) in the treatment of postmenopausal osteoporotic women. **METHODS:** The cost-effectiveness of treatment for 3-years with denosumab was compared with generic alendronate using an updated version of a previously validated Markov microsimulation model (Value Health 2009:12:687–96). The model was