

event rates. Differences between NSAIDs were modeled from observed rates of GI events and adverse effects after adjusting for differences in population characteristics across three clinical trials (TARGET, CLASS and VIGOR). Other enhancements included modeling: 1) serious hepatic, renal, and skin adverse events (AEs); 2) proton pump inhibitor use after dyspepsia, while taking an NSAID; and 3) multiple occurrences of myocardial infarction (MI) (as opposed to one per patient). Health state utilities for AEs were assigned a value equal to that for the hospitalized surgical management of a complicated GI event. For MI, a 5% discount factor was used to reduce the patient's utility score. Patients switching to acetaminophen because of an AE can experience reduced analgesic effect compared with NSAIDs; therefore utilities were discounted by 20%. **RESULTS:** The modified model produced lower estimates of LYs and QALYs (approximately 0.05 and 0.08 less, respectively) compared with the original model which could be clinically meaningful in a 5-year model. Patient and clinical characteristics that defined low GI-risk subgroup versus high GI-risk group produced differences in LYs and QALYs of up to 1 LY and 0.7 QALY. **CONCLUSION:** Effectiveness can vary considerably across patients with varying clinical characteristics. Therefore, the cost-effectiveness of treatment in any population should consider the heterogeneity of patients. This model provides flexible means to compare cost-effectiveness of treatment for patients with osteoarthritis.

PAR7**MODELLING OF THE COST-EFFECTIVENESS OF RITUXIMAB FOR TREATMENT OF RHEUMATOID ARTHRITIS IN ITALY**

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OBJECTIVES: Rituximab (RTX), a unique selective B-cell therapy, is a new option for rheumatoid arthritis (RA) patients who respond inadequately to anti-TNF therapies. This study reports a cost-effectiveness analysis modelling the introduction of RTX in Italy. **METHODS:** We used ACR response rates (adjusted for differences in study populations), plus observational data from EU registries and simulated real-life treatment for 10,000 RA patients who had responded inadequately to anti-TNF therapy, using baseline patient characteristics from the REFLEX study. We assumed an average treatment duration for biological therapy (in combination with methotrexate) of up to 4.25 years over the patient's remaining lifetime. QALYs were mapped from a disease-severity measure (HAQ score) and based on registry data. Relevant costs included (2004–5 Euros [€]) drug costs (including administration and monitoring) and those related to reduced productivity (indirect costs). We assessed RTX as either a new treatment step or instead of adalimumab. **RESULTS:** Average annual treatment costs were €8796 for RTX + MTX, €14,133 for adalimumab, €14,406 for etanercept, and €9950 for infliximab. Compared with the current treatment sequence, RTX + MTX as a new treatment step produced a gain of 0.677 QALYs at an incremental total medical cost of €12,355 over the lifetime of each patient—an incremental cost-effectiveness ratio (ICER) of €18,259 per QALY gained. The incremental cost per QALY for drug therapy or total (direct + indirect) cost was €19,241 and €13,621. RTX used instead of adalimumab produced a similar QALY gain, but resulted in a total direct medical-cost saving of €11,389 over the patient's lifetime. **CONCLUSIONS:** RTX offers a highly acceptable incremental cost per QALY gained for Italian patients with RA who respond inadequately to anti-TNF therapy and the possibility of either

treating more patients within an existing budget or reducing the overall treatment cost for RA patients.

PAR8**USING MABTHERA IN PATIENTS WITH RHEUMATIC ARTHRITIS IN SPAIN: RESULTS OF COST-EFFECTIVENESS DATA BASED ON MICRO-SIMULATION**

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Rituximab (RTX), is a new and unique selective B-cell therapy for rheumatoid arthritis (RA) patients who respond inadequately to anti-TNF therapies. **OBJECTIVES:** We determined the cost-effectiveness of introducing RTX in Spain. **METHODS:** Our cost-effectiveness model simulates a real-life Spanish treatment sequence for 10,000 RA patients who had responded inadequately to one anti-TNF therapy. We used ACR response rates for RTX and current treatment options, available epidemiological data from observational studies and baseline characteristics from the REFLEX study. The model estimated the incremental cost per QALY gained, with RTX as either a new or alternative treatment over each patient's remaining lifetime, assuming time-on-treatment for biological agents (in combination with methotrexate) of up to 4.25 years. QALYs came from a disease severity measure (HAQ score). Costs included (2004–5 EURO) drug costs (including administration and monitoring) and costs related to disease progression, palliative care, and reduced productivity (indirect costs). Costs and benefits were discounted at 3.5% per annum. **RESULTS:** Annual average treatment costs were €7431 for RTX + MTX, €14,072 for adalimumab, €13,067 for etanercept, and €9823 for infliximab. Added to existing therapies, RTX would lead to a gain of 0.632 QALYs at an additional total direct medical cost of €11,550 over each patient's lifetime. The corresponding incremental cost-effectiveness ratio (ICER) of RTX was €18,261 per QALY gained. Corresponding ICERs for drug therapy and total costs were €19,597 and €15,546 per QALY gained, respectively. Used in place of etanercept as second-line biologic DMARD, RTX + MTX were associated with lifetime drug cost-savings of over €17,000. **CONCLUSIONS:** Adding RTX to the pool of available treatment options for Spanish patients with RA who respond inadequately to anti-TNF therapy results in a favourable incremental cost per QALY gained. When RTX is replacing another biologic DMARD, the average annual drug therapy costs can be lowered.

PAR9**A PHARMACOECONOMIC EVALUATION FOR THE TREATMENT OF ARTICULAR PAIN IN PATIENTS WITH OSTEOARTHRITIS IN MEXICO**

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OBJECTIVES: Nonsteroidal antiinflammatory drugs (NSAIDs) are in widespread use for rheumatic diseases in Mexico, but can cause peptic ulcers and gastrointestinal bleeding and perforation. The purpose of this study was to evaluate cost—effectiveness ratios of celecoxib compared with NSAIDs and acetaminophen in adult patients with osteoarthritis in four hospitals in the Social Security Mexican Institute. **METHODS:** A decision tree model was developed using a Bayesian approach. The model simulated treatment of a hypothetical cohort of 1000 patients diagnosed with osteoarthritis during a time horizon of 6 months. Patients could initiate treatment with celecoxib, NSAIDs (diclofenac, naproxen) and acetaminophen. Conditional probabilities of the