macroeconomic evidence of TNF inhibitors in AS and to provide a critique of the methodology using Drummond’s 10-point checklist. METHODS: A systematic literature search was conducted by one researcher among publications in peer-reviewed journals from January 2000 to April 2006 through electronic databases (Medline, Embase, and Cochrane Database). Only studies that provided economic evaluations of TNF inhibitors in AS were included in the review. RESULTS: The search yielded a total of eight cost studies. Only four met study inclusion criteria. Three of the four studies were cost-effectiveness analysis and two of the four compared etanercept and infliximab in patients with AS. The analytical time frame ranged from one year to 30 years. Costs and effects were appropriately discounted and sensitivity analysis was conducted to test the robustness of the model assumptions. Outcomes were presented as cost per quality-adjusted life years (QALYs) or cost per Assessment in Ankylosing Spondylitis Response Criteria. The incremental cost-utility ratio of etanercept or infliximab varied between US $50,000-$250,000 per QALY when compared with usual care. CONCLUSION: The costs per QALY ratios for the TNF inhibitors seem to be a little higher than the normally accepted societal thresholds ($50,000/QALY). The heterogeneity in the cost-effectiveness results could be due to factors like patient demographics, funding source and methodological variables. Nonetheless, TNF inhibitors are a valuable treatment option and further pharmacoeconomic analyses need be conducted to fully evaluate their potential in patients with AS.

OBJECTIVES: To assess the utilization patterns and costs for health care services for chronic arthritis treatment among children and adolescents enrolled in a state Medicaid program. METHODS: A cross-sectional, descriptive analysis of a state Medicaid administrative claims dataset was conducted. Medical services claims with a primary diagnosis code for rheumatic diseases (ICD-9-CM 696.0, 695.4, 710.X, 714.0, 714.2, 714.3X, and 720.X) during calendar year 2003 for recipients under 21 years of age were extracted. Prescription medication claims were extracted using de-identified unique recipient numbers obtained from medical services claims. Prevalence and medical services use rates were calculated by demographic categories. Costs were reported from the perspective of Medicaid. RESULTS: There were 171 children and adolescents who used medical services for care of chronic arthritis, at an overall rate of 0.8/1000 recipients. The highest rates by demographic groups occurred among females (1.0/1000), whites (0.9/1000), and recipients between 15–20 years of age (1.9/1000). Office visits accounted for the majority of medical services utilized (99%), at a rate of 3.4 visits/1000 recipients. Medicaid paid approximately $415/child and adolescent recipient for chronic arthritis-related medical services during the year. Dollars paid for office visits accounted for 85% of the medical services costs at an average cost of $86 per visit. A majority of the sample (63%) had a diagnosis for rheumatoid arthritis (RA)/juvenile rheumatoid arthritis (JRA). Among these children and adolescents, 62% had at least one prescription claim for a narcotic analgesic, NSAID, oral steroid, DMARD, or biologic agent at an average cost of $74/claim. CONCLUSION: The prevalence and medical services utilization patterns for chronic arthritis among children and adolescent recipients in this State Medicaid population differed by demographic characteristics. Office visits accounted for a majority of medical services use and dollars. Most of the children and adolescents with chronic arthritis had a diagnosis for RA/JRA.

OBJECTIVES: Mixed treatment comparison is a generalisation of meta-analysis. Instead of the same treatment for a disease being tested in a number of studies, a number of different interventions are considered. Meta-regression is also a generalisation of meta-analysis which explains the heterogeneity between the treatment effects in the studies by regressing on study level covariables. Our focus is where there are several different treatments considered in a number of studies, and where differences in efficacy can be explained by differences in the study settings. METHODS: We developed methods for simultaneously comparing several treatments and adjusting for study level covariables by combining ideas from mixed treatment comparisons and meta-regression. We use a case study from rheumatoid arthritis. We identified relevant trials of biologic verses standard therapy or placebo and extracted the doses, comparators and patient baseline characteristics. Efficacy is measured using the log odds ratio of achieving ACR50 responder status at 6 months. A random-effects meta-regression model is fitted which adjusts the log odds ratio of an ACR50 response if treated with a biologic therapy compared to placebo for study level prognostic factors. The logit probability of a response is regressed onto a treatment indicator and prognostic covariables. A different random effect distribution on the log odds ratios is allowed for each different treatment. This enables the odds ratio for each treatment to be found as a function of the prognostic factors. RESULTS: The apparent differences in the randomised trials between TNF antagonists biologics are explained by differences in prognostic factors and the analysis suggest that these drugs as a class are not different from each other. CONCLUSION: We define a methodology for combining meta-regression techniques with ideas from mixed treatment comparisons. This allows different treatments for the same condition to be compared whilst adjusting for difference in the study populations.

OBJECTIVES: To evaluate switching patterns among anti-TNF in rheumatoid arthritis (RA) patients. METHODS: A retrospective study utilizing the PharMetrics managed-care claims database was conducted. The first anti-TNF encounter among RA patients between January 1, 2001 and January 1, 2004 was identified. Patients were required to have a minimum of 12-months of continuous plan eligibility prior to and following their index date. Three mutually exclusive cohorts were developed based on their index biologic therapy (infliximab, etanercept and adalimumab) plus methotrexate (MTX). The rates of switching and
A COMPARISON OF THERAPEUTIC PERSISTENCE AMONG ANTI-TUMOR NECROSIS FACTORS (ANTI-TNFs) IN THE TREATMENT OF RHEUMATOID ARTHRITIS
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OBJECTIVES: To evaluate persistence of anti-TNF treatment among rheumatoid arthritis (RA) patients utilizing a managed care database. METHODS: A retrospective study utilizing the PharMetrics managed care claims database was conducted. The first anti-TNF (infliximab, etanercept, or adalimumab) encounter (index date) among RA patients between January 1, 2001 and January 1, 2004 was identified. Patients were required to have a minimum of 12-months of continuous plan eligibility prior to and following their index biologic date. Three mutually exclusive cohorts were developed based on their index biologic; infliximab plus methotrexate (MTX); etanercept plus MTX; and adalimumab plus MTX. Anti-TNF persistence (%) was defined as the number of days between the first biologic prescription and their last biologic encounter, divided by 365 and multiplied by 100. Both univariate and multivariate analyses were applied to determine if differences in persistence existed between the three cohorts. RESULTS: A total of 1242 patients were analyzed consisting of 490 (39.4%) infliximab plus MTX; 607 (48.9%) etanercept plus MTX; and 145 (11.7%) adalimumab plus MTX. Over two-thirds of the patients were female and the mean age was 50.0 years. The Charlson Co-morbidity Index and disease staging were similar among the three cohorts. During the 12 months follow-up, 39 patients (7.9%) in the infliximab plus MTX cohort switched compared to 72 patients (11.9%) in the etanercept group and 23 patients (15.9%) in the adalimumab group. Chi-Square analyses indicated the differences were statistically significant (p < 0.05) as compared to the infliximab plus MTX cohort. The infliximab group had an average time of 195.9 days before switching, compared to 183.1 days in the etanercept group, and 165.3 in the adalimumab group; this was not statistically significant. CONCLUSION: The rate of switching and time before switching are important measures of the effectiveness of RA treatment in real world practice. This study found that infliximab plus MTX is associated with a longer time before switching and a significantly lower switching rate, as compared to the other anti-TNFs. Further studies are needed to evaluate the impact of switching on clinical and economic outcomes.

A FIVE-YEAR LONGITUDINAL ANALYSIS COMPARING DOSE CHANGES FOR PATIENTS WITH RHEUMATOID ARTHRITIS TAKING INFlixIMAB IN A MEDICARE AND IN A COMMERCiALLY INSURED POPULATION
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OBJECTIVES: To compare dosing stability and dose changes, through a retrospective database analysis, for rheumatoid arthritis (RA) patients taking infliximab over five years. METHODS: We utilized medical and pharmacy claims data from the Medstat MarketScan database. The sample consisted of “new starts” for infliximab users in the commercial and Medicare population: (a) with a diagnosis of Rheumatoid Arthritis (RA) (ICD-9 714.xx), (b) who had at least three documented administrations of infliximab between 1999 and 2005, (c) who had no prescription history for any TNF blocker for a 6 month period prior to the index infusion, and, (d) who were continuously enrolled for a minimum of 365 days after their index infusion. We examined the proportion of infliximab users who showed an increase, decrease, or no change in dose over time in both groups. RESULTS: Medicare infliximab users (n = 729) were older (mean age = 73 years) with higher co-morbid scores (mean score = 9.71) than commercial users (n = 1903, mean age = 50 years, mean score = 3.83). Following the index infusion, 30.4% of commercial and 17.7% of Medicare users showed no change; 24.6% of commercial and 43.1% of Medicare users showed a decrease; and 44.9% of commercial and 39.2% of Medicare members showed an increase in their dose. For the five-year period, the total average dose change between the first and last infusion was 24 mg for the Medicare group and 44 mg for the commercial group. Medicare members also had a lower starting dose than commercial members (328 mg vs. 366 mg). CONCLUSION: This study demonstrates that there is dose stability in RA patients treated with infliximab, as the dose changed on average, by less than 3% per year over the five-year period. Further research is needed to evaluate the impact of dose changes on clinical and economic outcomes.

ARTHRITIS AND HEALTH-RELATED QUALITY OF LIFE AMONG ADULTS IN OHIO
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OBJECTIVES: Clinicians have long observed a link between physical pain and a compromised quality of life among the clinical population. However, little is known about the association between arthritis and the quality of life in the general population. This study is designed to identify the impact of arthritis on the quality of life among adults. METHODS: The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based, random-digit-dialed telephone survey of the non-institutionalized U.S. population aged 18 years and older. The Ohio BRFSS-2005 survey, containing 7498 adults was analyzed. As a measure of Health–Related Quality of Life, the number of “unhealthy days” during the preceding 30 days was surveyed. All information was self-reported. RESULTS: Approximately the same proportion of adults in different age groups experienced at least one physical unhealthy day in the general adult population (35.6%, 18–44 years old; 37.3%, 45–64 years old; 36.3%, 65 years old