was 14.10, 14.05 for LF, and 14.02 for PNF. Both LF and PNF were dominated by CCH. Sensitivity analysis confirmed the model was sensitive to changes in clinical efficacy. Cost-effectiveness acceptability curves indicated that CCH was most likely to be cost-effective across a wide range of willingness to pay, including values over $100,000 per QALY gained. **CONCLUSIONS:** CCH was less expensive and was associated with slightly more QALYs than LF and PNF for treatment of Dupuytren's contracture.

PMS30
COST-EFFECTIVENESS OF BISPHOSPHONATES IN REDUCING HIP FRACTURES IN THE UNITED STATES

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OBJECTIVES: The cost of hip fractures associated with osteoporosis have become a growing burden on the US health care system. Cost-effective treatments are needed to prevent hip fractures in postmenopausal women with osteoporosis and reduce the amount of resources consumed by these preventable events. The objective of this study was to develop a decision tree model to assess the cost-effectiveness of four treatment options: alendronate, risedronate, ibandronate and a "no treatment group" for the prevention of hip fractures. **METHODS:** A decision tree model was developed from the third-party payer perspective using published efficacy results from randomized controlled trials. Patients were assumed to have osteoporosis, aged ≥ 65 years, be fully adherent and unable to change or discontinue medication therapy. The incidence of hip fracture was estimated from the literature. Medication costs were assigned from published wholesale acquisition costs (WAC) by First DataBank. The mean cost of hip fractures and all direct costs associated with 12-month post-fracture treatment were estimated from the literature. All costs were adjusted to 2011 dollars. **RESULTS:** Alendronate 70 mg once weekly dominated the "no treatment" and the ibandronate treatments. The risedonrate 35 mg to alendronate 70 mg incremental cost-effectiveness ratio (ICER) demonstrated that for every $469,553 spent one additional hip fracture would be avoided. These results were consistent throughout the one-way sensitivity analysis, which varied the cost per hip fracture and the efficacy of each medication. When the incidence of hip fracture was assumed to be 3.57%, risedronate also dominated the" no treatment" and ibandronate groups. **CONCLUSIONS:** Alendronate 70mg once weekly was dominate in preventing hip fractures compared to risedonrate, ibandronate and no treatment. The risedronate to alendronate ICER demonstrated that the cost to avoid one hip fracture was $469,553 – typically beyond most payers' willingness to pay.

PMS31
COST-EFFECTIVENESS ANALYSIS OF GOLIMUMAB FOR THE TREATMENT OF RHEUMATOID ARTHRITIS

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OBJECTIVES: Rheumatoid arthritis (RA) affects ∼1.3 million Americans, accounting for 9 million physician visits and >250,000 hospitalizations annually. Drug therapy is costly but essential. This study evaluates the cost-effectiveness of golimumab, a recently approved TNF-α inhibitor (TNF-I) compared with existing agents (infliximab, etanercept, adalimumab), when given in combination with methotrexate (MTX) from a third-party payer perspective. **METHODS:** A Markov model was constructed to follow a hypothetical cohort of 10,000 patients with active RA who received one of the four TNF-I and MTX across patient life-time. The primary effectiveness outcomes were the American College of Rheumatology (ACR)-20 response rates mapped to health assessment questionnaire-scores to derive quality-adjusted life-years (QALYs). ACR-20 rates were derived from a systematic review of efficacy trials. Long-term drug withdrawal rates were derived from observational studies. Data for drug, administration, monitoring, toxicity and RA-related direct costs were derived from the literature. Incremental costs (2011 US$) per QALY were compared between TNF-Is. One-way and probabilistic sensitivity analysis (PSA) techniques were employed to examine effects of various assumptions and parameter uncertainty. **RESULTS:** Golimumab+MTX generated the highest per-person QALYs (3.75 QALY), whereas infliximab+MTX strategy generated the least QALYs (3.57). Infliximab+MTX resulted in the least direct costs of $317,455 over the patient's life-time compared to etanercept+MTX ($324,855), adalimumab+MTX ($323,503) and golimumab+MTX ($324,159). The base-case incremental cost-effectiveness ratios (ICERs) foretanercept+MTX, adalimuamab+MTX, and golimumab+MTXcompared to infliximab+MTX were $69,211, $44,465 and $38,255/ QALY, respectively. Golimumab+MTX dominated etanercept+MTX, while the ICER for golimumab+MTX vs adalimumab+MTX was $16,729/QALY. In one-way sensitivity analyses, these results were robust to a range of assumptions except for dosing of infliximab and long-term withdrawal rates. In the PSA, the probability of golimumab being cost-effective at the commonly accepted $50,000/QALY threshold was 0.29. **CONCLUSIONS:** Golimumab appears to be a cost-effective treatment option for RA compared to existing TNF-Is.

PMS32
THE COST EFFECTIVENESS OF CELECOXIB VERSUS NSAIDS+PPI IN THE TREATMENT OF OSTEOARTHRITIS IN ALGERIA; AN UPDATE TO THE NICE MODEL USING DATA FROM THE CONDOR TRIAL

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OBJECTIVES: Nonsteroidal antiinflammatory drugs (NSAIDs) plus a proton pump inhibitor (PPI) are in widespread use for rheumatic diseases in Algeria, but can cause peptic ulcers and gastrointestinal bleeding and perforation. The National Institute for Health and Clinical Excellence (NICE) health economic model for assessing the cost-effectiveness of celecoxib compared to multiple NSAIDS+PPI in the treatment of osteoarthritis has been updated using new adverse event (AE) risks from the CONDOR trial. In light of this new information, this study aimed to evaluate the incremental cost-effectiveness ratio (ICER) of celecoxib compared to different NSAIDS +PPI. **METHODS:** The NICE model was adapted for this study to update the relative risks of adverse events; using data from the CONDOR trial for patients above 65yrs. Patients could initiate treatment with celecoxib, NSAIDs (diclofenac, naproxen, ibuprofen) plus omeprazole. Conditional probabilities of the model were obtained from published clinical trials and effectiveness measure was the Quality-Adjusted life years gained (QALY). The analysis was conducted from the healthcare payer's perspective. Resource use and costs were obtained from official Algerian databases. Probabilistic sensitivity analysis (PSA) was performed and acceptability curves were constructed. **RESULTS:** Celecoxib showed on the six-months period lower expected costs per patient (US$422.84) compared to naproxen+PPI (US$445.79) and ibuprofen+PPI (US$775.11). The lowest expected costs resulted for diclofenac+PPI (US$257.10). On the other hand, celecoxib was associated with higher effectiveness (0.398 QALYs), followed by ibuprofen+PPI (0.393 QALYs) and naproxen+PPI (0.392 QALYs). Likewise, celecoxib has an ICER of US$343.81 per QALY compared to diclofenac which is below 1 GDP per capita for Algeria (US$7,300). Acceptability curves showed the same results with a mean of 65.5% of certainty. **CONCLUSIONS:** (DISCUSSION): The results suggest that when new AE risks are used, celecoxib remains a cost-effective treatment for OA when compared to diclofenac plus a PPI and cost-saving when compared to naproxen+PPI or ibuprofen+PPI.

PMS33
COST-EFFECTIVENESS AND BUDGET IMPACT ANALYSIS OF VISCOSUPPLEMENTATION WITH ORTHOVISC™ (HYALURONAN) IN KNEE OSTEOARTHRITIS, FROM THE BRAZILIAN PRIVATE HEALTH CARE SYSTEM PERSPECTIVE

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OBJECTIVES: Osteoarthritis is a major cause of musculoskeletal pain and inability to work. Evidence shows that clinical improvement after viscosupplementation (VS) is able to delaying the average time until total knee arthroplasty (TKA) indication. This study aimed to conduct cost-effectiveness and budget impact analysis (BIA) of viscosupplementation with Orthovisc™ (Hyaluronan) versus conservative treatment in Kellgren & Lawrence(K&L) grades II and III knee osteoarthritis (KOA) from the Brazilian private health care system perspective. **METHODS:** A 3-year time horizon Markov simulation model was developed to project costs and outcomes associated to KOA progression. Patients could start in 'Orthovisc™ Treatment' (conservative treatment + Orthovisc™) or 'Conservative Treatment' states and then transit (6-month cycle duration) in states 'TKA', 'Post-operative' and 'Death' according to transition probabilities extracted from systematic review. Only direct medical costs were considered and collected from Brazilian private official databases. Outcome was expressed as 'avoided TKA procedure'. BIA was developed for a hypothetical private health insurance cohort of 10,000 patients over 50 years. Univariate sensitivity analyses were performed for main parameters. A 5% annual discount rate was applied for costs and benefits. **RESULTS:** For a hypothetical 1000 patient's cohort in a 3-year time horizon, 34TKA were performed in Orthovisc™ group versus 164TKA in conservative treatment group, avoiding 130 TKA procedures. Total costs per group were 17,367,259BRL and 17,494,500BRL for Orthovisc™ and conservative treatment groups, respectively, with an incremental cost of -127,241BRL. Sensitivity analysis showed cost-saving results for years 2 and 3. BIA showed savings of 180,401BRL for the private health insurance and 99TKA avoided in a 3-year time horizon. **CONCLUSIONS:** Viscosupplementation treatment, based on a Markov simulation model using Orthovisc™ data, in K&L grades II and III KOA showed to be cost-saving regarding avoided TKA in a 3-year time horizon over conservative treatment at Brazilian private health care system, leading to reduction in costs and surgical procedures.

PMS35
THE COST-EFFECTIVENESS OF PEGLOTICASE IN THE TREATMENT OF REFRACTORY CHRONIC GOUT

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OBJECTIVES: Refractory Chronic Gout (RCG) affects approximately 4% of patients with gout. It is characterized by failure to achieve normal serum uric acid levels or adequately control gout signs and symptoms with xanthine oxidase inhibitors at the maximum medically appropriate dose, or by contraindication to the use of these drugs. Pegloticase was recently launched in the US for treatment of RCG. **METHODS:** We developed a two-part sequential model: 1) the first 6 months represented as a decision tree; and 2) the remaining years as separate empirical forecasts. We modeled the severity of RCG as a combination of flares/year and tophi status. We used data from two replicate, randomized, double-blind, placebo-controlled trials (C0405 and C0406), which were conducted between June 2006 and October 2007 in 56 rheumatology practices. The comparator group is placebo. To model disease progression, we employed a vector autoregression methodology to approximate Markov Chain transition probabilities. We estimated utility regressions from NHWS and use a blended cost of $2600/vial. **RESULTS:** For a 20-year time

horizon model with 6-months of treatments every 5-years (3% discount rates for cost and utilities), the projected incremental cost-effectiveness ratios (ICERS) for 3-5 flares + No Tophi and >6 flares + No Tophi were $60,000K and $2,000K, respectively. For the remaining gout states of RCG (3-5 flares + Tophi and >6 flares + Tophi), pegloticase strictly dominates the placebo, producing better outcomes at lower cost. Weighting these gout groups by their relative prevalence, the population mean ICER shows pegloticase as dominant versus placebo. Given the initial cost of therapy, the ICER varies depending on the timeframe: for: 3, 5, and 10-years, the population ICERs are $68,000, $47,000, and $5,000, respectively. **CONCLUSIONS:** Pegloticase is projected to be cost-effective compared to placebo treatment for treating patients with RCG. The ICERs compare favorably with many technologies in widespread use.

PMS36

COST MINIMIZATION ANALYSIS WITH RITUXIMAB IN THE MANAGEMENT OF RHEUMATOID ARTHRITIS (RA) FROM THE MEXICAN PUBLIC PERSPECTIVE

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OBJECTIVES: To identify which is the alternative that minimizes costs in the treatment of Rheumatoid Arthritis with biological therapy in Mexico. **METHODS:** A cost minimization evaluation was done, comparing alternatives considered comparable in effectiveness in the management of RA in adult patients (Infliximab, Etanercept and Adalimumab, Rituximab, Tocilizumab) in a 9-year horizon. Since the frequency of retreatment with Rituximab hasn't been standarized, the assumption of the retreatment scheme of every 9 months as the average of the standards was taken in account. Costs are expressed in US dollars. **RESULTS:** The total cost for 9 years with Rituximab was the lowest ($ 74,040), followed by Tocilizumab ($ 75,328), Etanercept ($ 76,034), Adalimumab ($ 89,490) and Infliximab ($ 91,543), generating savings with Rituximab of $ 1,288, $ 1,994, $ 15,450 and $ 17,503 respectively. Likewise, Rituximab was the alternative with the lowest number of applications (26), compared with Tocilizumab (117), Etanercept (468), infliximab (60) and Adalimumab (234). In the budget impact analysis, assuming that 100% of the patients are treated with Rituximab, the health facility could generate savings and therefore could gain access to biological therapy to more patients tan if they were treated under a scheme without Rituximab. The results of the sensitivity analysis, taking as a variable number of applications of Rituximab year showed, with an 85.44% of probability, that rituximab is shown to be the least costly alternative compared with Infliximab; 74.09% compared with Adalimumab; 53.17% compared with Etanercept, and with 51.38%, Rituximab is also less expensive compared to Tocilizumab. **CONCLUSIONS:** Rituximab proved to be an alternative that minimizes costs, generating savings and allowing greater access to therapy for patients with RA, offering benefits to health institutions, not only improving the quality of care with an innovative therapy, but also allowing significant cost savings.

PMS37

PRODUCTIVITY LOSS OF ANKYLOSING SPONDYLITIS PATIENTS IN TURKEY DUE TO SICK LEAVE

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OBJECTIVES: To demonstrate the effect of ankylosing spondylitis (AS) on sick leave and estimate the productivity loss due to the absenteeism. **METHODS:** Patients diagnosed with AS who attended to tertiary-care outpatient rheumatology clinics consecutively were evaluated for demographics, disease characteristics, treatment regimens, WLQ, HAQ, BASDAI, and BASFI. Productivity loss, was calculated based on the interim analysis results of this ongoing observational study. Data on total days of sick leave in the last three months was used for the estimation of one-year absenteeism. Additionally, the relationship between the sick leave and BASFI scores was evaluated. **RESULTS:** Results from a total of 402 AS patients were analyzed. Among 220 patients (180 male (82 %); mean age 36.4 years; mean disease duration 7.7 years) in paid employment, 56.4 % had sick leave over a period of 3 months and the mean duration of sick leave they reported on average was 8 days (95% CI: 5.2-10.8). This duration was extrapolated to a total of 32 days per year. Based on the national statistics, the average daily productivity loss for Turkey is 91.7 TL (calculated by dividing the average monthly productivity loss by 20). The annual productivity loss was calculated as 2934.4 TL (1198 €) per patient due sick leave caused by AS. Besides, 40.7% of these patients who reported sick leave needed to get support from their relatives or friends for their daily routine activities. The mean BASFI score was 27.88 for patients who reported sick leave, while it was 22.3 for patients who did not and the difference is statistically significant. **CONCLUSIONS:** Annual productivity loss due to sick leave caused by AS is 1198 € per patient and there is a statistically significant difference between the BASFI scores of those patients who had sick leave and those who did not.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PMS38

GOLIMUMAB DOSING AND REFILL COMPLIANCE PATTERNS IN RHEUMATOID ARTHRITIS

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OBJECTIVES: This study reports dosing and refill compliance patterns observed in golimumab (GLM) -treated rheumatoid arthritis (RA) patients. **METHODS:** A retrospective study was conducted of adult RA patients with ≥2 GLM prescriptions between April 24, 2009 and December 31, 2010; ≥ 1 RA diagnosis during the study period; continuous activity in the Source® LX database (≥6 months pre; ≥6 months post index prescription) and a 28-31 day GLM supply. Refill compliance was defined as occurring ± 1 week of the expected 28-31 day (d) interval. The percent of compliant GLM refill intervals and the percent of patients with refill compliance at the 6th GLM dose were assessed. Descriptive statistics were used to characterize the study population. **RESULTS:** A total of 1103 RA patients and 6432 GLM refill intervals were observed. The sample was 82% female; mean age of 53 years with 63% bio-experienced. A 50 mg GLM dose was found in 98% of all fills. Mean ± SD refill interval was 35.7±22.0 d; median was 31 d. Refill intervals were 35.4±21.3 d in bio-experienced patients and 36.3±23.0 d in bio-naïve patients; median was 31 d in both subgroups. Refill compliance was observed in 80% of all intervals. Refill compliance at the 6th GLM dose was achieved by 84% of patients overall. **CONCLUSIONS:** In this retrospective analysis of an administrative claims database, 98% of GLM doses were 50 mg with approximately once monthly refill intervals. Refill compliance was observed in 80% of all GLM refills and in greater than 80% of RA patients at the sixth GLM dose. Median refill interval and refill compliance appeared similar in bio-experienced and bio-naïve subgroups. Further study of these trends using additional data sources are desired to substantiate these preliminary findings.

PMS39

LONG TERM MEDICATION ADHERENCE OF ADALIMUMAB AND ETANERCEPT AMONG RHEUMATOID ARTHRITIS PATIENTS IN KAISER PERMANENTE SOUTERN CALIFORNIA

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OBJECTIVES: The study objectives were to compare long term medication adherence among first time adalimumab and etanercept users over a three-year follow up period, and to identify factors that were associated with high medication adherence. **METHODS:** A total of 1672 adult (≥ 18 years) rheumatoid arthritis (RA) patients who were first time adalimumab (N=382) or etanercept (N=1290) users between January 1, 2003 and December 31, 2007 in the Kaiser Permanente Southern California (KPSC) Health Plan were included. Subjects were required to have at least two RA diagnosis records and disease-modifying anti-rheumatic drugs (DMARDs) use within one year after the first diagnosis. Continuous enrollment one year prior, and three years after the initiation (index date) of adalimumab and etanercept treatment was required. First time users were defined as subjects who did not use adalimumab or etanercept in the 12-month period prior to index date. Medication adherence was measured through proportion days covered (PDC). Association of long term high adherence with age, gender, race, insurance type, comorbidity and history of oral DMARDs were estimated using Poisson regression with robust standard errors. **RESULTS:** The mean age, gender and race distribution were 52.5 years old, 80.4% female, and 34.0% non-whites in adalimumab group; 53.3 years old, 77.9% female, and 36.2% non-whites in etanercept group. The adherence rate in one-year, two-year and three-year follow up in adalimumab group was 0.63, 0.52 and 0.46, and in etanercept group was 0.69, 0.59 and 0.53. The incidence rate ratio (IRR) of adalimumab was 0.78 (95% CI: 0.68 -0.90), 0.73 (95% CI: 0.61-0.88), and 0.70 (95% CI: 0.56-0.87) in one-year, two-year and three-year follow up respectively. Age and history of oral DMARDs were significantly associated with adherence. **CONCLUSIONS:** This study highlighted a relatively lower long term adherence rate in adalimumab users as compared to etanercept users in adult RA patients within KPSC.

PMS40

MEDICATION ADHERENCE AMONG PATIENTS WITH RHEUMATOID ARTHRITIS

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OBJECTIVES: The main objective of this study was to assess the medication adherence among individuals with rheumatoid arthritis (RA) enrolled in a state Medicaid fee-for-service (FFS) program. Factors influencing medication adherence were identified. Lastly, the role of adherence in influencing the utilization of acute care services (hospitalization/emergency room visit) was ascertained. **METHODS:** The target population included nonelderly adult recipients (21-64 years) who were continuously enrolled in the Mississippi Medicaid FFS program from January 1, 2006 to December 31, 2007. Recipients who had a medical services claim with a primary or secondary diagnosis of RA in calendar year 2006 were identified. Medication adherence (measured as proportion of days covered (PDC)) was determined using calendar year 2007 data. Recipients with adherence (PDC) ≥80% were classified as adherent. Logistic regression analyses were used to determine factors predicting medication adherence and the effect of adherence on acute care services utilization. **RESULTS:** Roughly 20% of recipients with RA were adherent. Older age (odds ratio (OR) = 1.031; $p<0.005$), white race (OR= 1.684; $p<0.005$), and lower Charlson comorbidity index (CCI) score (OR= 0.785; $p<0.005$) were significant predictors of adherence. Adherence did not have a significant association with acute care services utilization after controlling for demographic and disease-related covariates. **CONCLUSIONS:** Only one in five Medicaid recipients with RA were found to be adherent. Lower levels of adherence among individuals with RA could contribute to poor outcomes in these individuals over time. Policy makers should undertake intervention programs aimed at increasing medication adherence in this underprivileged population.