OBJECTIVES: The purpose of this study is to examine the cost-effectiveness (CE) of rofecoxib versus NSAIDs in the treatment of osteoarthritis. METHODS: The authors used decision-analysis from a societal perspective to model a hypothetical cohort of osteoarthritis patients on long-term NSAID therapy. Incremental cost per QALY (C/QALY) estimates were calculated for a hypothetical trial population and for patients at high risk of G.I. adverse events. High-risk patients were defined in the literature as having four risk factors combined: history of G.I. bleeds, history of peptic ulcer, cardiovascular disease and age 75 years or greater. All costs were expressed in 1997 prices. Utility estimates were obtained from a separate analysis of pharmacy claims data including the Health Utilities Index Mark 2 from a large HMO. Confidence intervals were assessed using the maximum and minimum values from the literature. Univariate sensitivity and threshold analysis were conducted. RESULTS: The C/QALY range is $5,658 to $108,831 for osteoarthritis patients; base case C/QALY is $103,597 for all osteoarthritis patients, $9,374 for high-risk patients. Rofecoxib is cost-effective (C/QALY < $50,000) if the incidence of perforations, ulcers and bleeds (PUB) is 0.098 per year or greater. Sensitivity: the most sensitive parameters were: symptomatic dyspepsia utility; rofecoxib price; symptomatic peptic ulcer utility; incidence of G.I. symptoms; NSAID price and incidence of PUBs. However, the parameters with greatest uncertainty and variability in the literature are incidence of PUBs and G.I. symptoms. CONCLUSION: The point estimate C/QALY of rofecoxib for all osteoarthritis patients varies from very cost-effective to not cost-effective depending on assumptions for the probability of PUBs and G.I. symptoms. Rofecoxib is cost saving for patients at high risk of developing G.I. complications.

THE CORRELATION BETWEEN ARTHRITIS SPECIFIC MEASURES AND SF-36 SCALES IN RHEUMATOID ARTHRITIS PATIENTS
Lubeck DP, Yelin E, Katz P, Roepke L, Wanke L, Buatti M
1 University of California-San Francisco, San Francisco, CA, USA; 2 Immunex Corporation, Seattle, WA, USA; 3 Wyeth-Ayerst Research, Philadelphia, PA, USA

OBJECTIVE: To evaluate the correlation between general measures of function and well-being, as measured by the 8 domains of the SF-36, with arthritis specific measures of function and symptom frequency. METHODS: We identified 606 patients from a longitudinal, observational study of RA (RAPOLO). Patients completed telephone interviews about arthritis specific function (HAQ, RA Status and Symptoms), the SF-36 domains, Physical and Mental Summary Scores (PCS, MCS) and the Arthritis Specific Health Index (ASHI). We present correlations between the SF-36 domains, PCS, MCS and ASHI with selected arthritis measures. All correlations are presented as absolute values. RESULTS: All correlations were in the anticipated direction. A correlation >0.6 = good–excellent, and <0.4 = below average. The HAQ was highly correlated with the SF-36 physical scales, and had weak correlations with the emotional function scales and the ASHI. Other arthritis specific scales (joint swelling, joint pain, morning stiffness, RA fatigue and RA pain) were strongly correlated with the ASHI, the SF-36 pain, physical function, role function-physical and energy/fatigue scales; and had weak correlations with the emotional functioning and general health scales. CONCLUSIONS: In RA patients, the SF-36 measures aspects of functioning and well-being not covered by the arthritis specific measures, especially in the areas of emotional functioning. This is indicated by the moderate to weak correlations between the arthritis specific measures and the domains of emotional function, role emotional function, and mental health and the MCS.

COST COMPARISON OF TREATING OSTEOPOROSIS PATIENTS WITH ESTROGENS OR SELECTIVE ESTROGEN RECEPTOR MODULATOR IN A MANAGED CARE POPULATION
Liao E, Sweazy L, Huse D
PharMetrics, Inc, Watertown, MA, USA

OBJECTIVE: To compare osteoporosis treatment charges among patients treated with an estrogen versus a selective estrogen receptor modulator (SERM) in a managed care population. METHODS: Patients 40 years of age with a
diagnosis of osteoporosis between January 1 and June 30, 1999 and 2 pharmacy claims for an estrogen or SERM were selected from the PharMetrics Integrated Outcomes Database. Patients were excluded if they had less than 6 months of continuous enrollment following the first (index) prescription claim for an estrogen or SERM or received other drugs for osteoporosis, such as bisphosphonates or calcitonin-salmon. The frequency of hip, vertebral, forearm/wrist or other fracture and/or related surgical procedures and osteoporosis-specific charges were assessed over the 6-month period following the index prescription. RESULTS: 252,892 patients met the selection criteria, including 245,650 treated with estrogen and 7,242 with SERMs. The estrogen cohort was significantly younger than the SERM cohort (mean age: 54.3 vs. 59.0 years, p < 0.001) and had less frequent fractures/surgical procedures (1.0% vs. 1.6%, p < 0.001). The SERM group had higher mean osteoporosis-related pharmacy ($309 vs. $106) and medical charges ($73 vs. $29) resulting in a total charge difference of $247 (p < 0.001). Stratified analyses indicated that the SERM cohort had consistently higher mean charges across all age ranges compared to the estrogen cohort. CONCLUSION: In this initial cost comparison between SERM and estrogen therapy for osteoporosis, short-term (6-month) osteoporosis-related charges were significantly higher in the SERM group primarily due to the difference in drug costs. Longer-term studies are required to examine all of the costs associated with these therapies.

COST COMPARISON OF TREATING RHEUMATOID ARTHRITIS PATIENTS WITH COX-2 INHIBITORS OR NSAIDS IN A MANAGED CARE POPULATION

Liao E, Kester G, Huse D
PharMetrics, Inc, Watertown, MA, USA

OBJECTIVE: To compare rheumatoid arthritis (RA) treatment charges with a cyclooxygenase-2 specific inhibitor (COX-2) versus a non-steroidal anti-inflammatory drug (NSAID) therapies in a managed care population.

METHODS: Patients with a diagnosis of RA between January 1 and June 30, 1999 who had prescriptions for COX-2s or NSAIDs were selected from the PharMetrics Integrated Outcomes Database. Patients were excluded if they had osteoarthritis or did not have 6 months of continuous enrollment following the first (index) COX-2 or NSAID pharmacy claim. COX-2 and NSAID-treated groups were compared on their demographics, comorbidities, and total RA-specific charges during the 6 month follow-up period.

RESULTS: A total of 5,261 patients met the patient selection criteria, including 668 who received COX-2 and 4,593 who received NSAID. The COX-2 group was older (53.7 versus 49.6 years, p < 0.0001) on average and more likely to have at least one comorbidity (46.0% vs. 31.9%, p < 0.001) compared to the NSAID group. They also had higher RA-related pharmacy ($914 versus $636) and medical charges ($611 versus $366). Total mean charges for the COX-2 cohort were $323 higher (p = 0.019) than the NSAID cohort. CONCLUSION: In this initial cost comparison between COX-2s and NSAIDs, the mean charge for a 6-month period with COX-2s was 27% higher than with NSAIDs, mainly due to higher pharmacy charges. Longer-term studies are required to examine whether the higher acquisition costs of COX-2 are offset by savings in the costs of treating gastrotoxicity.

THE IMPACT OF EARLY RHEUMATOID ARTHRITIS ON PRODUCTIVITY

Kim SS, Drabinski AM, Williams GR, Formica CA
Knoll Pharmaceutical Company, Mount Olive, NJ, USA

BACKGROUND: Rheumatoid arthritis (RA) leads to physical and psychosocial functional disabilities affecting productivity of patients in their daily activities. OBJECTIVE: to evaluate the impact of early RA on productivity.

METHODS: Baseline data was analyzed from the Study of New Onset Rheumatoid Arthritis (S.O.N.O.R.A.S.M), a five-year prospective, longitudinal, inception-cohort study to document long-term functional, clinical, and humanistic outcomes and patterns of treatment in patients with new onset RA. Telephone interviews were performed by trained interviewers to collect data on employment status, annual household income (AHI) and productivity at work and normal activities, outside of paid job (NAOPJ), including absenteeism over the past 4 months, reason for absenteeism, and effectiveness at working with arthritis symptoms (AS). RESULTS: One hundred thirty one patients completed the baseline survey. Mean age was 56 ± 15 years; 78% were female; 82% were Caucasian. Employment status reported was full-time (52%), part-time (2%), retired (26%), and other (20%). AHI were <$50,000 (63%), $50,000–74,999 (17%), >$75,000 (18%), and 2% refused to provide AHI. Ninety-one percent of patients were employed at a paid job. The mean absenteeism at work and NAOPJ were 4.3 days (SE = 1.1) and 25.9 days (SE = 3.3), respectively. Of the participants reporting absenteeism, 40% and 69% reported that the majority of absenteeism was due to AS for work and NAOPJ, respectively. Compared to their normal performance, patients were 78% and 64% as effective when working with AS at work and NAOPJ, respectively.

CONCLUSION: Despite new onset of RA in this population, negative impact on productivity was observed. A greater decline in productivity was reported for NAOPJ. This may imply that NAOPJ is compromised before work activities in early RA patients. Five-year follow-up of this population will provide further insight on productivity changes and the economic burden associated with progressive disease.