weekly cost exceeded $50 were more likely to discontinue than patients with lower costs (HR 1.59, P < 0.001). CONCLUSION: The majority of patients have very reasonable OOP for biologics. However, a small number of patients are burdened with high OOP costs. The adverse impact of high OOP on adherence and persistence needs to be considered when making decisions about increasing co-pays.

**PAR10**

**MANAGEMENT OF RHEUMATOID ARTHRITIS—FINDINGS FROM A CLAIMS DATABASE ANALYSIS**

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OBJECTIVES: Rheumatoid Arthritis (RA) imposes a significant burden of disease to both affected patients and the society as a whole. We performed the first German claims database analysis among members of a statutory health insurance fund to estimate RA treatment prevalence, to describe prescription patterns and assess overall disease burden. METHODS: We based our analysis on billing data from the years 2000 to 2004 of a German sickness fund covering 1.5 million beneficiaries. RA patients were identified by either inpatient or sick leave records due to ICD-10 codes (M05, M06) or at least two prescriptions of a disease-modifying drug (DMARD) or a TNF-α inhibitor. We excluded patients with a variety of co-medications and diagnoses, e.g. Psoriasis, Crohn's Disease and malignant disease. We specified treatment prevalence and patterns of RA disease management with DMARDs and TNFs in the selected population.

RESULTS: Out of the 728,111 beneficiaries continuously enrolled between 2000 and 2004 n = 5850 (mean age: 43 ± 14 years) fulfilled the inclusion criteria for RA. RA treatment prevalence, standardized to the general German population was 0.68% for men and 1.25% for women. 43% of the patients with RA were treated with DMARDs and 3.2% received TNF-α inhibitors. 26% of RA-patients were initiated on DMARD therapy by a general practitioner. Compared to the RA population as a whole patients receiving TNF-α inhibitors were characterized by a 2.6 fold number of sick leaves and a 6.4 fold number of hospitalizations in the year prior to therapy initiation.

CONCLUSION: The RA treatment prevalence found in this study is in line with local epidemiological research. As less than half of RA-patients had a prescription of a DMARD, this may indicate that therapeutic standards are not met. TNF-α inhibitors are mainly prescribed in a high burden RA subpopulation.

**PAR11**

**ECONOMIC EVALUATION OF BIOLOGIC RESPONSE MODIFIER SPECIALTY PHARMACY PRIOR AUTHORIZATION PROGRAM**

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OBJECTIVES: The purpose of this study was to evaluate the impact of specialty pharmacy prior authorization (SPA) program on prescription costs for the biologic response modifiers (Amveve, Enbrel, Humira, Kineret, Raptiva, and Remicade)—a new class of medication for the treatment of several disease states, such as Rheumatoid Arthritis. METHODS: Prescription data were obtained from a pharmacy benefit manager’s pharmacy claims database. This study used a retrospective case-control one-to-one matching approach based on patient age, gender, and client characteristics including the number of eligible members, client type and region. The case clients had enrolled in the SPA program in January 2005 and had remained part of the program by December 31, 2005. Clients whose members did not use the biologic response modifiers were excluded from the study. Per eligible member per month (PMPM) total costs was the outcome measured.

RESULTS: The average PMPM total, plan and member costs were $1.33, $1.30, and $0.03 in the case group, while the average PMPM total, plan and member costs were $1.51, $1.47 and $0.04 in the control group. Clients who implemented a specialty pharmacy prior authorization program for the biologic response modifiers saved an estimated PMPM total cost of $0.18. CONCLUSION: Implementing a specialty pharmacy prior authorization program reduced prescription drug costs for the biologic response modifiers.

**PAR12**

**INCREASE IN ECONOMIC BURDEN OF HIP AND KNEE REPLACEMENTS IN THE UNITED STATES: ESTIMATED FROM THE HEALTH CARE COST AND UTILIZATION PROJECT—NATIONAL INPATIENT SURVEY**

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OBJECTIVES: A major component of the economic burden associated with the treatment of arthritis relates to surgical joint replacement of the hips or knees. The objective of this study is to compare the burden of hip/knee replacements performed in the U.S. in the year 2000 and 2004. METHODS: The Health care Cost and Utilization Project—National Inpatient Survey” (HCUP-NIS) was analyzed to estimate the changes in the burden of hip and knee replacements in the U.S. The HCUP itself is a compilation of billing data which can yield estimates of national hospital charges as well as the total number of hip and knee replacement procedures. In 2004, the HCUP-NIS database contained nearly 8 million records from about 1000 hospitals. The ICD-9-CM procedure codes used in identifying patients are 81.51 (total hip replacement) and 81.54 (Total/partial knee replacement).

RESULTS: In the year 2004, approximately 223,900 total hip replacement and 431,458 total knee replacement procedures were performed in the U.S. This is a 37% increase in hip replacement procedures and a 53% increase in total knee replacements compared to the year 2000 (164,458 total hip replacement and 281,534 total knee replacement). In terms of economic burden, the national bill of hospital charges increased by 111% (from $10.8 billion in year 2000 to $22.9 billion in year 2004). CONCLUSION: The data shows a steep increase in the burden of joint replacements. Not considering pre and post-operation care, the estimated hospital charges for joint replacements alone were nearly 22.9 billion dollars in the United States during the year 2004. This data, however, does not provide reasons of steep increase in the burden of joint replacements during this four year period. Further study is needed to address these issues.

**ARTHRITIS—Methods & Concepts**

**PAR13**

**TUMOR NECROSIS FACTOR INHIBITORS—A PHARMACOECONOMIC REVIEW OF ITS USE IN ANKYLOSING SPONDYLITIS**

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OBJECTIVES: The introduction of tumor necrosis factor (TNF) inhibitors such as etanercept and infliximab has represented a critical advance in the available treatments for patients with Ankylosing Spondylitis (AS). Several clinical studies have shown superior efficacy of TNF inhibitors, but high costs and infrequent instances of serious adverse side effects ask for priority setting. The aim of this review was to identify and summarize the phar-