experience, including preference for GLM and the auto-injector over previous medication and injection device.

MUSCULAR-SKELETAL DISORDERS – Health Care Use & Policy Studies

PMS67

ASSOCIATION BETWEEN RESTRICTIONS ON CELECOXIB USE AND HEALTH CARE UTILIZATION AND COSTS IN MEDICARE BENEFICIARIES WITH ARTHRITIS

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OBJECTIVES: To examine the association between access restrictions on celecoxib use and healthcare costs in Medicare patients with arthritis. **METHODS:** Enrollees diagnosed with osteoarthritis (OA) or rheumatoid arthritis (RA) between January 1, 2008 and December 31, 2010 (index date) and at least 24 months of continuous health plan enrollment (I-year pre- and post-index date) were identified from 12 health plans with and without access restrictions to celecoxib in the *MarketScan® Medicare Supplemental and Coordination of Benefits Database*. Utilization of celecoxib, all-cause, gastrointestinal (GI) event-related, and OA/RA-related healthcare utilization and expenditures over a 12-month follow-up period were compared for enrollees in restricted and unrestricted plans. **RESULTS:** The restricted group (N=27,595) was similar to the unrestricted group (N=57,890) at baseline in terms of the prevalence of OA/RA, serious GI events, and Charlson Comorbidity Index (CCI) score; however, celecoxib use was significantly lower in the restricted group (11.8% vs. 13.5%, $p<0.001$). Total baseline medical costs were significantly higher for the restricted group as compared to the unrestricted group ($13,641 vs. $10,456, $p<0.001$), whereas pharmacy costs were lower ($3,873 vs. $4,488, $p<0.001$) for the restricted group. No differences were observed between the two groups in GI event-related costs ($643 vs. $602, $p=0.127$). Total OA/RA related costs were significantly higher in the restricted group than the unrestricted group ($9,432 vs. $6,642, $p<0.001$), which were primarily driven by inpatient costs ($6,215 vs. $3,857, $p<0.001$). All-cause total costs were also significantly higher in the restricted group than in the unrestricted group ($25,428 vs. $20,793, $p<0.001$), which were primarily driven by the costs of inpatient and outpatient services. **CONCLUSIONS:** Enrollees in plans with access restrictions to celecoxib had lower utilization of celecoxib. No differences were observed between the groups in GI event-related costs. All-cause and OA/RA-related costs, howver, were significantly higher among enrollees in plans with access restrictions.

PMS68

CLINICAL AND ECONOMIC OUTCOMES ASSOCIATED WITH TERIPARATIDE ADHERENCE IN MEDICARE PART D RECIPIENTS: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: To evaluate the utilization patterns of Medicare Part D beneficiaries newly started on teriparatide and the association of adherence with fracture outcomes and health care utilization. **METHODS:** A retrospective cohort analysis was performed using medical and pharmacy claims of 761 Humana members aged 18 and older with first prescription fills for teriparatide between January 2008 and December 2009. Low Income Subsidy enrollees were excluded. Descriptive analyses summarized baseline characteristics, healthcare use, and costs at 12 and 24 months post teriparatide initiation. Adherence was measured by Proportion of Days Covered (PDC), categorized as high (PDC ≥80%), intermediate (50% <PDC <80%>), and low (PDC ≤50%). Multivariate logistic regression was used to evaluate associations of adherence with fracture rates. **RESULTS:** Six months before teriparatide initiation, 50.7% of the cohort (386 patients) had at least 1 fracture episode, although there was low overall comorbidity (Deyo Charlson mean 1.1). At 12 months, 21% of the cohort was highly adherent, whereas at 24 months, only 13% was highly adherent (272 patients). More low adherent patients visited the ER or had inpatient visits at 12 months than highly adherent patients (33% vs. 24%; $p<0.05$; 21% vs. 16%; NS). Total health care costs were greater at 12 months in highly-adherent patients ($21,033 vs. $15,528; $p<0.05$). Among the highly adherent, 64% of costs was pharmacy-related. At 12 months, only 18% of the 222 patients with fractures was highly adherent; this group had the highest overall fracture-related costs, of which 89% was pharmacy-related. The regression models demonstrated no significant association between teriparatide adherence and 12-month fracture outcomes (OR=0.81, 95% C.I. 0.53 – 1.24). **CONCLUSIONS:** Similar to previous studies of patients with osteoporosis, adherence to prescribed therapy was suboptimal. Highly-adherent patients appeared to have higher overall costs due to higher pharmacy costs, whereas patients with low adherence had higher health care utilization.

PMS69

TUMOR NECROSIS FACTOR BLOCKER DOSE ESCALATION AMONG BIOLOGIC NAÏVE RHEUMATOID ARTHRITIS (RA) PATIENTS IN COMMERCIAL MANAGED CARE PLANS IN THE TWO YEARS FOLLOWING THERAPY INITIATION

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OBJECTIVES: To estimate national and regional dose escalation patterns over two years of therapy among biologic naïve RA patients initiating etanercept, adalimumab, or infliximab using US managed care data. **METHODS:** Adult (ages 18-65) RA patients who did not use RA biologics in the prior six months, initiating etanercept, adalimumab, or infliximab between July 1, 2005 and April 30, 2009 were identified using the MarketScan® Commercial Database. National and regional dose escalation rates were evaluated 12 and 24 months after initiation using the Single Instance Method (one claim with an average weekly dose at least 115%, 130%, or 150% greater than the initial weekly dose) and the Two Instances Method (two consecutive claims with an average weekly dose 130% greater than the initial weekly dose). Dose escalation rates were compared using Fisher's Exact tests. **RESULTS:** A total of 2,747 patients met the inclusion criteria (mean age 50 years (SD=10), 74% female). More patients resided in the South (45%) than North Central (28%), West (17%) or East (10%) US regions. More patients (44%) initiated etanercept than adalimumab (37%) or infliximab (20%). In the first year of therapy, dose escalation ranged from 0.8%-1.5% for etanercept, 10.8%-12.5% for adalimumab, and 16.4%-42.5% for infliximab using the single instance method; ranges at 24 months were 0.8%-2.1% for etanercept, 14.3%-17.5% for adalimumab, and 26.4%-57.6% for infliximab. At 12 and 24 months respectively, the two instances method showed lower dose escalation rates for etanercept (0.8%, 0.8%) than adalimumab (8.7%, 13.3%) or infliximab (22.9%, 37.6%) at the 130% threshold ($p<0.001$). Dose escalation rates were consistent across US geographic regions, with etanercept having less dose escalation than adalimumab or infliximab across all regions. **CONCLUSIONS:** RA patients initiating etanercept had lower dose escalation rates than patients initiating adalimumab or infliximab in the first and second year following therapy initiation and across US geographic regions.

PMS70

TUMOR NECROSIS FACTOR (TNF)-BLOCKER DOSE ESCALATION AMONG PATIENTS WITH RHEUMATOID ARTHRITIS (RA) IN A LARGE MANAGED CARE POPULATION IN THE UNITED STATES

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OBJECTIVES: To estimate dose escalation rates of etanercept, adalimumab, and infliximab for RA patients initiating and continuing TNF-blockers **METHODS:** This retrospective analysis in the HealthCore Integrated Research Database identified adult (18-64 years) RA patients with ≥1 claim for etanercept, adalimumab, or infliximab between July 1, 2007 and January 31, 2010 (first claim=index). Patients were continuously enrolled for 6 months prior to index; patients with TNF-blocker claims within 6 months prior to index were considered continuing therapy. Patients with other indicated conditions or contraindicated to RA biologic therapy were excluded. Dose escalation, assessed over a 12-month period of continuous treatment (<60-day gap), was defined as: 1) 2+ instances in which subsequent doses were ≥130% of index dose or 2) any instances with increased number of syringe/vial or shortened dosing interval. **RESULTS:** Overall, 3868 patients were included (mean age 50.1 years; 74.4% female). Among new patients (932 etanercept; 267 adalimumab; 292 infliximab), 4.4%, 9.0%, and 42.5% of etanercept, adalimumab, and infliximab patients, respectively, had 2+ instances of dose escalation ($p<0.001$ for all 2-way comparisons). Most new patients (85.3% etanercept; 92.1% adalimumab; N/A infliximab) initiated therapy at recommended dose; of these patients, 2.3%, 12.6%, and 59.9% of etanercept, adalimumab, and infliximab patients, respectively, increased by ≥1 syringe/vial or shortened dosing frequency. Among continuing patients (1078 etanercept; 480 adalimumab; 819 infliximab), 6.0%, 16.9%, and 29.1% of etanercept, adalimumab, and infliximab patients, respectively, had 2+ instances of dose escalation ($p<0.0001$ for all 2-way comparisons). Most continuing patients (93.5% etanercept; 95.6% adalimumab; N/A infliximab) received the index dose at recommended dose; of these, 4.1%, 19.6%, and 79.5% of etanercept, adalimumab, and infliximab patients, respectively, increased by ≥1 syringe/vial or shortened dosing frequency. **CONCLUSIONS:** Etanercept had lower dose escalation rates for new and continuing patients compared with adalimumab and infliximab in a large US managed care plan.

PMS71

COST-EFFECTIVENESS OF ALENDRONATE THERAPY FOR OSTEOPENIC POSTMENOPAUSAL WOMEN IN JAPAN

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OBJECTIVES: The purpose of this study was to estimate the cost-effectiveness of alendronate therapy for osteopenic postmenopausal women in Japan. **METHODS:** A Markov model with six health states (no fracture, post-vertebral fracture, post-hip fracture, post-vertebral and hip fracture, bedridden, and death) was developed to predict lifetime costs and quality-adjusted life years (QALYs) of five years of alendronate therapy versus no drug treatment in postmenopausal women without fracture history. Fracture risk associated with age and bone mineral density (BMD) was derived from epidemiologic studies in Japan. We ran the model with different combinations of age (65 to 75), BMD (70% - 80% of the young adult mean (YAM)), and the number of clinical risk factors (CRFs, one to three). Probabilistic sensitivity analysis was performed to assess parameter uncertainty. **RESULTS:** The model was sensitive to age, BMD, and CRFs. The incremental cost-effectiveness ratio (ICER) was below $50,000 per QALY in the following scenarios: 1) In 70-year-old women with BMD 70% of YAM, who had two CRFs, 2) In 75-year-old women with BMD 70% of YAM, who had two CRFs. In 65-year-old women with BMD 70% of YAM, who had three CRFs, 3) In 70-year-old women with BMD 70% and 75% of YAM, who had three CRFs, and 4) In 75-year-old women with BMD 70% and 75% of YAM, who had three CRFs. Applying a willingness to pay threshold of $50,000 per QALY, the probability of being cost-effective was estimated to 2.9 %, 36.5%, and 99.2% in 70-year-old women with BMD 70% of YAM with one CRF, two CRFs, and three CRFs, respectively. **CONCLUSIONS:** Whether to treat osteopenic postmenopausal Japa-