MUSCULAR-SKELETAL DISORDERS – Health Care Use & Policy Studies

PMS49

DRUG COVERAGE, UTILIZATION AND HEALTH AMONG ELDERLY PATIENTS WITH ARTHRITIS

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OBJECTIVES: Arthritis is one of the most common chronic diseases among elderly. Approximately 50% of all elderly in the United States suffer from the disease. Drug therapy plays an important role in decreasing morbidity and mortality associated with the disease. The objectives of this study are to evaluate the effect of prescription drug insurance coverage on prescription drug use, and health among the elderly patients with arthritis. **METHODS:** Estimates are obtained using multivariate regression, and a fixed-effect (within person) research design that controls for the unmeasured person-specific effects. Analyses were based on the Medicare Current Beneficiary Survey for years 1992–2004. **RESULTS:** Estimates show that prescription drug coverage is associated with a 2%–15% increase in utilization of prescription drugs depending on the type and generosity of the coverage. In addition, the effect of drug coverage on drug use differed depending on the type of drugs, and other co-morbid conditions. For example, among arthritic patients, drug coverage increased use of diabetic drugs by 20%, whereas it had relatively low impact on use of cold medications (2%). We found no evidence that drug coverage improved hospitalization and general health status. **CONCLUSIONS:** Drug coverage plays a crucial role on the use of essential medications among elderly patients with arthritis. The results of the analysis also suggest the importance of controlling for selection bias. Our estimates on drug coverage were reduced markedly when we accounted for selection into plans.

PMS50

A PRELIMINARY ANALYSIS OF BIOLOGICS MEDICATION-TAKING BEHAVIOR AMONG RHEUMATOID ARTHRITIS PATIENTS

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OBJECTIVES: Tumor necrosis factor blocker (TNFb) therapy is an expensive alternative for rheumatoid arthritis (RA) sufferers when other treatments have failed. The purpose of this analysis was to compare two products, adalimumab and etanercept, in terms of adherence, persistency, and appropriateness of use. **METHODS:** Retrospective claims data between October 2005-September 2008 were extracted from an organization with ~30,000 individuals. Inclusion criteria were primary diagnosis of RA, new start of TNFb therapy defined as none in preceding sixmonths, and continuous enrollment at least 6 months pre- and 12 months post-TNFb initiation. A refill grace period was defined as ½ days supply for prescriptions =<30 days or 1/3 days supply for prescriptions >30days. **RESULTS:** A total of 334 individuals met criteria, and of those 57 received study medication; 12 were excluded for receiving both medications during the 12-month period, leaving 43 individuals for analysis (adalimumab n = 24; etanercept n = 19). No statistical differences ($p > 0.05$) were found in adherence or persistency by drug, age, or gender. Mean medication possession ratio (MPR) over 12 months was 0.61 (st dev = 0.35) and mean annual days supply was 228 (st dev = 136). After the first month, 30% exceeded the refill grace period, and by month 6, this increased to 80%. Thirty-nine (91%) received other prescription RA medication in the 6 months prior to initiating TNFb therapy. **CONCLUSIONS:** While preliminary, the results from this analysis indicate that gaps in adalimumab and etanercept therapy occur early in care, thereby impacting adherence and persistence rates. While individuals in this analysis received approximately seven total months of therapy over a year, gaps between refills may impact effectiveness. Efforts to improve adherence and persistence of RA therapy are needed to maximize patient outcomes. Most patients had received alternative therapy before initiating TNFb treatment, and none received concomitant TNFb therapy, which aligns with current guidelines.

PMS51

RETROSPECTIVE ANALYSIS OF INFLIXIMAB DOSING AND INFUSION PATTERNS IN PATIENTS WITH RHEUMATOID ARTHRITIS IN A COMMERCIALLY-INSURED POPULATION

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OBJECTIVES: To determine the mean induction and maintenance infliximab (IFX) dose per infusion and infusion patterns in patients with rheumatoid arthritis (RA) enrolled in commercial health plans. **METHODS:** Medical/pharmacy claims (January 1, 2000 and December 31,2006) were obtained from a national commercial benchmark database. Inclusion criteria were patient age >18, ≥2 RA diagnosis codes, no medical/pharmacy claims of biologic use during 6 months prior to IFX index date (which occurred on or after first RA diagnosis date) and ≥365 days of IFX persistence. Patients were excluded if they had a diagnosis of ankylosing spondylitis, psoriatic arthritis, psoriasis, Crohn's disease, or ulcerative colitis. Infused doses were calculated by dividing the plan's allowed amount per IFX claim (HCPCS code J1745) by the acquisition cost for a 100 mg vial during the year of payment. Results were reported for induction (weeks 0–8), maintenance (weeks 9–52), and one-year time periods (weeks 0–52). Infusion patterns included the mean days between each infusion during the first year of treatment. **RESULTS:** A total of 457 RA patients were identified (mean age = 53 years; 74% female). A total of 425 evaluable patients with no missing infusion data were included in the dosing analysis. The mean IFX dose per infusion was 397, 455, and 437 mg for induction, maintenance, and one-year periods, respectively. A total of 98.5% of IFX-treated patients received ≤8 infusions during first year. Mean time between IFX infusions were as follows: 1st and 2nd = 19 days; 2nd and 3rd = 29 days; 3rd and 4th = 56 days; 4th and 5th = 57 days; 5th and 6th = 55 days; 6th and 7th = 52 days; 7th and 8th = 53 days. **CONCLUSIONS:** This observational study reported IFX infusion patterns consistent with prescribing information which is useful for stakeholders' understanding of real world IFX utilization.

PMS52

NSAIDS CONSUMPTION IN CROATIA: THE EFFECTS OF PRICING POLICY CHANGES

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OBJECTIVES: The aim of this study was to detect changes in non-steroidal anti-inflammatory drugs (NSAIDs) financial expenditure and consumption according to the legal changes especially considering pricing policy (restrictive comparative pricing). Further, to analyze possible influences of new studies (connection between NSAIDs and increased cardiovascular risks) on NSAIDs utilization. **METHODS:** The data was obtained from the Croatian National Health Insurance Institute and from pharmaceutical wholesalers for the seven-year period (2001–2007). Financial expenditure data are presented in Euros, while drug utilization data are presented in defined daily doses/1000 inhabitants/day (DDD/1000). **RESULTS:** In the investigated period the total expenditure of the group increased 10.39% while the related consumption of NSAID increased 1.95% (41.404 DDD/1000 to 42.224 DDD/1000). During the first part of the investigated period (from 2001–2005), before new pricing policy was introduced, the expenditure of NSAIDs increased 15.72% and the related consumption 5.92%. After the new measures were introduced (2005), in the period from 2005–2007 the financial expenditure of NSAIDs decreased 24.04% while usage decreased 4.03%. For the entire period diclofenac was the most frequently prescribed NSAID, but its share in the total consumption of NSAIDs decreased from 54.33% in 2001 to 41.84% in 2007. **CONCLUSIONS:** The usage of NSAIDs in Croatia increased during the investigated period, so in 2005 new pricing policy was introduced to slow down the financial expenditure. This resulted in a considerable financial decrease and the usage was almost on the same level. The decrease of diclofenac usage in 2007 could be explained as the result of the published studies (the end of 2006) concerning its cardiovascular side effects.

PMS53

DISPARITIES IN MAJOR JOINT REPLACEMENT SURGERY AMONG ENROLLEES WITH AARP MEDICARE SUPPLEMENT INSURANCE

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OBJECTIVES: Determine if disparities in hip and knee replacement surgery exist among osteoarthritis patients with Medicare supplement plan coverage (i.e., Medigap). **METHODS:** Data were obtained from UnitedHealth Group's database of AARP Medicare Medigap insureds. Patients were selected into the study if they had one or more medical claims with a diagnosis of osteoarthritis from July 1, 2006-June 30, 2007. Logistic regression analyses tested for age-, gender-, race-, or income-related differences in the likelihood of receiving a hip or knee replacement surgery. The regression models controlled for socioeconomics, health status, type of supplement plan, and residential location. **RESULTS:** Of the 2.2 million Medigap insureds eligible for the study, 529,652 (24%) had osteoarthritis. Of these, 32,527 (6.1%) received a hip or knee replacement surgery. Males were 6% ($p < 0.001$) more likely than females to have a replacement surgery. Patients residing in minority or lower-income neighborhoods were less likely to receive a hip or knee replacement surgery. The surgery rate decreased with age. Supplement plan type was not a strong predictor of the likelihood of hip or knee replacement. Disparities were much greater by comorbid condition and residential location. Obese patients were 1.79 ($p < 0.001$) times as likely, whereas patients with COPD were only 0.69 times ($p < 0.001$) as likely to have a hip or knee replacement. Patients in rural areas were 14% ($p < 0.001$) less likely than those in urban areas and patients residing in South Dakota, Idaho, and Alaska were 3.24 ($p < 0.001$), 2.58 ($p < 0.001$), and 2.49 ($p < 0.001$) more likely than those in New Jersey to have replacement surgery. **CONCLUSIONS:** Disparities in hip and knee replacement surgery existed by age, gender, race, and income levels. Larger disparities were found by residential location and comorbid condition. AARP and UnitedHealth Group are designing interventions to address these disparities; these interventions will begin in mid-2009.