months prior to duloxetine initiation (defined as no duloxetine pill coverage in the previous 90 days) were identified via administrative claims. The use of pain related medications was assessed during the 6 and 12 months prior to duloxetine initiation. **RESULTS:** The study identified 1682, 308, 1044, 1363, 4255, and 5189 in the MDD, GAD, DPNP, FM, OA, and low back pain (LBP) cohorts in 2009-2010. Antidepressant use during the 12 months prior to initiation was common, and was highest among MDD (87.2%) and GAD patients (83.4%). The use of anticonvulsants was comparable between cohorts, but highest among patients with DPNP (60.0%) and FM (54.7%), and between 47.0-52.4% among other cohorts. There was varied use of opioids across cohorts, ranging from 63.3% (GAD) to 84.7% (LBP). Non-steroidal anti-inflammatory drugs utilization varied with the lowest use among GAD patients (30.2%) and the highest among OA patients (45.8%). Utilization of muscle relaxants widely ranged from 22.0% (DPNP) to 40.4% (FM). Use of pain medication during the 6 months prior was similar, but was generally 10-15% lower. Use patterns in 2007 and 2008 were similar. **CONCLUSIONS:** Across disease states, patients used a variety of medications prior to the initiation of duloxetine. Patterns of use have largely stayed the same from 2007 through 2010.

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## EPIDEMIOLOGY, THERAPY PATTERNS AND FUNCTIONAL STATUS OF PATIENTS WITH JUVENILE IDIOPATIC ARTHRITIS (JIA) IN RUSSIA

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**OBJECTIVES:** For distribution biologic agents in patients with JIA in Russia, data about epidemiology, used drugs and their impact on functional status are necessary. **METHODS:** Records were examined for 6 months retrospectively. Data were collected via medical chart review by rheumatologists from 11 regions of Russia. Functional status was assessed with CHAQ questionnaire. Inclusion criteria: age (younger than 18 years), minimum 6 months since diagnosis of JIA and availability of 6 months retrospective data. Recruitment: no more than 30% patients received biologic therapy. Disease-specific criteria: about 50% had oligoarthritis, 30-40% - polyarthritis and 10-20% - systemic form. Analysis was performed with methods of descriptive statistic, parametric and non-parametric criteria. **RESULTS:** Data on 405 patients were obtained. Ratio (male:female) was 1:1.6. Average duration of disease was 5 years. 72% had a disability status caused by JIA. 43% had mild functional disorders; 32% - moderate; 23% - severe disorders, and only 2% had no functional disorders. Seventy-two percent patients in subgroup without functional disorders got biologic therapy, 30% and 28% got biologic agents in subgroups with mild and moderate disorders respectively. In subgroup with severe disorders 41% received biologic therapy; 18% patients with oligoarthritis got biological agents; 40% - with polyartritis, 54% - with systemic form. **CONCLUSIONS:** Prescription of biologic therapy increases in case of more severe form of JIA. Direct relationship between biologic therapy prescription and functional status was not revealed.

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## USE OF DISEASE-MODIFYING ANTI-RHEUMATIC DRUGS FOR RHEUMATOID ARTHRITIS IN QUEBEC, CANADA

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**OBJECTIVES:** Disease-modifying anti-rheumatic drugs (DMARDs) are the cornerstone of rheumatoid arthritis (RA) pharmacotherapy and should be initiated promptly after RA diagnosis. We examined trends in DMARD use among RA patients in Quebec, and factors correlated with DMARD initiation in newly diagnosed RA. **METHODS:** Quebec administrative health databases were used to identify RA subjects and their claims for medical and pharmaceutical services between January 1, 2002 and December 31, 2008. To describe DMARD use, cross-sectional analyses were performed on November 1 of each year. For subjects newly diagnosed with RA, multivariable logistic regressions were used to identify possible predictors of DMARD initiation at 12 months and Kaplan-Meier curves to define the probability of initiating a DMARD over time. **RESULTS:** A total of 32,533 subjects were included (mean age: 67.5 years; 70.4% female). Over the study period, the percentage of subjects on a DMARD increased from 42.0% (November 2002) to 43.2% (November 2008). Being followed by a rheumatologist (vs. GP) was the strongest predictor of DMARD initiation (OR=4.39; 95%CI: 3.80-5.08). The use of NSAIDs, corticosteroids, and opioids in the year prior to cohort entry and the calendar year of cohort entry had a positive effect on DMARD initiation, whereas age, comorbidity score, and the use of acetaminophen had a negative effect. For biologics, calendar year was the strongest predictor (OR 2007 vs. 2002=10.78; 95%CI: 2.45-47.37). Of subjects newly diagnosed in 2002, 0.1% had a biologic initiated within one year, while for those newly diagnosed in 2007 the percentage was 1.3%. In any newly diagnosed subjects, averaged over 2002-2007, the probability of having initiated any DMARDs at 12 months was 38.5% (47.8% for those followed by a rheumatologist). **CONCLUSIONS:** Despite encouraging signs for earlier aggressive RA management, DMARD use appears to be sub-optimal in Quebec. Use of DMARDs was much higher among subjects followed by a rheumatologist.

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## EXPLANATORY FACTORS FOR THE RHEUMATOID ARTHRITIS PATIENTS' ACCESS TO BIOLOGICAL AGENTS IN 15 EUROPEAN COUNTRIES

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**OBJECTIVES:** In the last decade, several biological agents (biologics), including anti-TNFs, have been approved for use in Rheumatoid Arthritis (RA), thus revolutionizing treatment. Despite the widespread availability of these drugs through Europe, patient access differs significantly among countries. We aimed to compare the share of RA patients being treated with biologics in each country and study the factors that influence the different shares, with focus on the market potential for Portugal. **METHODS:** A multivariable linear regression model using SPSS 10.0 was built to identify which factors best explain a country's share of prevalent RA patients treated with biologics. This share was calculated based on IMS Health reported unit sales converted into annualized treatments by applying defined daily doses by WHO. **RESULTS:** A total of 21 independent variables were collected for each of the 15 European countries, including demographic, economic, funding-related, disease-related and biologics-related data. Model results (Adjusted R2= 0,953; SE=0,0456) indicated that a country's share of prevalent RA patients treated with biologics is mostly explained by its GDP per capita ($\beta$=0.006; p<0.0001), the share of biologics treatments per dispensing channel - hospital vs. Retail ($\beta$=−0.046; p=0.149) and the usage of methotrexate ($\beta$=0.26; p=0.05). Based on these variables and their expected evolution we estimated the overall market potential for the Portuguese market, define 4 country clusters and understand Portugal's relative position among the 15 countries. Share of RA prevalent patients treated with methotrexate in Portugal may be standing 5 years behind comparable countries such as UK, France, Germany or Spain, thus impacting the share of patients treated with biologics. **CONCLUSIONS:** Portugal presents the lowest share of RA prevalent patients treated with biologics of all selected countries. Lower GDP per capita, biologics exclusively dispensed in hospital settings and a low consumption of methotrexate are the best explanatory factors for this reality.

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## TREATMENT PATTERNS AMONG PATIENTS WITH SHOULDER OSTEOARTHISTIS

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**OBJECTIVES:** To assess treatment patterns among patients with shoulder osteoarthritis (OA). **METHODS:** Data from Thomson MarketScan, a large national managed care population, was used to identify patients with a shoulder OA diagnosis in the first 6 months of 2005 (i.e., the index date). The 360 days post index (identification period) was used to establish baseline treatments (i.e., conservative management (pharmaceutical and physical therapy), steroid injections and shoulder surgery). Patients were required to be continuously eligible for 54 months post-index and were excluded if they had a shoulder surgery claim in the identification period. Four cohorts were followed based on the baseline treatments: C1- conservative treatment; C2- conservative treatment and at least one steroid injection; C3- at least one steroid injection; C4- no treatment claims. Progression to additional treatments was evaluated descriptively from day 361 to 1260 in 180 increments. Logistic regression was used to model the odds or having a claim for a treatment. **RESULTS:** A total of 3646 patients met the analysis criteria (C1, n=2,815(77.2%); C2, n=171(4.7%); C3, n=27(0.7%); C4, n=633(17.4%)). The distribution was split evenly between males (50.2%) and females (49.8%). Patients who received steroid injections in the identification period had the greatest likelihood of having a steroid injection in the observation period (C1-19.2%;C2-43.9%;C3-44.4%;C4-14.1%). The percentage with shoulder surgery was 6.4%, 15.2%, 11.1% and 6.5% for C1 to C4, respectively. Patients with steroids in the observation period (C2 and C3) were more likely to have surgery in the first year of observation. Logistic regression showed that females who had steroid injections (C2 and C3 combined) had odds of surgery that were 2.9 times greater than females with no treatments (C1). **CONCLUSIONS:** The most significant predictor of surgery was presence of steroid injections. Rates of steroid injections and surgery differed based on presence of pre-existing treatments.

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## IMPROVING QUALITY AND REDUCING COSTS IN WORKERS' COMPENSATION HEALTH CARE: A POPULATION-BASED INTERVENTION STUDY

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**OBJECTIVES:** To evaluate the effect of a quality improvement intervention that provided financial incentives to physicians to encourage adoption of best practices, coupled with organizational support to improve care management. The intervention, implemented at two pilot sites in Washington State, was aimed at reducing work disability for patients with occupational injuries or illnesses treated within the workers' compensation system. **METHODS:** At each pilot site, a Center for Occupational Health and Education (COHE) was established to recruit physicians for the pilot and to implement the intervention. We conducted a prospective non-randomized intervention study, with a non-equivalent comparison group, using difference-in-difference models. The intervention group included patients (31,520) treated from July 2004 through June 2007 by COHE physicians (n > 300). The comparison group included patients (40,176) treated by non-COHE physicians practicing in the pilot target areas. The baseline (pre-intervention) period was specified as July 2001 to June 2003 and included 33,910 patients treated by COHE and non-COHE physicians. We used logistic regression and generalized linear models to analyze four outcomes at one year following injury: off work and on disability, disability days, and disability costs and medical costs per claim. **RESULTS:** COHE patients were less likely to be off work and on disability at one year post injury (OR = .79, P = 0.003). The COHE was associated with a statistically significant ($p$ < .01) reduction in disability days (16.5%) and disability costs (23.7%), and with a non-signific0ant ($p$ = 0.13) reduction of 6.7% in medical costs. Patients treated by