OBJECTIVES: The International Costs and Utilities Related to Osteoporotic fractures Study (ICUROS) is an ongoing 18 months prospective observational study with the objective of estimating resource use and health related quality of life related to osteoporotic fractures. This study aims to describe the resource utilization after vertebral fracture (sustained during 2007-2012) pooled from nine countries: Australia, Austria, France, Italy, Lithuania, Mexico, Russia, Spain, and the UK.

METHODS: Patients studied were ≥ 50 years and lived at home prior to fracture. Data were collected through patient interviews and review of medical records: at baseline, 4, 12, and 18 months after fracture. Only resource use related to the fracture event was collected.

RESULTS: There were 636, 572, and 536 patients available for analysis at 4, 12 and 18 months follow-up, respectively. The mean age was 78±10 years and 81% were women. 45% of patients were hospitalized. Mean hospital length of stay (LOS) was 5.7±12.4 days during months 0-4 and 9.6±9.8 days during months 5-18. The total number of physician visits (vSD) was 2.8±2.7 during months 0-4 and 1.9±3.4 between months 5-18. The number of nurse visits (vSD) was 1.4±6.5 and 1.5±19.9 during the corresponding periods, respectively. During months 0-4, 72% of patients used analgesics, 59% calcium, vitamin D, and 41% pharmaceutical interventions for osteoporosis. The respective uptake for months 5-18 was 56%, 55% and 34%.

CONCLUSIONS: The majority of health care consumption related to vertebral fracture occurred during the first 4 months but substantial consumption persists up to 18 months after fracture.

PMS45
HEALTH CARE UTILIZATION PATTERNS ASSOCIATED WITH ONSITE VERSUS OFFSITE CHIROPRACTIC CARE
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OBJECTIVES: Musculoskeletal conditions are the primary cause of physical disability in the United States, and have implications for workplace productivity and employer health care costs. This study determined the influence of employer-sponsored, onsite chiropractic care on health care utilization.

METHODS: A retrospective claims analysis of members of an employer-sponsored health plan receiving chiropractic care evaluated onsite or offsite. Claims data was extracted from 2010-2012. Eligible patients were continuously enrolled in the health plan and age >=18 during the respective years. The study was based on chiropractic services recorded during the 36-month study period. The primary outcome variable was the number of visits to different service providers. T-tests and chi-square tests were used to compare differences in healthcare utilization between patients receiving care on- and offsite.

RESULTS: There were 317,618 eligible patients with chiropractic care. Compared to offsite chiropractic care, patients receiving care onsite had lower utilizations for most services. Site of chiropractic care was associated with the utilization of chiropractic care (p<0.001), physical therapy, massage therapy, and non-physician outpatients (p<0.001).

CONCLUSIONS: Onsite chiropractic care was associated with lower healthcare costs compared to offsite care. This suggests that employers should consider offering on-site chiropractic care as a means of reducing cost and improving patient outcomes.

PMS46
HEALTH CARE RESOURCE UTILIZATION IN THE MANAGEMENT OF KNEE OSTEOARTHRITIS WITH HYALURONIC ACID IN A CANADIAN REAL-WORLD POPULATION
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OBJECTIVES: To examine the health care resource utilization in patients with knee osteoarthritis and treated with Hylan G-F 20 (Synvisc, Genzyme Biosurgery) compared with patients treated with alternative intra-articular hyaluronic acid (HA) injections in Ontario, Canada.

METHODS: This is an observational, prospective cohort study of patients 18 years and older who, between June 1, 1999 and December 31, 2012 had 1) a diagnosis of knee osteoarthritis identified by ICD-9-10 or text coding; 2) received at least 1 treatment cycle with intra-articular HA and, 3) complete pain and mobility assessments for each treatment cycle. Data from the Southwestern Ontario (SWO) database, has been continuously compiled since 1999 and includes demographic, biometric, laboratory, diagnostic and health resource measures as collected in a primary care setting. Health care resource utilization included clinic visits, emergency visits, hospitalizations, home care visits, knee bracing, radiographs, and work absenteism. Differences between treatments were compared using independent sample t-tests. RESULTS: 6,618 patients met all inclusion criteria of which 94% were treated with Hylan G-F 20. Patients were similar across treatment groups. During the follow-up period, patients received, on average, 6 HA treatment cycles and an annual knee X-ray, with 44% of them needing a knee brace during this period. During the study period there were 6,705 osteoarthritis-related hospitalizations, and over 10,000 combined physiotherapy (PT)/occupational therapy (OT) and home care nursing visits among patients prescribed HA. Hylan G-F 20 patients had fewer visits to a GP (36%) and specialist (39%), lower use of PT/OT (23% and 1%) and home care nursing (2%) services compared to other HA treatments (p<0.05 for all comparisons).

CONCLUSIONS: This analysis demonstrates that not all HA injections in patients with knee osteoarthritis represent similar resource utilization. Further study worldwide examining the effectiveness of HA for reducing clinical symptoms and improving health care resource utilization in knee osteoarthritis is warranted.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PMS47
THE RELATIONSHIP BETWEEN ADHERENCE AND HEALTH CARE COST AMONG PATIENTS WITH RHEUMATOID ARTHRITIS: A RETROSPECTIVE CASE COMPARISON STUDY
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OBJECTIVES: The objective of this research report was to examine the relationship between medication adherence levels and health care cost among patients with rheumatoid arthritis (RA). METHODS: This study used a retrospective case comparison design to examine per member per month (PMPM) medical cost. The commercial population of patients with RA was extracted from two large claims data bases between years 2006 and 2009. The case cohort consisted of compliant patients (MPR ≥ 80%) receiving medication management from the Specialty division of a large pharmacy retail chain. The comparison cohort consisted of non-compliant patients (MPR < 80%) from a national benchmark pharmacy and medical claims data base. Using propensity scores, patients were matched on age, gender, risk score, socio-economic status, standard industrial classification code, comorbid conditions and pre-medication gap. This process resulted in 512 one-to-one match pairs.

RESULTS: Patients with RA who were compliant to their medication regimen had 25% lower PMPM medical cost (in-patient, out-patient, professional, and emergency room cost) than patients who were non-compliant ($637 vs. $855 respectively; p<0.0458). The majority of this cost difference was due to in-patient cost which was 15% lower for compliant patients, followed by professional cost which was 15% lower for compliant patients. A closer look at medical cost by levels of compliance reveals that mean medical cost decreased at each level of medication compliance described below. Patients with adherence levels less than 40% had PMPM cost of $1024, those with adherence levels between 40% and 80% had PMPM cost of $838, and patients with adherence levels greater than or equal to 80% had PMPM cost of $637.

CONCLUSIONS: Medication costs decreases as adherence to the RA medication regimen increases. Given that the cost of treating RA can be extremely expensive, one approach to addressing this financial issue is to target medication adherence.

PMS48
WITHDRAWN

PMS49
GOLD IAB SUBTYPE UTILIZATION PATTERNS AND REFILL ADHERENCE IN PATIENTS WITH RHEUMATOID ARTHRITIS, PSORIATIC ARTHRITIS AND ANKYLOSING SPONDYLITIS
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OBJECTIVES: To examine the relationship between medication adherence levels and health care cost among patients with rheumatoid arthritis (RA). METHODS: This study used a retrospective case comparison design to examine per member per month (PMPM) medical cost. The commercial population of patients with RA was extracted from two large claims data bases between years 2006 and 2009. The case cohort consisted of compliant patients (MPR ≥ 80%) receiving medication management from the Specialty division of a large pharmacy retail chain. The comparison cohort consisted of non-compliant patients (MPR < 80%) from a national benchmark pharmacy and medical claims data base. Using propensity scores, patients were matched on age, gender, risk score, socio-economic status, standard industrial classification code, comorbid conditions and pre-medication gap. This process resulted in 512 one-to-one match pairs.

RESULTS: Patients with RA who were compliant to their medication regimen had 25% lower PMPM medical cost (in-patient, out-patient, professional, and emergency room cost) than patients who were non-compliant ($637 vs. $855 respectively; p<0.0458). The majority of this cost difference was due to in-patient cost which was 15% lower for compliant patients, followed by professional cost which was 15% lower for compliant patients. A closer look at medical cost by levels of compliance reveals that mean medical cost decreased at each level of medication compliance described below. Patients with adherence levels less than 40% had PMPM cost of $1024, those with adherence levels between 40% and 80% had PMPM cost of $838, and patients with adherence levels greater than or equal to 80% had PMPM cost of $637.

CONCLUSIONS: Medication costs decreases as adherence to the RA medication regimen increases. Given that the cost of treating RA can be extremely expensive, one approach to addressing this financial issue is to target medication adherence.

PMS48
WITHDRAWN
OBJECTIVES: This study reports real-world utilization patterns observed for rheuma
toid arthritis (RA), ankylosing spondylitis (AS) patients treated with golimumab (GLM). METHODS: Patients with an ICD-9 code for RA, PSA, or AS receiving ≥2 fills of GLM as their first biologic medication (bio naive) or most recent biologic medication (bio-experienced) were identified between 1/1/2008 and 12/31/2010 in a large claims database (Humana). Patient characteristics and refill patterns were summarized using descriptive statistics. The proportion of adherent refills was calculated as the number of refills occurring between 21and 34 days (per refill interval defined by the total refill intervals). RESULTS: Analysis of 1,515 patients with ≥2 GLM fills and a diagnosis of RA (n=1,036), PSA (n=325) or AS (n=154) were identified in the database. Median age was: RA 52 years; PsA 50 years; A5.7 years. The majority were bio-experienced (RA 72%; PSA 79%; AS 79%). A total of 1,373 (90.5%) GLM refills were observed (RA 9,398; PSA 2,961; AS 1,369). Analysis of 32 days for bio naive subgroups. The proportion of adherent refills overall was 78% (RA 79%; PSA 76%; AS 78%). The proportion of adherent refills appeared similar for bio naive and bioexperienced patients except in the AS group (bio naive 73.8%; bio-experienced 79.3%). This retrospective observational study confirms earlier findings that GLM is utilized largely in patients who have used other biologic medications. A high proportion of GLM-treated patients were adherent to refilling medication and median refill intervals occurred as recommended in the GLM prescribing information.

PM550 DIFFERENCES IN PATIENT CHARACTERISTICS AND UTILIZATION PATTERNS OF SUBCUTANEOUS ANTI-TNF MEDICATIONS OBSERVED IN A LARGE UNITED STATES MANAGED CARE POPULATION Ellis L.1, Meyer R.2, Wiederkehr T.2, Bravata D.2, van der Merwe Y.2, Aitken R.2, Atkinson R.2, Pedersen R.2,4, Goren A.5, Ingham M.6
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OBJECTIVES: To evaluate patient characteristics and real-world treatment patterns of subcutaneous anti-TNF medications for patients enrolled in Humana’s commer-
cial and Medicare patient populations. METHODS: Adult patients (aged ≥18 years) with ≥2 fills of index biologic (adalimumab (ADA), certolizumab (CTZ), etanercept (ETA), infliximab (INF)) or etanercept were identified on the post-index enrollment. Three months pre- and 12 months post-index were identified in health care claims. Patient age, gender, RxRisk-V score, biologic use and disease modifying anti-rheumatic drug (DMARD) use history in the pre-index period were summarized. Utilization measures included monthly biologic dose, refill interval, proportion of adherent fills (refilled ≥7 days of expected), and proportion of patients with 100% refill adherence. Descriptive statistics (mean, SD, n, %), one-way analysis of variance (continuous variables) and chi-square tests (categorical variables) were performed. RESULTS: A total of 3,568 ADA, 287 CTZ, 3,625 ETA, and 158 GLM patients were studied. The CTZ and ETA groups were more likely to use monotherapy (Truven/Optum: 42.6%/47.0% adalimumab) than with monotherapy (Truven/Optum: 35.7%/39.3%) or combination therapy (Truven/Optum: 58.3%/58.2%). Disease activity was generally lower in the ETA group as compared to CTZ (6.51±3.47 vs. 5.94±3.14, respectively; p<0.001) and compared to ADA (p<0.001). Correlation between CTZ and ETA therapeutic effectiveness anchor. Ordinary least squares was used in regression analysis while ROC were estimated based on logistic analysis to identify similarities, differences and overall relationship between the CQR and the Morisky Medication Adherence Scale (MMAS-4). METHODS: Patients residing in the United States completed a self-administered, internet-based questionnaire in the fall of 2011. Patient self-reported a diagnosis of rheumatoid arthritis (RA). The cross sectional survey included the CQR, MMAS-4 and extensive treatment and demographic patient level data. CQR predicts patients that are likely to be adherent at 50%, 60%, 70%, 80%, 90% or 95% with a sensitivity of 89% and specificity of 72%. Frequency distributions were compared. Linear models looked at: inter-item correlations, CQR score thresholds optimally differentiating adherent vs. non-adherent on MMAS-4, and ordinary least squares (OLS) analysis of the ability of the CQR to discriminate those not adherent on MMAS-4. Survey respondents were 76.2% female, 86.2% Caucasian, with mean age 56.4 years. Frequency distributions of the CQR and MMAS-4 were similar. The CQR provided much more detail at high adherence levels, and hence appears more discriminative in these patients. Comparing dichotomous adherent/non-adherent results, the optimal CQR threshold for predicting “adher-
ent patients” from MMAS-4, was 60%. Correlation between MMAS-4 and CQR was 0.40. CQR scores can predict MMAS-4 score, although the relationship appears weak. CONCLUSIONS: Compared with MMAS-4, the CQR appears to be more sensitive at high levels of adherence. The CQR appears to be useful as a predictive tool. It does not require claims-based data to assess historical non-adherence, and so may be a useful alternative to adherence tools. We warrant further exploration of the CQR as a way to stream rheumatology patients into appropriate treatment, based on their potential to be non-adherent.

PM553 THE COST OF NONCOMPLIANCE WITH ALENDRONATE SODIUM IN THE TREATMENT OF OSTEOPOROSIS IN POSTMENOPAUSAL WOMEN IN BRAZIL Ferri F.1, Brasil CMB.2,3, Vilaro J.1,2,3,4
1Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

OBJECTIVES: The aim of this study is to assess adherence among patients attended by the Secretary of State for Health of Minas Gerais (SES / MG) between 2008 and 2010 with a diagnosis of osteoporosis and describe the cost of non-adherence to treat-
ment. METHODS: A retrospective cohort study from a database for administrative purposes of the SES / MG was made. Selected patients with a diagnosis of osteo-
porosis and hospitalized in public hospitals in 2008 and 2010. Patients were taking alendronate sodium distributed by Unified Health System Adherence to treatment of osteoporosis in Minas Gerais was 80 % and 20 % of irregular adher-
ence-Non-adherence to treatment increases by 20.4% the total cost of osteoporosis, considering pharmacological treatment and hospital treatment. CONCLUSIONS: Adherence to treatment is an important component of treatment effectiveness. Poor adherence is related to high treatment costs and high incidence of osteoporo-
sis-related fractures. The databases administrate signals of effectiveness of hospital programs, especially programs for dispensing medicines. Measures that increase adherence to drug treatment should be taken to reduce the costs and improve the effectiveness of osteoporosis treatment.

PM554 FROM THE MINIMUM CLINICALLY IMPORTANT DIFFERENCE TO THE MINIMUM COST EFFECTIVE DIFFERENCE FOR EQ-SD IN PATIENTS WITH CHRONIC WIDESPREAD PAIN Corsetti R.1, Ruggieri M.2, McNamara F.3
1Università Cattolica del Sacro Cuore, Rome, Italy, 2University of Aberdeen, Aberddeen, UK

OBJECTIVES: i) estimate the MCID for EQ-5D in patients with chronic widespread pain, ii) estimate the MECID for patients undergoing cognitive behavior therapy (CBT), prescribed exercise therapy (EX), and combination therapy, i.e. cognitive behavior therapy and prescribed exercise together (COMB). METHODS: Using data from a multi-center RCT, MCID was estimated through regression analysis and ROC curves. Moreover, average change, minimum detectable change and change dif-
fERENCE (MCID was estimated in the primary analysis) were determined while the use of administrative databases was not relevant. The CQR scale appears to be more sensi-
tive at high levels of adherence. The CQR appears to be useful as a predictive tool. It does not require claims-based data to assess historical non-adherence, and so may be a useful alternative to adherence tools. We warrant further exploration of the CQR as a way to stream rheumatology patients into appropriate treatment, based on their potential to be non-adherent.

PM555 ESTIMATION OF THE COMPLIANCE-QUESTIONNAIRE-RHEUMATOLOGY, A BEHAVIOR-FOCUSED PREDICTIVE ADHERENCE QUESTIONNAIRE, WITH THE MORISKY MEDICATION ADHERENCE SCALE Pedersen R.1, Goren A.5, Ingham M.4
1Kantar Health, Epsom, UK, 2Kantar Health, New York, NY, USA, 3Janssen Scientific Affairs, LLC, Horsham, PA, USA

OBJECTIVES: Establish the Compliance Questionnaire Rheumatology (CQR) poten-
tial value as an adherence tool by identifying similarities, differences and overall relationship between the CQR and the Morisky Medication Adherence Scale (MMAS-4). METHODS: Patients residing in the United States completed a self-
administered, internet-based questionnaire in the fall of 2011. Patient self-reported a diagnosis of rheumatoid arthritis (RA). The cross sectional survey included the CQR, MMAS-4 and extensive treatment and demographic patient level data. CQR predicts patients that are likely to be adherent at 50%, 60%, 70%, 80%, 90% or 95% with a sensitivity of 89% and specificity of 72%. Frequency distributions were compared. Linear models looked at: inter-item correlations, CQR score thresholds optimally differentiating adherent vs. non-adherent on MMAS-4, and ordinary least squares (OLS) analysis of the ability of the CQR to discriminate those not adherent on MMAS-4. Survey respondents were 76.2% female, 86.2% Caucasian, with mean age 56.4 years. Frequency distributions of the CQR and MMAS-4 were similar. The CQR provided much more detail at high adherence levels, and hence appears more discriminative in these patients. Comparing dichotomous adherent/non-adherent results, the optimal CQR threshold for predicting “adher-
ent patients” from MMAS-4, was 60%. Correlation between MMAS-4 and CQR was 0.40. CQR scores can predict MMAS-4 score, although the relationship appears weak. CONCLUSIONS: Compared with MMAS-4, the CQR appears to be more sensitive at high levels of adherence. The CQR appears to be useful as a predictive tool. It does not require claims-based data to assess historical non-adherence, and so may be a useful alternative to adherence tools. We warrant further exploration of the CQR as a way to stream rheumatology patients into appropriate treatment, based on their potential to be non-adherent.

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