**PM1S2**
FACTORS ASSOCIATED WITH INITIATION OF HIGH-DOSE DULOXETINE AMONG PATIENTS WITH OSTEOARTHRITIS

Peng XL, Wu NJ, Andrews JS, Chen SY, Boulanger L

*Eli Lilly and Company, Inc., Indianapolis, IN, USA* 3United BioSource Corporation, Lexington, MA, USA

**OBJECTIVES:** To identify pre-treatment predictors associated with high initiating doses of duloxetine therapy for patients with osteoarthritis (OA). **METHODS:** Patients with OA diagnosis who initiated duloxetine between November 1, 2010 to March 31, 2011 were identified from a medical and pharmacy claims database. The dispense date of the first duloxetine prescription preceded by at least a 90-day gap in medication supply was defined as the index date. Comorbidities and prior medication use were assessed during six months prior to the index date. Multiple logistic regression models were performed to identify predictors of initiating duloxetine: 1) >60mg versus 60mg, and 2) >60mg versus 60mg. **RESULTS:** A total of 2034 OA patients (mean age 63.7 years; 75.5% female) who initiated duloxetine were identified. Common comorbidities included hypertension (57.4%), depression (35.3%) and diabetes (29.4%). Common pain medications used prior to duloxetine initiation were opioids (71.5%, 69.4% and 16.5% on short- and long-acting opioids, respectively), antidepressants (52.4%), and non-steroidal anti-inflammatory drug (NSAIDs, 36.5%). Of the duloxetine initiators, 50.3% started on 60mg, 38.7% <60mg and 10.9% >60mg. Compared to patients 18-44 years old, patients 75+ years old were more likely to start on a dose of >60mg (Odds Ratio [OR]: 1.89, 95% Confidence Interval [CI]: 1.19-3.01). Patients with prior use of opioid (OR: 0.75, 95% CI: 0.60-0.94) or prior or hypertension (OR: 0.74, 95% CI: 0.60-0.92) were less likely to start on >60mg, whereas patients with prior use of NSAIDs (OR: 1.24, 95% CI: 1.01-1.53) or malignancy (OR: 1.53, 95% CI: 1.02-2.21) were more likely to start on <60mg. Patients with prior use of duloxetine (OR: 1.67, 95% CI: 1.18-2.57) or depression (OR: 1.61, 95% CI: 1.12-2.31) were more likely to start on a dose of >60mg. **CONCLUSIONS:** Most of the patients initiated duloxetine at 60mg/day. Presence of selected comorbidities and prior use of medications were associated with higher starting dose of duloxetine among OA patients.

**PM1S3**
ADHERENCE AND URIC ACID GOAL ACHIEVEMENT WITH URATE LOWERING THERAPY IN PATIENTS WITH GOUT

Rashid N1, Cheetham CT2, Niu F

1Kaiser Permanente Southern California, Downey, CA, USA 2Kaiser Permanente, Downey, CA, USA

**OBJECTIVES:** Evaluate patient and prescriber characteristics associated with gout patients newly initiating allopurinol, evaluate adherence within this population. **METHODS:** Retrospective study of gout patients was conducted using Kaiser Permanente Southern California health care data. Patients aged 18 years and older with a diagnosis of gout (ICD9 274.7) and allopurinol prescription from January 1, 2007 to June 31, 2010 were included. Incident allopurinol users were defined as patients that had no allopurinol prescription within 12 months prior of the 1st gout diagnosis index date. Patients had at least 12 months of follow up after their 1st allopurinol prescription. Descriptive statistics such as age, gender, race, co-morbid conditions, concomitant medications, prescriber specialty, and allopurinol dose adjustment were calculated comparing patients at suA goal (<6mg/dl) or not at suA goal. MFR mean and adherence was measured using the medication possession ratio (MPR) over the follow up time period and was defined as >80%. **RESULTS:** A total of 9288 gout patients were identified as incident allopurinol users (mean age 63 years, men 71% versus 6539 patients not at goal (mean age 59 years, men 81%). The mean MFR for patients at goal was 92% versus 77% for patients not at goal. A total of 1793 patients (65%) were adherent and at goal versus 40% were adherent but not at goal. **CONCLUSIONS:** Sixty percent of incident allopurinol users do not have UA goal attainment and are less adherent. Efforts need to be made to improve adherence to achieve better goal obtain gout attainment.

**PM1S4**
MUSCULAR-SKELETAL DISORDERS – Research on Methods

**PM1S5**
OSTEOARTHRITIS IN FRANCE THE COST OF AMBULATORY CARE IN 2010

**OBJECTIVE:** In France, the cost of an osteoarthritic patient has not been estimated for several years. The aim of the study was to evaluate the annual cost of the treatment given to osteoarthritic patients by GP. **METHODS:** The cohort was made between SIFRA and health care costs was also examined using histograms. **RESULTS:** The Spearman’s rank correlations between SIFRA and CIRAS were 0.525 for SIFRA without laboratory and 0.539 for SIFRA with laboratory data. The correlations between SIFRA and the Charlson Comorbidity Index (0.503 without, 0.1135 with laboratory data), Elixhauser Index (0.105 without, 0.079 with laboratory data) and Chronic Disease Score (CD(S) (0.255 without, 0.239 with laboratory data) were inconsistent. The coefficients showed that, in the lower tertile of SIFRA incurred $9,123 more all-cause health care costs and $1,326 more RA-related health care costs than patients in the lower tertile of SIFRA. **CONCLUSIONS:** SIFRA was found to have moderate correlations with the previously validated CIRAS score, and demonstrates good validity in being a significant determinant of total and RA-related health care costs for RA patients. This study suggests that SIFRA could be an important methodological tool to control for severity in RA-related outcomes research.

**PM1S6**
USE OF COMMON DATA MODEL TO ENABLE MEANINGFUL COMPARISON OF EFFECTIVENESS AMONG DATABASES

Schneider G1, Powell G2, Reisinger S

1United BioSource Corporation, Lexington, MA, USA 2ClaxtonSmithKline, RTP, NC, USA 3United BioSource Corporation, Harrington, PA, USA

**OBJECTIVES:** Use of a Common Data Model (CDM) to standardize underlying data assumptions and format enables consistency in the application of research methods and production of meaningfully comparable results across disparate data sources. This study compared the baseline disease burden, as measured via a common comorbidity index condition with the following conditions being the most common: hypertension (73%), chronic kidney disease (32%), and diabetes (25%). Hydrochlorothiazide (21%) and furosemide (17%) were the most commonly utilized concomitant medications. At the end of observation, 746 patients (30%) were at suA goal (mean age 63 years, men 71%) versus 6539 patients not at goal (mean age 59 years, men 81%). The mean MFR for patients at goal was 92% versus 77% for patients not at goal. A total of 1793 patients (65%) were adherent and at goal versus 40% were adherent but not at goal.

**CONCLUSIONS:** Percent of incident allopurinol users do not have UA goal attainment and are less adherent. Efforts need to be made to improve adherence to achieve better goal obtain gout attainment.

**PM1S7**
DERIVATION OF SEVERITY INDEX FOR RHEUMATOID ARTHRITIS AND ITS EFFECT ON HEALTH CARE OUTCOMES

Basu Q1, Wang L1, Xie L1, Du J1, Wang H1

1STATA Consulting Research The University of Michigan, Ann Arbor, MI, USA 2STATA/MED Research, Dallas, TX, USA 3STATA/MED Research, Ann Arbor, MI, USA 4The University of Michigan, Ann Arbor, MI, USA

**OBJECTIVES:** To develop a claims-based severity index for rheumatoid arthritis (RA) using US data. **METHODS:** We used a large U.S. RA database, which included RA patients with at least 18 months of continuous health plan enrollment before and after the index date (first RA diagnosis date). A severity index for rheumatoid arthritis (SIFRA) was developed by calculating a weighted sum of 47 RA-related indicators including laboratory, clinical and functional status, extra-articular manifestations, surgical history, and medications assessed by an expert Delphi panel of six rheumatologists. Two versions of SIFRA were derived for patients with and without laboratory information. Correlations between SIFRA and previously validated claims-based indexes for RA severity (CIRAS, and other traditional comorbidity indexes were calculated. The relationship...
up of patients who were diagnosed with osteoarthritis between April 2009 and March 2010 (IMS Disease Analyser database). The dataset includes all medical cost to the payer, including all treatments and medications. It also includes consultations with GPs and all resulting drug prescriptions. The evaluated cost is therefore the annual cost of treatment given to an osteoarthritis patient. RESULTS: A total of 18,976 patients suffering from osteoarthritis were followed. For these patients, who had an average age of 66, all consultations with GPs as well as all resulting drug prescriptions were valued also in terms of societal cost and cost to health insurance. The average annual cost of disease management by a GP of a patient suffering from osteoarthritis is therefore valued at €765 societal cost, of which €166 paid by health insurance. The annual cost of treatment by a GP of a patient suffering from hip osteoarthritis is significantly lower at the societal level (€715) than at the health insurance level (€425) compared to patients suffering from osteoarthritis in the knee or elsewhere, despite their higher age. CONCLUSIONS: The model is an attempt to create and validate a decision-support tool that service planners can use to better promote care. We participated changes in health care demands and service. Furthermore, the integrated knowledge translation process reflects the critical importance of involving clinicians and decision-makers when developing a system dynamics model for applied use.

PM590
THE INFLUENCE OF ‘WEAK LINKS’ ON COMPARATIVE TREATMENT EFFECTS IN MULTIPLE TREATMENT COMPARISON META-ANALYSIS: A SIMULATION STUDY

A total of 60 rheumatoid arthritis (RA) patients were asked to complete the IND-HAQ at 2 time points (4 weeks apart). Patients also participated in the Stanford Health Assessment Questionnaire (PROMIS-HAQ) at the second time point. PROMIS-HAQ scores were used to assess the validity of the IND-HAQ. Besides the HAQ, the other outcome measures constituted the ACR50 response. Given a willingness to pay of 1,715 Euros, a treatment comparison meta-analysis was also performed. The fully specified SD model has been validated with end-users and can be used as a decision-support tool to test scenarios and their resulting effects on system performance and costs. CONCLUSIONS: Based on multiple real-world observational data sources, this SD Model allows evaluation of alternative clinical and administrative scenarios that reflect anti-cost-effectiveness analysis and budget impact model in the treatment of rheumatoid arthritis after failure of conventional DMARD therapy using comprehensive Bayesian decision-analytical modelling

OBJECTIVES: Eighteen percent of patients with rheumatoid arthritis (RA) escape conventional DMARD treatment with Methotrexate and hence biological agents like TNFα inhibitors are also used. Given a population of patients with severe rheumatoid arthritis we sort to assess efficacy and safety after failure of DMARD, to estimate the budget impact of the management of RA in France, to compare between average annual cost of maintaining a patient under treatment and finally to evaluate the cost-effectiveness of different available strategies. METHODS: We carried out a systematic review of randomized control trials conducted between 1999 and 2010 on patients with RA on treatment with one of the biological agents, a quantitative synthesis of the evidence from random effects mixed treatment comparison was also done and a Markov model to assess budget impact and cost-effectiveness of different strategies was constructed. We assumed that (i) Response, discontinuation and infection rates where constant over time (ii) model results in terms of cost and effectiveness are similar with all compared considered equally. SIMULATION MODELING WITH SYSTEM DYNAMICS (SD) USING REAL-WORLD EVIDENCE FROM MANUFACTURERS' DATABASES

OBJECTIVES: We carried out a series of stock and flows, and validated the model. Through multiple workshops, experts from front-line clinical staff and administrators provided input and improved face validity. RESULTS: OA care process diagrams were the preferred format for developing the model structure. The fully specified SD model has been validated with end-users and can be used as a decision-support tool to test scenarios and their resulting effects on system performance and costs. CONCLUSIONS: Based on multiple real-world observational data sources, this SD Model allows evaluation of alternative clinical and administrative scenarios that reflect anti-cost-effectiveness of different available strategies. METHODS: We carried out a systematic review of randomized control trials conducted between 1999 and 2010 on patients with RA on treatment with one of the biological agents, a quantitative synthesis of the evidence from random effects mixed treatment comparison was also done and a Markov model to assess budget impact and cost-effectiveness of different strategies was constructed. We assumed that (i) Response, discontinuation and infection rates where constant over time (ii) model results in terms of cost and effectiveness are similar with all compared considered equally.