OBJECTIVES: Biophosphonates are anti-osteoporosis medication. This study evaluated the cost of the use of biophosphonates in osteoarthritis associated with hip fracture in a naturalistic setting from the payer perspective. METHODS: Using the 1997-2007 Taiwan’s National Health Insurance research database, we identified patients with the first-ever hospitalization experience for hip fracture between 1999-2007. Of these, 83 patients who received biophosphonates within the first year of hip fracture were grouped into “biophosphonates cohort”; those who received no anti-osteoporosis medications were grouped into “untreated cohort”. The duration of the hip fracture served as the date of cohort classification. RESULTS: Among 3,427 patients identified, 161 received biophosphonates and 3,266 were left untreated. The mean follow-up period of the biophosphonates cohort and the untreated cohort were 5.1 and 4.7 years. There was no significant difference in the risk of hip fractures among the two groups (HR: 1.24; 95% CI: 0.87-1.78, p=0.227). However, the osteoporosis-related costs of the biophosphonates cohort were significantly higher than the untreated cohort (the average incremental cost was 29,227 point values, 95% CI 14,890-45,564, p=0.001). Further analysis found the use of bisphosphonates for the secondary prevention of hip fracture was cost-ineffective in a naturalistic setting.

PMSS8

COST EFFECTIVENESS OF TOFACITINIB AS SECOND LINE TREATMENT VS USING BIOLOGICAL THERAPIES IN THE TREATMENT OF MODERATE RHEUMATOID ARTHRITIS AFTER FAILURE OF DMARDS IN GUATEMALA IN 2014

Gaita A1M, Peralta-Acon M1, Chavez-Perez N2

1Fiserv Central America and Spain, San José, Costa Rica, 2Instituto Guatemalteco del Seguro Social, Ciudad de Guatemala, Guatemala

BACKGROUND: Rheumatoid arthritis (RA) is a common autoimmune disease associated with morbidity rates and diminished quality of life. Physicians who have an inadequate response to disease-modifying antirheumatic drugs (DMARDs), the use of biologic agents and JAK inhibitor has proved to be effective as second line treatment. [1] OBJECTIVES: To evaluate the cost-effectiveness of Tofacitinib in second line treatment vs using the standard biologic therapy when second line treatments in patients with moderate RA after failure of DMARDs in Guatemala Health Care System (IGSS) in 2014. METHODS: A patient-level simulation model was used to evaluate costs and health benefits. This cost-effectiveness model compares two sequences of treatments: one using Tofacitinib as a second line treatment followed by biological therapies (Tofacitinib-Infliximab-Adalimumab- Etanercept-Tocilizumab-Rituximab-salvage therapy) and the other using the same biologic therapies scheme but excluding Tofacitinib; these schemes are defined according to experts opinion from IGSS [2]. All patients received concomitant treat- ment with methotrexate. Model inputs are: age, weight, initial HAQ score, severe adverse events (SAE) and clinical response to short and long term treatment; randomize controlled trials were used as a source information when local information was not available [3, 4]. HAQ scores were used to calculate utilities, measured in QALYs [5, 6, 7]. Only direct costs were considered using institutional databases from 2014. [8] Annual patient discount rate was 5%, the time horizon is 15 years. RESULTS: Total cost and total QALY per patient in a lifetime period is estimated to be $213,009 and 8.83 QALY for the treatment sequence with Tofacitinib, $222,145 and 8.52 for treatment sequence with biologic therapy alone. The treatment sequence with Tofacitinib is 15.2% in the first year, 15.0% in 5 year and 10.7% in ten years. CONCLUSIONS: For the IGSS, the sequence initiating with Tofacitinib is a cost-saving alternative compared with the standard biologic therapy.

PMSS9

ASSOCIATION BETWEEN OSTEARTHROIS AND WORKPLACE ABSENTEEISM

Mendenhall MT1, Thomas P1

1Purdue University, West Lafayette, IN, USA

OBJECTIVES: Osteoarthritis is the most common form of arthritis, affecting 27 million individuals in the United States. This study assessed incremental workplace absenteeism associated with osteoarthritis over one year. METHODS: Data from the 2011 Medical Expenditure Panel Survey (MEPS) was used for analyses. Sample inclusion criteria were being employed and at least eighteen years old. Individuals suffering from osteoarthritis were identified based on International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnosis code of 715 in claims. Exclusion criteria were missing information on any variable. A zero inflated negative binomial regression was used with annual days missed at work as the response variable and a binary variable indicating osteoarthritis as the primary predictor. Covariates in the model adjusted for age, sex, education, race, marital status, occupation, region, insurance, hypertension, diabetes, anxiety, asthma, degree, hypotension and Charlson Comorbidity Index score. To account for the complex survey sample, sampling weights were incorporated in the model. Analyses were carried out using STATA for UNIX version 12.1 with an alpha level of 0.05. RESULTS: MEPS individuals (N=67,514) were screened, 1,368 individuals with osteoarthritis. One-half of the sample was 47 years or younger, 54.3% were females, and 70% were Caucasians. The expected number of days absent for individuals with osteoarthritis was 1.3 times the expected number of days absent for individuals without osteoarthritis (p<0.038). Incremental annual days missed at work was 2.08 days for individuals with osteoarthritis as compared to individuals without osteoarthritis (p<0.037). Among covariates that were significant, expected number of days absent for males with osteoarthritis was 1.37 times the expected number of days absent for those without hypertension (p<0.01). The expected number of days absent for females was 1.54 times the expected number of days absent for males (p<0.001). CONCLUSIONS: Osteoarthritis diagnosis is associated with significant incremental work absences.

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

PMSS60

BIOLOGIC DISCONTINUATION IN RHEUMATOID ARTHRITIS: EXPERIENCE FROM CANADIAN CLINICS

Cochetto D1, Couplal L1, Labbebert M1, Desjardins O2

1Institut de Rhumatologie de Montréal, Montréal, QC, Canada, 2AbbVie, Saint-Laurent, QC, Canada

OBJECTIVES: The purpose of this study was to describe biologic discontinuation and assess the predictors of discontinuation in Canadian rheumatoid arthritis (RA) patients. METHODS: In this prospective cohort study, adult patients included in the RHEUMADATA database with a diagnosis of RA and treated with at least one biologic since 2003 were selected. The RHEUMADATA database includes clinical, laboratory and socioeconomic information of patients with rheumatic diseases followed in three rheumatology centers in Quebec (Montréal, Quebec City, and Sherbrooke). Patients were followed for three years after therapy initiation or until treatment discontinuation, as measured using pharmacy records. Time to discontinuation and predictors of treatment discontinuation were explored using Cox proportional hazards model. RESULTS: A total of 1,242 RA patients were followed up. Time to discontinuation (Cox proportional hazard model) included age (HR: 1.5, 95% CI: 1.4-1.6, p<0.001), female gender (HR: 1.7, 95% CI: 1.6-1.9, p<0.001), and high biologic discontinuation rates were observed. This study also suggests that many clinical and socioeconomic variables are predictors of biologic discontinuation in RA patients.

PMSS61

PATIENT- AND PHYSICIAN-REPORTED MOTIVATIONS FOR MEDICATION NON-ADHERENCE OR SWITCHING IN RHEUMATOID ARTHRITIS

Simpson IA1, Prado M1

1Strategic Market Insight, Acton, MA, USA, 2Real Health Data, Santa Cruz, CA, USA

OBJECTIVES: Rheumatoid arthritis (RA) is a chronic inflammatory disorder that affects the lining of joints, causing painful swelling that can result in bone ero- sion and joint deformity to the point of disability and loss of function and lessened inflammation; however, non-adherence and frequent switching are rec- ognized problems in patients with RA. The objectives of this study are to bet- ter understand patients’ and physicians’ reasons for switching medications and/or non-adherence, i.e., when, why and how patients switched. METHODS: We extracted 300 records for RA patients from a unique database of physician-patient interactions (RealHealthData). Using Atlas.ti, we analyzed these records to analyze trends for medication adherence, i.e., when, why and how patients stopped or switched their medication. In addition, we analyzed physicians’ noted reasons for switching. RESULTS: On average, patients were 53 years old (±10). Patients were similar to the general RA population, with a noted variability of swelling and joint pain. The medications prescribed to the patients included: methotrexate (22%), Orencia (18%), Remicade (14%), Plaquenil (14%), Humira (13%) Enbrel (8%), Acterna (6%) and CeleCept (5%). Patients’ reported reasons for switching and/or non-adherence were related to: feeling the medication was not working and/or continual progression of symptoms (35%) and adverse reaction to medication such as itching (11%) and GI problem (11%). Of the physicians who recommended reasons for switching their patients’ medications included potential toxicities associated with drugs (46%) and observed disease progression (34%). CONCLUSIONS: It is critical to better understand patients’ and physicians’ reasons for switching medi- cation for chronic disease like RA. The more we know about reasons for behavior, the more we can actively plan and organize research, development and outreach that is patient-centric and clinically meaningful. Our results demonstrate that using physician-patient interaction data can add tremendous value to outcomes researchers and healthcare decision makers.

PMSS62

IMPACT OF RHEUMATOID ARTHRITIS ON SELF-REPORTED WORK PRODUCTIVITY, DISEASE SEVERITY AND ADHERENCE IN AN EMPLOYED POPULATION

Gahoi FL1, Ghosh S1, Koerner P1, Miller R2, Parekh MH1, Khairnar R1

1Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA, USA, 2Walgreens Specialty Pharmacy, Carnegie, PA, USA

OBJECTIVES: To study the impact of rheumatoid arthritis on self-reported work productivity, disease severity and adherence in an employed population. METHODS: A total of 1,041 patients with rheumatoid arthritis (RA) were identified from a list of patients with rheumatoid arthritis included in the Specialty Pharmacy database. Survey to the RA population, with a noted variability of swelling and joint pain. The medications prescribed to the patients included: methotrexate (22%), Orencia (18%), Remicade (14%), Plaquenil (14%), Humira (13%) Enbrel (8%), Acterna (6%) and CeleCept (5%). Patients’ reported reasons for switching and/or non-adherence were related to: feeling the medication was not working and/or continual progression of symptoms (35%) and adverse reaction to medication such as itching (11%) and GI problem (11%). Of the physicians who recommended reasons for switching their patients’ medications included potential toxicities associated with drugs (46%) and observed disease progression (34%). Feeling the medication is not working and/or continual progression of symptoms (35%) and adverse reaction to medication such as itching (11%) and GI problem (11%). Of the physicians who recommended reasons for switching their patients’ medications included potential toxicities associated with drugs (46%) and observed disease progression (34%). CONCLUSIONS: It is critical to better understand patients’ and physicians’ reasons for switching medication for chronic disease like RA. The more we know about reasons for behavior, the more we can actively plan and organize research, development and outreach that is patient-centric and clinically meaningful. Our results demonstrate that using physician-patient interaction data can add tremendous value to outcomes researchers and healthcare decision makers.