CHARACTERIZING LOST PRODUCTIVITY AND DIRECT AND INDIRECT COSTS OF RHEUMATOID ARTHRITIS—A LARGE, SELF-INSURED EMPLOYER’S PERSPECTIVE

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Abstracts

OBJECTIVES: To characterize burden of illness, health care resource utilization, and direct and indirect costs of select autoimmune disorders. METHODS: A retrospective cross-sectional analysis was performed using data from Navistar, Inc. This integrated dataset included health care claims (medical and pharmacy), absenteeism, workers compensation, and long-term disability. Individuals were identified as having RA through ICD9-CM diagnosis code 714.xx. Pilot data from active employees, those who retired, and retirees were included in the study. Indirect costs were calculated from absenteeism and short-term disability days using aggregate payroll data. RESULTS: 1,344 RA sufferers were identified among the total sample (n = 65,000). Among the RA sufferers, 53% were retirees, 42% were dependents and 5% were active employees. 60% were over the age of 50 years and more than two-thirds (70%) were females. A high rate of comorbidities was also observed, with 40% having more than three comorbid conditions. The top three comorbid conditions were chronic obstructive pulmonary disorder, (COPD) (23%), congestive heart failure (CHF) (19%), and vascular disease (18%). RA sufferers used health care services at a high annual rate (ambulatory/physician office visits = 9, emergency visits = 1.8). Subsequently, the annual total direct costs of RA were also high at $8461 per patient. Among active employees, a high rate of short-term disability was observed (mean = 13.8%), whereas absence days were observed at 2.7 days per annum. Annually, 16.2% was calculated to be $2963 per employee, including absenteeism ($710), short-term disability ($1015), workers compensation ($757), and long-term disability ($340). CONCLUSIONS: RA presents a significant total health care cost burden for employers. Employers should include dependents and retirees to determine the full impact of RA on total costs. Employers with RA miss more work days, are less productive, and tend to utilize disability. Prospective studies are needed to determine employer presenteeism in comprehensively measure productivty loss.

COMPARISON OF MEDICAL RESOURCE USE AND COSTS ASSOCIATED WITH FIBROMYALGIA IN FRANCE, GERMANY AND THE UNITED STATES

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Abstracts

OBJECTIVES: Fibromyalgia (FM) is a chronic disorder characterized by persistent, widespread pain among other symptoms. This study compares FM practice patterns and costs across the US and Europe in routine clinical practice. METHODS: Data from cross-sectional, observational studies of FM subjects 18–65 years of age in the US and Europe (France and Germany) were analyzed. Medical resource use (MRU) related costs were abstracted from retrospective chart review; patient out-of-pocket costs and lost productivity were collected via subject self-report. Direct and indirect costs, related to absenteeism and disability, due to FM were calculated using standard costing algorithms and reported in 2009 US dollars. Descriptive statistics on select variables and direct and indirect medical costs to society are reported. RESULTS: A total of 442 subjects (203 US, 70 France, 169 Germany) were analyzed. The U.S., French, and German mean (SD) age was 47.9 (10.9), 51.2 (9.47), and 49.2 (9.80), respectively. Approximately 95% of the U.S. subjects were female compared to 83% in France and 80% in Germany. Approximately 40% of U.S. and French subjects and 44% of German subjects were employed either full- or part-time. More than 27% of U.S. patients were disabled, compared to 11% and 3% in France and Germany, respectively. Approximately 6% of U.S. subjects were retired compared to 24% in France and 10% in Germany. The mean (SD) annual direct costs per subject in the U.S. were $10,697 (20,463) compared to $9,819 (18,242) in France and $7,898 (15,822) in Germany. CONCLUSIONS: Total direct costs contribute more to the overall US cost in comparison to France and Germany, but total indirect costs due to absenteeism and disability proportionally contribute more in these countries compared to the U.S.

ANALYSIS OF DIAGNOSES RELATED GROUP NUMBER 234—OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE—OPERATING ROOM PROCEDURES

Stahl A1

Abstracts

OBJECTIVE: Analyze the data for statistically significant trends in comparison between DRG 234 and the general population. METHODS: An experimental dataset is created by combining the data pertaining to DRG 234 with an equally used random sample (excluding DRG 234) dataset, resulting in an experimental dataset of 3535 patients’ entries. These data come from the 2007 Healthcare Cost and Utilization Project (HCUP) Kids Inpatient Database (KID). Using commercial Statistical Analysis Software (SAS Enterprise Guide) and code native to SAS, various analysis techniques will be used to describe statistical trends in these data. RESULTS: A one-way frequency analysis shows that DRG 234 has a disproportionately high occurrence in the Hispanic population, 18.58 % in the control group compared to 12.76% in the experimental group. A frequency count also shows that these diagnoses most often occur before the first birthday—the result of many ICD9-CM musculoskeletal disorders categorized under DRG 234. The diagnoses and procedures grouped under DRG 234 tend to result in a shorter stay but are more costly in terms of total charges. Linear models suggest that the total charges to Asian or Pacific Islander patients tend to be higher than the other racial categories’ mean total charges.

ESTIMATION OF COSTS OF HEALTH CARE FOR PEOPLE WITH RHEUMATOID ARTHRITIS FOR VARYING DEGREES OF DISABILITY AS MEASURED BY THE HEALTH ASSESSMENT QUESTIONNAIRE IN THE UNITED KINGDOM

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OBJECTIVES: Rheumatoid arthritis (RA) confers both significant short- and long-term disability, and substantial background health care costs, yet cost data are scarce. We conducted a retrospective, administrative claims-based analysis of RA using covariates also available in routine, primary care data that were estimated. METHODS: In modeling disability, biologic-naïve RA cases from the UK biobanks register were selected. General Linear Modeling (GLM) was used to predict HAQ score from demographics, comorbidity, polypharmacy, RA duration, BMI, smoking status and disease activity. Health care costs were estimated from insurance claims data and included direct and indirect costs occurring selected from the THIN database. Annual costs included provisions, consultations, and investigations from primary care and hospital episodes. An alternative generalised linear model assumed a Poisson distribution, and a log-link explored the association between health care costs and predicted HAQ. RESULTS: Disability scores of 0.8 to 1.8 were calculated for 1,344 RA patients, of whom 75% were female with an average age of 58 years (sd 14) and an average baseline HAQ of 1.80 (sd 0.72). The optimal HAQ model included gender, RA duration, number prior DMARDs, number of current non-DMARD drugs, log(BP), smoking status and stroke history. The r^2 value was 0.27, while mean prediction error was 0.15 (sd 0.30). Costs were assessed in 3,178 cases with similar gender balance but slightly older (mean 64 years). Their predicted HAQ scores ranged from 0.48 to 3.30, with a mean of 1.60 (sd 0.40). The mean total cost of care in this population was £1,960 per annum (sd, £1,864), with prescriptions the largest component (43%), followed by outpatient attendances (18%), GP consultations (16%), and hospital admissions (13%). Predicted total costs (GBP2007) ranging from £630 to £10,017 were calculated from EXP^(5.949+Age*pHAQ*0.67 + (Age^2)*pHAQ*0.003)). CONCLUSIONS: Total health care costs for RA patients increased exponentially across the range of estimated disability. Exclusion of support-service costs suggests these values may be conservative.

RHEUMATOID ARTHRITIS (RA) TREATMENT COSTS AMONG U.S. PATIENTS TREATED WITH INFUSED BILOGICS

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OBJECTIVES: To determine the real-world, one-year cost of RA treatment for patients initiating therapy with an infused biologic from a US commercial payer perspective. METHODS: We conducted a retrospective, administrative claims-based analysis of RA patients enrolled in a large U.S. managed care plan who initiated an infused RA biologic (infliximab, abatacept, rituximab) between January 2, 2006 to January 31, 2009. Patients ≥18 years of age, with ≥1 diagnosis of RA and continuously enrolled 12 months following treatment initiation, were included. Patients with diagnoses of non-RA conditions for which the study drugs are not approved that rituximab and abatacept, received ≥1 anti-TNF agent, and only included infliximab patients who had evidence of a prior anti-TNF agent. Generalized linear models with a log link and gamma distribution were employed to compare Total RA-related costs (RA medication + health care services with diagnosis of RA), RA medication costs (biologics, other DMARDs, NSAIDs, corticosteroids) and Index biologic costs (drug + administration), among patients treated with each infused biologic, while controlling for demographics, co-morbidity score, plan type, index year, and prior RA medications (methotrexate, NSAIDs, corticosteroids). RESULTS: A total of 813 patients met the inclusion criteria and 376 patients in the index drug group (n = 156 infliximab, n = 418 abatacept, n = 239 rituximab), 82% women, average age 52 years (SD = 11.7). During the one-year following treatment initiation adjusted costs were as follows: Total RA-related health care costs (Rituximab = £26,783, Abatacept = £24,344, Infliximab = £27,031, p = 0.1249), RA medication costs (biologics, other DMARDs, NSAIDs, corticosteroids) and Index biologic costs (Rituximab = £17,638, Abatacept = £16,233, Infliximab = £17,845, p = 0.1256). CONCLUSIONS: We did not find a difference in one-year RA-medication
REAL-WORLD USE OF DULOXETINE FOR LOW BACK PAIN AND CHRONIC LOW BACK PAIN: TREATMENT PATTERN, DIRECT AND INDIRECT COSTS

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OBJECTIVES: To evaluate the real-world role of duloxetine versus other treatment for low back pain (LBP) and chronic LBP (CLBP). METHODS: There were 753 employees identified, ages 18 to 64 years, with ≥1 LBP diagnosis, per HEDIS specifications, and ≥1 duloxetine prescription within a year after LBP diagnosis from a privately-insured claims database (2004–2007). Employees had continuous eligibility for 36 months before (baseline) and 26 months after index duloxetine prescription (study period). Using propensity score matching, duloxetine-treated employees were matched to 753 LBP employees (controls) who initiated another pharmacological/non-invasive LBP treatment in the same month from LBP diagnosis. A subset (n = 155) of each matched employees with baseline CLBP (subsequent LBP diagnosis within 3–6 months after the initial LBP diagnosis) was also analyzed. McNemar tests were used to compare LBP treatment rates. Bias-corrected bootstrapping was used to compare direct (medical and drug) and indirect (workloss) costs from third-party payer perspective. RESULTS: Duloxetine- and placebo-treated employees versus controls had significantly lower rates of other pharmacological therapy (e.g., 44.0% vs. 56.4% narcotic opioids; 29.5% vs. 40.9% NSAIDs; all p < 0.001) and non-invasive therapy (22.3% vs. 38.7% chiropractic therapy, 18.9% vs. 38.0% physical therapy; 14.2% vs. 27.3% exercise therapy; all p < 0.001). Back surgeon-treated employees compared with controls (1.7% vs. 2.8%, respectively; p = 0.157). Duloxetine-treated employees versus controls had significantly lower 6-month indirect costs ($1723 vs. $2198, p = 0.004) and lower direct costs ($4953 vs. $5649, p = 0.267). Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191). CONCLUSIONS: Duloxetine treatment in LBP and CLBP employees versus other non-surgical treatment was numerically associated with lower rates of surgery. Sensitivity analysis using multivariate analysis confirmed the results. Among CLBP patients, duloxetine-treated employees were matched to 753 LBP employees (controls) who had a lower rate of surgery (1.3% vs. 5.2%, p = 0.085), direct ($5519 vs. $7066, p = 0.345) and indirect costs ($1996 vs. $2612, p = 0.191).