

productive age (18–60 for women and 18–65 for men) were recruited at regionally stratified sample of rheumatology outpatient centers around the country and were offered a questionnaire including Work Productivity and Activity Impairment (WPAI) instrument (a standardized tool for loss of work productivity estimation). The survey was complemented by disease activity assessment questionnaire filled out by specialists who were also responsible for patients recruitment during the routine visits. Employed patients were estimating i.a. the absenteeism and presenteeism rates (% of work time missed due to health and % of impairment while working). Subsequently, systematic review of Medline database was conducted. Two studies using WPAI questionnaire were found (Bansbrack 2012, Zhang 2010). **RESULTS:** In the study, mean age of RA patients was 49 (mean age at RA onset was about 39), mean DAS28 result 3,77 (moderate disease). 40% of the group had first symptoms for less than 5 years (mean duration since symptoms onset was 90 months). Meanwhile, in Bansbrack 2012 mean age at RA onset was 48 and mean duration since onset of symptoms was 48.6 months. Mean age of patients described in Zhang 2010 was 51, 45.8% had disease duration of less than 5 years. The participants had a low function disability level and moderate arthritis. In the study absenteeism rate was 18%, while presenteeism rate reached 27%. The corresponding values in Bansbrack 2012 were 8.7% and 24%. In Zhang 2010 only presenteeism rate was analyzed and equaled 17.8%. **CONCLUSIONS:** RA reduces work ability and lower work productivity in people in productive age both in Poland and in other countries. Differences in patients characteristics are probably the cause of results variation between studies.

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HEALTH CARE RESOURCE USAGE, TREATMENT AND COSTS AMONG PATIENTS WITH HIP FRACTURE IN THE UNITED KINGDOM

Lambrelli D¹, Burge R², Raluy M¹, Karlsdotter K¹, Chen SY³, Wu N³, Schoenfeld M²

¹Evidera, London, UK, ²Eli Lilly and Company, Indianapolis, IN, USA, ³Evidera, Lexington, MA, USA

OBJECTIVES: Available data on economic impact of hip fractures in the U.K. are mostly derived from clinical trials or published before the year 2000; recent estimates are lacking. This study examined health care resource usage, treatment and costs among patients with hip fracture in the U.K. **METHODS:** The study used data from the Clinical Practice Research Datalink (CPRD) linked to the Hospital Episode Statistics (HES). Adult patients hospitalised for hip fracture (ICD-10: S72 or M84.4; admission date as index date between January 1, 2006–March 31, 2011) and no previous hip fracture 7 days to 1 year pre-index, and computerised data available 1 year pre and 1 year post-index were identified in HES. Hip fracture-related inpatient and outpatient visits and pharmaceutical treatments were estimated for pre- and post-index periods. Associated costs were calculated by multiplying resource units by official publicly available costs from the NHS perspective. **RESULTS:** A total of 8,028 hip fracture patients were identified (mean age 79; 27% age 85+; 75.8% female; mean Charlson comorbidity index score 2.1). The most common comorbidities were osteoarthritis (42%), pulmonary disease (25%), and renal disease (23%). Pre-index, average resource use per patient included 1 inpatient stay (mean 5.7 days), 7.4 General surgery visits, 4.4 blood tests, and 0.76 General Practice phone consults. Average overall costs pre-index were £3122. For the index hospitalisation, mean length-of-stay and costs were 19.5 days and £14223, respectively; 18% were discharged to another hospital; and 39% and 5% had partial or total hip arthroplasty procedures performed. Post-index frequent medications included acetaminophen (56%), opioids (46%), and bisphosphonates (46%); 51% had hospital stays; and 5.7% had subsequent hip fractures. Average post-index overall costs were £7359. **CONCLUSIONS:** Our study provides recent estimates of resource usage, treatment and costs among U.K. hip fracture patients. This information can be useful in burden of illness and economic analyses.

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RESOURCE UTILISATION AND COSTS OF TOTAL HIP ARTHROPLASTY IN THE UNITED KINGDOM: A DESCRIPTIVE ANALYSIS

Raluy M¹, Burge R², Lambrelli D³, MacLachlan S¹, Wu N⁴, Chen SY⁴, Schoenfeld M²

¹Evidera, London, UK, ²Eli Lilly and Company, Indianapolis, IN, USA, ³Evidera, UK, ⁴Evidera, Lexington, MA, USA

OBJECTIVES: Total hip arthroplasty (THA) is a commonly performed surgical procedure in the elderly, projected to increase substantially due to the aging population. Newer resource use and cost estimates are needed to understand the potential THA burden. The study objective was to estimate health care resource use and costs in THA patients in the U.K. **METHODS:** The Clinical Practice Research Datalink (CPRD) linked to the Hospital Episode Statistics (HES) was used to estimate resource use in THA patients. Inclusion criteria were: first inpatient stay for THA (OPCS procedure code W37-W39, W46-W48, W93-W95) (index event between 1/1/2006–3/31/2011); no THA diagnosis/procedure 7 days to one year pre-index date; 1-year pre and 1-year post-index of computerised data available; age 18+. Inpatient, outpatient and pharmacy THA-related costs were calculated by multiplying resource units by official publicly available costs (British Pound Sterling, 2012) from the NHS perspective. **RESULTS:** THA patients identified (n=15,288) were mostly female (66%), elderly (mean age 72; 45%>75), and 84% had osteoarthritis. Pre-index, the most common medications were opioids (53%), NSAIDs (41%), and acetaminophen (35%); 95% had General surgery visits; 64% had inpatient stays; 36% had x-ray; and overall costs (std. dev) were £4,556 (7850). The index hospital event average length-of-stay (LOS) was 9 days and mean costs were £11,321. Post-index medication usage for opioids, NSAIDs, and acetaminophen was 49%, 29%, and 45%, respectively. The most frequent resources were General surgery visits (94%), hospital stays (39%), and General Practice phone consults (35%). For patients with utilisation, means per patient were 7.4 for General surgery visits, 5.4 days for hospitalisations. Mean (std. dev) overall post-index costs were £3,567 (9612), comprised mostly of inpatient costs (85%). **CONCLUSIONS:** This study described resource utilisation, pain medications usage and associated costs for THA patients. These estimates may offer a better understanding of the economic burden.

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OUTPATIENT MEDICAL COSTS, INDIRECT COSTS, AND FAMILY BURDEN OF OSTEOPOROSIS FRACTURE IN CHINA

Yang Y¹, Du F², Lu T³, Xie Z⁴, Xu W⁵, Huang Q⁶, Ye WW⁶, Burge R⁷

¹Eli Lilly Suzhou Pharmaceutical Co. Ltd. Shanghai Branch, Shanghai, China, ²Beijing Brainpower Pharma Consulting Co. Ltd., Beijing, China, ³Beijing Chaoyang Hospital, Capital Medical University, Beijing, China, ⁴Southwest Hospital, Third Military Medical University, Chongqing, China, ⁵Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China, ⁶Lilly Suzhou Pharmaceutical Co., Ltd. Shanghai Branch, Shanghai, China, ⁷Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: The prevalence of osteoporosis fractures is anticipated to increase rapidly due to China's aging population. However, representative data on the economic burden of osteoporosis fractures are lacking. The aims of this study were to estimate direct outpatient medical costs, indirect costs and family burden associated with patients with osteoporosis fractures in China. **METHODS:** One hundred and fifty osteoporosis fracture patients and/or care-givers were interviewed within 149 days [median] post-fracture in three tertiary hospitals in Beijing, Wuhan and Chongqing representing eastern, middle and western China. Fracture patients were discharged from hospital between January 2011 and January 2013. The survey collected data on demographics; ambulatory status; outpatient services and costs (emergency room, drugs, other outpatient); indirect medical services and supplies and costs (nursing, transportation, rehabilitation, devices, etc.); and lost work time from caregivers. **RESULTS:** Of the 123 valid respondents (female: 64.2%; mean age: 71.3 years), 62.6% were hip fractures, followed by vertebral fracture (34.1%), non-vertebral/non-hip fracture (2.4%), and multiple fracture (0.8%). All patients received surgical treatment, 8.9% had historical fractures, 80.5% had comorbidities and 82.9% of patients had post-discharge outpatient visits. The most frequent comorbidities were hypertension (61.0%), rheumatoid arthritis (41.5%), high cholesterol (35.0%) and cardiovascular disease (34.2%). Reported disability (walk w/aid or could not walk) increased from 13% pre-fracture to 36% post-fracture. Average post-acute outpatient care costs and indirect medical costs were 2084 RMB and 3526 RMB, respectively. Care-givers reported an average of 33.2 days lost from work. Using median income from the three regions, the estimated average lost income for caregivers was 5910 RMB (weighted by share of responders per region). **CONCLUSIONS:** The study suggests the economic burden of osteoporosis fractures is considerable in terms of outpatient medical costs, indirect medical costs and family burden. Osteoporosis-related fractures may pose a significant burden to China due to the aging population.

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ANNUAL EXPENDITURE ON ANTI-TNF TREATMENT OF RHEUMATOID ARTHRITIS FOR THE PUBLIC HEALTH SYSTEM IN BRAZIL

Nobre MRC¹, Costa FM¹, Taino B¹, Kiyomoto HD², Rosa GF²

¹INCOR - HCFMUSP, sao Paulo, Brazil, ²Cognos - Health Education, sao Paulo, Brazil

OBJECTIVES: Provide clinically relevant evidence and drug expenditure information for Brazilian public health system management. **METHODS:** We performed a systematic review on the use of anti-TNF biological agents, infliximab, adalimumab and etanercept in the treatment of patients with rheumatoid arthritis, using the precepts of evidence-based medicine, ensuring methodological quality of clinical studies, prioritizing clinical outcomes. Clinical evidence was retrieved in PubMed, Central Cochrane, EMBASE and medicine purchase costs in July 2010. **RESULTS:** Twenty-three randomized trials met the eligibility criteria, six on infliximab, nine on adalimumab and eight on etanercept. Adalimumab and etanercept showed no benefits when not associated with methotrexate. The ACR50 response to infliximab (NNT = 6) and adalimumab (NNT = 5) were similar while the results for etanercept were considered heterogeneous. The annual cost of infliximab to treat six patients and get ACR50 response in a single patient was US\$ 125,997.00 while for adalimumab to treat five was US\$ 186,990.00. The ACR70 response was similar between etanercept (NNT = 9) and adalimumab (NNT = 10), being lower in the recommended dose of infliximab (NNT = 12). The most favorable annual cost of acquisition was observed with adalimumab which US\$ 311,651.00 is needed to treat 10 patients and get ACR70 response in a single one, compared to expense of US\$ 365,107.00 with etanercept (NNT = 9). The unusual infliximab dose of 10mg/kg showed similar results (NNT = 9), however with the most unfavorable spent of US\$ 680,385.00. **CONCLUSIONS:** Adalimumab was the agent who showed the most favorable annual expenditure for medicine purchase from the perspective of the public health system in Brazil, considering the most clinically relevant response.

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BIOLOGICAL TREATMENT PATTERNS AND ASSOCIATED COSTS FOR PATIENTS WITH RHEUMATOID ARTHRITIS IN TAIWAN

Wu CH, Chuang PY, Tang CH

Taipei Medical University, Taipei, Taiwan

OBJECTIVES: To examine the pattern of biological treatment and the medical costs for patients with rheumatoid arthritis (RA). **METHODS:** A longitudinal dataset that includes the claims of service used by a cohort of RA patients from the Bureau of National Health Insurance was used for this study. The inclusion criteria for the study cases were patients who: 1) were holding the Catastrophic Illness Card with RA; 2) had the 1st line TNF- α antagonist treatments for at least 6 months; 3) were aged over 17. Treatment patterns were defined based on their TNF- α Antagonist within 12 months after the initial 6-month treatment period. Wilcoxon signed rank tests were performed to compare differences in service costs and service uses between the pre- and post-biological treatment periods. **RESULTS:** In total, 2425 patients were eligible for analysis. In the first year after TNF- α initial 6-month treatment, 94% remained using the same TNF- α antagonist, 3% had switched from one to another TNF- α antagonist, and 3% discontinued use of TNF- α antagonist. RA patients treated with TNF- α antagonist were significantly associated with reductions in emergency room visits ($p < 0.001$), hospital days ($p < 0.01$) and total medication costs (excluding biologics) ($p < 0.01$). However, total RA-related outpatient visits and overall medication costs went up significantly ($p < 0.001$). Reduction in services use was not