with the initial dosing regimen was measured using the Medication Possession Ratio (MPR). To identify determinants of non-compliance, non-compliant patients (MPR < 50%) were compared to compliant patients (MPR > 80%). The effect of dosing regimen, patient age, prescriber, co-medication and fractures on non-compliance was investigated. For independent factors increasing non-compliance the Population Attributable Risk percentage (PAR%) was determined. RESULTS: The study cohort included 4699 (53%) compliant and 3089 (35%) non-compliant users of daily or weekly bisphosphonates. A total of 1034 (12%) patients had a MPR < Y 50% and <80% over the first year. Use of daily bisphosphonates, number of different co-medications used, and use of gastrointestinal medication during the first year were associated with an increased risk of non-compliance (OR 3.1, 95% CI 2.7–3.5; OR 1.8, 95% CI 1.3–2.3 for >10 different co-medications; and OR 1.2, 95% CI 1.1–1.4, respectively). Corresponding PAR% were 42%, 14% and 6%, respectively. In contrast, higher age, first prescription from a specialist, use of NSAIDs and hospitalization for osteoporosis or osteoporotic fracture in the year preceding bisphosphonate therapy independently decreased the risk of non-compliance. CONCLUSIONS: These results indicate that daily, rather than a weekly, dosing regimen is the most important independent determinant of non-compliance with bisphosphonates. However, compliance for both regimens can be considered to be suboptimal and leaves room for improvement.

**Abstracts**

**AC4**

**OCURRENCE OF THROMBOCYTOPENIA AFTER ORTHOPEDIC SURGERIES IN PATIENTS TREATED WITH FONDAPARINUX, DALTEPARIN, ENOXAPARIN OR UNFRACTIONATED HEPARIN**

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**OBJECTIVES:** Thrombocytopenia is a serious complication that may occur in patients receiving venous thromboembolism prophylaxis for a variety of reasons, including drug-induced thrombocytopenia. This analysis was conducted to assess if differences exist in the coded rates of thrombocytopenia in patients receiving fondaparinux, dalteparin, enoxaparin, or unfractionated heparin (UFH).

**METHODS:** This was a retrospective analysis of inpatient data from >500 hospitals in the United States. Patients hospitalized for hip or knee replacement or hip fracture surgery between 1/2003 and 3/2005 were eligible for study inclusion. Patients receiving fondaparinux, dalteparin, enoxaparin or UFH <2 days after surgery were included. A control group of orthopedic surgery patients that did not receive any of the anticoagulants of interest was also identified. Patients <18yrs of age or those receiving >1 anticoagulant of interest during their hospitalization were excluded. The occurrence of thrombocytopenia was determined by the presence an ICD-9 code for thrombocytopenia unspecified (287.5) and/or secondar thrombocytopenia due to circulating anticoagulants (287.4 with E934.2). Logistic regression models were used to assess differences in thrombocytopenia rates; controlling for age, gender, severity of illness (Charlson), length of stay, number of hospitalizations prior to index visit, type of orthopedic surgery, and cancer diagnosis.

**RESULTS:** A total of 250,600 patients were included in the analysis: fondaparinux = 11,633; dalteparin = 14,713; enoxaparin = 92,776; UFH = 18,904; control = 112,574. The unadjusted rates of thrombocytopenia in each cohort were: fondaparinux = 0.8%, dalteparin = 1.2%, enoxaparin = 1.4%, UFH = 1.3%, control = 0.9%. After controlling for baseline covariates, patients on fondaparinux were least likely to experience thrombocytopenia. The odds of thrombocytopenia for each anticoagulant when compared to control were: fondaparinux OR = 0.98, p = 0.83; dalteparin OR = 1.2, p = 0.02; enoxaparin OR = 1.3, p < 0.0001; UFH OR = 1.2, p = 0.03. CONCLUSIONS: Although the relative rates of drug-induced thrombocytopenia cannot be defined with certainty (coding limitations), the risk of thrombocytopenia in fondaparinux-treated patients was similar to control, while patients receiving heparins experienced an increased risk.

**CS1**

**THE ECONOMIC AND HEALTH CONSEQUENCES IN SWEDEN OF MANAGING BRADYCARDIA WITH ADAPTA® COMPARED TO A STANDARD DUAL CHAMBER PACEMAKER**

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**OBJECTIVE:** To estimate the economic and health impact of managing bradycardia by implanting a dual chamber pacemaker equipped with a new algorithm (Adapta) to avoid unnecessary right ventricular pacing compared to a standard dual chamber pacemaker (DDDR) in Sweden. The algorithm allows the pacemaker to provide atrial pacing, and switch to dual-chamber pacing whenever needed. This may lower the risk of developing heart failure or atrial fibrillation. METHODS: A life-time discrete event simulation was developed to follow a patient’s course after implantation with a pacemaker. Pairs of identical patients are created; one receives Adapta, the other DDDR. Each patient may develop post-operative complications, heart failure, atrial fibrillation (which may become chronic and require anticoagulants) or have a stroke. Risks for these events depend on cumulative time exposed to ventricular pacing and patient’s characteristics based on published data from the MOST trial. Life expectancy is assumed to be identical for both cohorts of patients. Distributions of ventricular pacing are based on data collected during trials of these devices. Direct medical costs drawn from published NORD-DRG payments and physician, laboratory and medication tariffs are reported in 2005 SEK and discounted at 3%. RESULTS: Average life expectancy post-implantation was found to be 11.8 years for both groups. Discounted costs over life-time were about SEK200,000 (€21,220) per patient. Despite the higher initial cost of Adapta, mean additional cost was only SEK13,430 (€1425) per patient. Adapta is predicted to increase QALY by a mean 0.23 years, yielding an incremental cost-effectiveness ratio of SEK45,961/QALY (€4878/QALY). Sensitivity analyses showed results were consistent over a wide range of values. CONCLUSION: Based on these discrete event simulations estimates, Adapta is predicted to provide additional health benefits for an attractive value for patients with sinoatrial-node disease or intermittent atrioventricular block.

**CS2**

**ECONOMIC BURDEN OF WORK LOSS AMONG SUFFERERS OF LYMPHATIC FILARIASIS: AN ERADICABLE GLOBAL HEALTH PROBLEM**

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**OBJECTIVE:** Lymphatic Filariasis (LF), an eradicable infectious disease endemic in developing countries, is associated with significant morbidity. LF is the second leading cause of permanent and long-term disability worldwide. Total global prevalence of
the disease is 120 million with over a third of those affected having severe chronic disease. We attempted to estimate the actual disease burden in three countries, with varying levels of disease prevalence, so that the impact of LF in these countries can be better understood. METHODS: We constructed an economic model of work lost due to LF in three countries where it is prevalent (India, Ghana, and Thailand). Data sources included published studies on productivity among individuals who experience LF's debilitating manifestations in the form of acute adenolymphangitis [ADL] or chills and fevers often with swelling of the affected limb and associated lymph node inflammation] and chronic lymphatic obstruction (which can lead to hydrocele and elephantiasis). Wages used for our calculations were the minimum agricultural wages obtained from the International Labor Organization and converted to 2005 US$. The time horizon used was one year. RESULTS: The estimated period prevalence of chronic lymphatic obstruction secondary to LF among people between the ages of 15–65 years in India, Ghana and Thailand was estimated at approximately 77,779,036; 1,917,923; and 549,733 respectively. Wages lost attributable to lymphatic obstruction were estimated to be $4.5 billion; $261 million; and $174 billion respectively. Additional annual wages lost attributable to ADL are approximately $22 million; $1 million; and $855,150 in these countries respectively. CONCLUSION: The model demonstrated that LF results in significant and costly work impairments. As one of only six global diseases that meet the criteria for being eradicable, our research on the economic impact of LF suggests that policymakers should make investments in initiatives aimed at preventing and treating this disease.

THE EFFECT OF ORGAN THREATENING AND MENTAL HEALTH CO-MORBIDITIES ON MEDICAL COSTS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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OBJECTIVE: To determine the prevalence of organ-threatening and mental health co-morbidities and examine their effects on total medical costs in systemic lupus erythematosus (SLE) patients. METHODS: A total of 2395 California Medicaid patients with a diagnosis of SLE were included in this retrospective analysis. Diagnosis of mental co-morbidities (depression, anxiety, and fatigue) was based on ICD-9 codes from the claims record as was the presence of organ involvement (heart, lung, kidney, liver, and serious blood involvement). The analyses were conducted from an insurer’s perspective; payments were measured as a proxy measure for costs. Total medical costs included inpatient costs, ambulatory and outpatient costs, prescription costs, and nursing facility/intermediate care facility costs. Descriptive analysis was performed to determine the prevalence of these co-morbidities. The effect of mental and organ-threatening co-morbidities on total medical costs of SLE patients was modeled using a mixed regression estimation controlling for age, gender, ethnicity, and eligibility in both Medicaid and Medicare. RESULTS: The incidence rates for depression, anxiety and fatigue were 14.7%, 8.2%, and 15.8%, respectively. About 37% of the patients have at least one affected organ. Pulmonary manifestation was the most common organ involvement, occurring in 20.4% of the SLE patients. About 11% of the patients had kidney involvement while 18% had heart involvement. Higher incidence rates of fatigue was observed in patients with organ-threatening SLE (21.6% vs. 12.5%, p < 0.01). Organ-involved results in an average increase of $1144/month in total medical costs (p < 0.01). Among the three mental co-morbidities, fatigue is significantly associated with increased total costs of $536 (p < 0.0001). The ethnicity influence on total medical costs dissipates with the inclusion of organ-threatening co-morbidities and fatigue. CONCLUSIONS: Both mental health and organ involvement co-morbidities are significant predictors of medical costs of treating SLE.

FREQUENCY AND COST OF DISABILITY AMONG EMPLOYED INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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OBJECTIVES: Examine frequency and costs of disability among employed individuals with COPD. METHODS: Retrospective analysis of disability and medical claims data for employees of nine national self-insured companies. Active employees 40–63 years old with diagnosis of COPD (ICD-9-CM: 491.xx, 492.x,496) between January 1, 2001–December 31, 2003 were identified. Index date was later of: 1) first COPD diagnosis, or 2) first date of eligibility for short-term disability (STD), long-term disability (LTD), and health benefits. Employees with cystic fibrosis, lung cancer, tuberculosis, or pregnancy, and those continuously eligible for <90 days following index date, were excluded. Using propensity score matching, controls were matched 2:1 to COPD subjects on age, gender, geographic region, employer, length of employment, and salary range. Subjects were followed until the earliest of non-active employee status, disenrollment from any benefit, 365 days of follow-up, or March 31, 2004. Likelihood of disability was compared between COPD subjects and controls using logistic regression, adjusting for length of follow-up and specific comorbidities. Indirect costs of disability, measured as disability days multiplied by subjects’ daily wage, were compared among subjects with a disability claim using GLM with a gamma distribution and log link, adjusting by the aforementioned covariates. RESULTS: Mean length of follow-up for COPD subjects (n = 1349) and controls (n = 2696) was 220 and 233 days. Mean age was 52 years, and cohorts approximately 50% male. All comorbidities were more common in the COPD cohort. A greater proportion of COPD subjects used STD (21.8% vs. 7.0%), LTD (2.4% vs. 0.4%), or any disability benefit (22.8% vs. 7.3%). Odds ratios for likelihood of disability for COPD subjects were: STD, 2.11 (95% CI: 1.64–2.71); LTD, 4.21 (1.93–9.16); any disability, 2.15 (1.68–2.75). CONCLUSIONS: Among those with disability (307 COPD patients, 197 controls), indirect costs were higher among COPD subjects ($8559) than controls ($5443); this approached significance (p = 0.07).

HEALTH CARE USE & POLICY

RECENT POLICY INITIATIVES IN THE AUSTRALIAN NATIONAL REIMBURSEMENT SYSTEM THAT HAVE REDUCED COST DRAMATICALLY

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OBJECTIVES: The Australian national reimbursement system has tended to evolve independently from other health care funding environments. Over the past few years, a range of policy initiatives have been introduced. Many of these have been aimed directly at restricting the growth in drug expenditures. METHODS: This study examines the range of initiatives and estimates the savings that each has produced. The authors have built a large relational database that captures all pricing, utili-