utilization, lower QoL and greater work impairment. Additional research is warranted to further characterize the impact of cost and reimbursement on patient outcomes.

PSY25

HEALTH CARE RESOURCE UTILIZATION (HRU) AND COSTS ASSOCIATED WITH FLARES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) IN A MEDICAID POPULATION IN THE UNITED STATES

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OBJECTIVES: Limited data exist on the economic impact of SLE flares. This study estimated HRU and costs of SLE flares in a U.S. Medicaid population. **METHODS:** SLE Patients ≥18 years old were extracted from a large Medicaid database 2002-2009. Index date was the date of the first SLE diagnosis. All patients were continuously enrolled for ≥6 months before and ≥12 months after index date and followed until the earliest of inpatient death, end of enrollment, or end of study. Mild, moderate, and severe flares were identified in the follow-up period. Costs attributable to flares were measured during 30 days following a flare. If a flare of higher severity occurred within 30 days, the length was limited to the period up to the start of the new flare. **RESULTS:** 14,262 patients met the study criteria and 97% experienced at least one flare during an average follow-up of 39 months (3,540 had severe, 9,597 had moderate, and 669 had mild flares as their most severe flares). Mean costs per flare were $11,716, $562 and $129 for severe, moderate, and mild flares, respectively. Patients with ≥1 severe flares during follow-up had 1.7 inpatient (IP) admissions, 3.5 emergency room (ER) visits, and 16.0 outpatient (OP) visits with a total medical cost of $49,754per year. Patients with ≥1 moderate flares but no severe flares had 0.9 IP admissions, 2.4 ER visits, and 12.8 OP visits with a cost of $21,941. Patients with only mild flares had the least HRU of 1.0 IP admission, 1.5 ER visits, and 7.5 OP visits with a cost of $17,574. Patients with severe and moderate but no mild flares and patients with severe flares only incurred the highest annual cost ($66,412 and $74,491, respectively). **CONCLUSIONS:** Flares occurred in almost all SLE patients and were associated with a significant economic burden.

PSY26

COSTS AND OUTCOMES OF PATIENTS WITH HAEMOPHILIA A (HA) AND FACTOR VIII INHIBITORS TREATMENT: THE IMMUNE TOLERANCE AND ECONOMICS RETROSPECTIVE REGISTRY (ITER) RESULTS

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OBJECTIVES: Immune tolerance induction (ITI) is generally accepted as first choice treatment to eradicate inhibitors in hemophilia A patients. Little is known about the outcomes and cost consequences of this treatment option. **METHODS:** The Immune Tolerance and Economics Retrospective (ITER) study is an observational, retrospective, multicentre, multinational study aiming to estimate cost of treatment in hemophilia A patients, undergoing ITI. Data on hemostatic treatment given in the following time periods were collected: up to 12 months before the diagnosis of Inhibitors, between Inhibitors diagnosis and ITI start, during ITI, and 12 months after the end of ITI. Costs of treatment were calculated in the perspective of the third party payer and expressed as mean €/patient-month. **RESULTS:** Seventy-one valid patients, with median age at ITI start=3.8 (0.4-41) years, were enrolled. Before ITI the median Inhibitors peak titre was 18.5 (0.80-704) BU. ITI was applied for a mean of 1.85 (0.1-14.0) years and was successful in 84.5% pts. Before Inhibitors diagnosis, patients cost was 670.2 €/patient-month. Cost was 3,188€/patient-month between the Inhibitors diagnosis and ITI start (92.1% for bypassing agents), and 60,078€ during ITI (76.8% for ITI, 19.4% for extra FVIII treatment, 3.8% for extra treatment with bypassing agents). The mean cost after ITI was 13,211€/patient-month. **CONCLUSIONS:** ITI applied on patients with the characteristics of those involved in the ITER study is successful in 84% of them at a mean cost of 60,000€/patient-month during ITI, plus 13,000€/patient-month through 1 year later. Further research is encouraged to value long term benefits and costs attributable to ITI versus other treatment options, in order to identify the most efficient treatment for the patients and for the health care system.

PSY27

COST EFFECTIVENESS OF TREATMENT WITH ETANERCEPT OR USTEKINUMAB FOR MODERATE TO SEVERE PSORIASIS

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OBJECTIVES: Limited information is available on the cost effectiveness of newer biologic agents for treatment of psoriasis. The objective of this study is, from a United States societal perspective, to compare the cost-effectiveness of etanercept and ustekinumab therapy in patients with moderate-to-severe psoriasis based on head-to-head clinical trial information. **METHODS:** A Markov model was constructed to simulate the incremental cost per quality-adjusted life year gained. Costs were estimated from the societal perspective in the United States over a time horizon of five years. All cost and effectiveness estimates were obtained from the relevant literature. An annual discount rate of 3% was applied to costs and quality-adjusted life years. All costs were adjusted to 2011 US dollars. One-way and threshold sensitivity analyses assessed the robustness of model results. **RESULTS:** In the base case, over a 5-year time horizon, ustekinumab 45 mg was dominant versus etanercept 50 mg. The base case incremental cost-effectiveness ratio (ICER) comparing ustekinumab 90 mg with etanercept 50 mg averaged $267,761 per QALY gained. The ICER comparing ustekinumab 90 mg with ustekinumab 45 mg averaged $915,179 per QALY gained. ICERs were quite sensitive to unit prices for ustekinumab and etanercept. **CONCLUSIONS:** Given the limitations of the available data, ustekinumab 45 mg was dominant over etanercept 50 mg for a five-year time horizon, whereas ustekinumab 90 mg was more costly and marginally more effective than etanercept 50 mg. Ustekinumab 90 mg would not be considered cost effective using a US willingness-to-pay threshold of $120,000-150,000 per QALY.

PSY28

COST-EFFECTIVENESS ANALYSIS OF CELECOXIB IN THE TREATMENT OF CHRONIC PAIN IN PATIENTS WITH OSTEOARTHRITIS OR RHEUMATOID ARTHRITIS VERSUS THE USE OF ETORICOXIB OR LUMIRACOXIB IN MEXICO

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OBJECTIVES: Patients with chronic pain due to osteoarthritis (OA) or rheumatoid arthritis (RA) do not often obtain adequate relief or experience unacceptable side effects due their pain-control treatments. The objective of this study was to perform a cost-effectiveness analysis comparing celecoxib, etoricoxib and lumiracoxib in the treatment of chronic pain in patients with OA and RA, from the Mexican Social Security Institute (IMSS) perspective. **METHODS:** A decision-tree model (12-weeks time horizon) was used to compare pain reduction and direct medical costs associated to competing alternatives. A systematic literature review was performed to identify the pain reduction (reported through visual analogue scales) and adverse events (AE) incidence rate associated. Comparators were: celecoxib 200mg/day, etoricoxib 90mg/day and lumiracoxib 100mg/day for patients with OA and RA. A meta-analysis with selected publications (n=10) was performed. Resource utilization was extracted from clinical practice guidelines and unit costs were retrieved from IMSS official sources. Probabilistic sensitivity analysis was performed. Acceptability curves were developed. **RESULTS:** Pain reductions vs. placebo were: celecoxib 14.18% (CI95% 10.48-17.87, $p<0.00001$); etoricoxib 12.70% (7.67-17.73, $p<0.00001$) and lumiracoxib 9.47% (7.17-11.77, $p<0.00001$). Differences between celecoxib and lumiracoxib was meaningful ($p<0.05$). The odds ratios of AE incidence vs. placebo were: 1.06 (0.77-1.46, $p=0.37$); 1.09 (0.87-1.36, $p=0.73$) and 1.44 (0.88-2.34, $p=0.14$), respectively. The expected medical costs (2011 US$) were: $197.93 (±$9.52); $221.54 (±$7.06) and $306.65 (±$12.86), respectively. The cost of management of AE contributed with $101.28, $95.00 and $146.17 of the overall expected costs, respectively. In regards to etoricoxib (basecase), celecoxib showed to be a cost-saving strategy with a cost-effective proportion of 76.7% (74.1%-79.3%); while lumiracoxib was the less effective and more costly strategy. **CONCLUSIONS:** At IMSS, celecoxib patients who suffer OA or RA would reach a higher incremental reduction in pain intensity at 12 weeks reducing overall costs in comparison to etoricoxib.

PSY29

LIFETIME IMPACT ON BLEEDING EPISODES AND HOSPITALIZATION OF ON-DEMAND TREATMENT OPTIONS IN FRENCH HEMOPHILIA PATIENTS WITH INHIBITORS

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OBJECTIVES: In the French setting, uncontrolled bleeding episodes in hemophilia patients with inhibitors require emergency/inpatient care. The impact of on-demand (OD) treatment of bleeding episodes remain rarely quantified in France. **METHODS:** We modeled the lifetime number of bleeding episodes and hospitalizations associated with recombinant activated Factor VIIa (rFVIIa) and plasma-derived activated prothrombin complex concentrate (pd-aPCC) to investigate the impact of faster bleeding resolution of a new bypassing agent (BA) by applying hypothetical adjustments to the performance of rFVIIa. The exploratory semi-Markov model assumed a French payer perspective and simulated treatment of 2-year old male hemophilia patients with high-responding inhibitors. Model inputs were obtained from published international studies and French government sources. Comparisons of the current BAs pertaining to dosing and base-case efficacy rates were obtained from a Bayesian meta-analysis pooling available estimates. Model outcomes included the rate of hospitalization due to uncontrolled bleeds and number of minor/major bleed over lifetime. Sensitivity analyses were performed to test robustness of the model. **RESULTS:** rFVIIa required 4% fewer hospitalizations for bleed treatment than pd-aPCC, as well as a reduction in lifetime bleeds. rFVIIa resulted in 667 minor bleeds over the patient's lifetime compared with 673 in patients treated with pd-aPCC. When adopting potential improvements for a hypothetical new BA, faster bleed resolution that results in fewer rebleeds reduces hospitalizations by 13% in the rFVIIa arm compared to base case. **CONCLUSIONS:** Additional research is needed to understand how increased bleed control and faster resolution of bleeds in French inhibitor patients translate into a reduction in other health resources utilization such as emergency visits to hemophilia treatment centers and indirect costs including missed school/productivity loss which can improve the quality of life of patients and caregivers.

PSY30

COST UTILITY ANALYSIS OF THE PROFILAXIS VERSUS ON-DEMAND TREATMENT WITH RECOMBINANT FACTOR IX FOR THE TREATMENT OF HEMOPHILIA B IN MEXICO

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OBJECTIVES: Hemophilia B is a rare and expensive to treat disease. The aim of this study was to develop an economic evaluation of prophylactic vs on-demand supply of recombinant factor IX (rFIX) in the treatment of patients with severe hemophilia B, from the Social Security Mexican Institute (IMSS) perspective. **METHODS:** A three-state Markov model (two-week cycles) following male patients from birth up to 75 years was developed to estimate the cost and outcomes of prophylactic (30 IU/kg body weight/week) and on-demand (40 IU/kg body weight/joint bleed) approaches to manage haemophilia B. On-demand was considered the usual practice. Effectiveness measure was the QALY. A literature review was performed to extract Mexican demographic and general epidemiologic data needed to populate the model. Treatment cost data (inpatient, outpatient, emergency services, medicines, laboratory and image studies) were extracted from Mexican published databases (the acquisition cost of rFIX was provided by the manufacturer). Health and economic consequences were assessed in different age groups. Both costs and outcomes were discounted at 5% annual rate Probabilistic sensitivity analyses and acceptability curves were constructed. **RESULTS:** Cost of rFIX in prophylaxis represented 60.3% and 90.4% of the total annual cost in the ≤4 years and >19 years groups, respectively. In on-demand approach, the cost of the therapy represented 45.3% and 83.9% in the ≤4 years and >19 years group, respectively. The incremental effectiveness for rFIX is close to one QALY in all age groups. The ICER of prophylaxis in patients ≤4, 5-9, 10-14, 15-19, >19 years old was US$5,281.33, US$14,586, US$15,172, US$20,398 and US$40,291/QALY gained, respectively. Acceptability curves showed an inverse relationship between age and cost-effective proportion. **CONCLUSIONS:** At IMSS setting, the prophylaxis with rFIX for the management of patients suffering severe hemophilia B appears to be a highly cost-effective and a cost-effective intervention in children and teenagers, respectively.

PSY31

ECONOMIC EVALUATION OF ELETRIPTAN 40MG FOR MIGRAINE THERAPY IN KOREA

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OBJECTIVES: Migraine is a common central nervous system disorder. The burden of migraine is substantial due to its high prevalence and prominent temporary disability. This study investigates the application of cost-effectiveness analysis, from the Korean health care system perspective, for the comparison of eletriptan 40mg and sumatriptan 50mg in the acute treatment of migraine attack. **METHODS:** A decision tree model was developed to estimate migraine treatment cost and efficacy. Clinical data was derived from a clinical trial comparing oral eletriptan to oral sumatriptan (G. Sandrini, 2002). Efficacy measures consisted of "pain-free at 2 hours (PF2)" and "sustained pain free for 2-24 hours (SPF)". Drug costs for initial dosing, second dosing for relapse, physician visit cost, and emergency visit cost were taken into account. Citing 2008 HIRA report, physician visit cost and emergency visit cost were calculated. All costs converted into 2011 Korean Won (KRW). The time horizon was a single migraine attack. **RESULTS:** In the base-case analysis, assuming the eletriptan 40mg drug cost (4,775 KRW) is 20% higher than sumatriptan 50mg drug cost (3,979 KRW), the average cost-effectiveness ratio (ACER) were 23,702 KRW and 36,239 KRW (per attack at which PF2 is achieved) for eletriptan 40mg and sumatriptan 50mg, respectively. Also, ACER for SPF per attack is achieved was 26,054 KRW and 40,837 KRW for eletriptan 40mg and sumatriptan 50mg, respectively. **CONCLUSIONS:** Although eletriptan 40mg is more costly than sumatriptan 50mg, because of eletriptan 40mg's superior efficacy, the ACER of eletriptan 40mg was lower than sumatriptan 50mg in the treatment of migraine attack, with respect to PF2 and SPF aspects. Eletriptan 40mg has a potentially important role to play in the cost-effective management of migraine.

PSY32

COST- EFFECTIVENESS ANALYSIS OF PARECOXIB IN THE MANAGEMENT OF POSTSURGICAL PAIN IN MEXICO

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OBJECTIVES: Pain management is an important dimension of postsurgical care. The aim of this study was to determine the cost-effectiveness of parecoxib, morphine, buprenorphine and ketorolac in the management of postsurgical pain, from the perspective of the Mexican Social Security Institute (IMSS). **METHODS:** A decision-tree model was used to assess the outcomes of parecoxib 40mg; buprenorphine 0.12, 0.18 and 0.36mg; morphine 4, 6 and 12mg and ketorolac 30mg in women who received them in the morning after their gynecologic surgery. In case of failure, rescue therapy with morphine 4mg was allowed. The time horizon is 12 hours after the medication was received. Only the acquisition cost was considered (2011 US$). The effectiveness outcome was the proportion of respondents who experienced onset of analgesia and rated their medication as "good" or "excellent" (through patient's global evaluation of the study medication questionnaire). Literature review was performed to extract the clinical outcomes of competing alternatives (the doses of morphine 4mg, buprenorphine 0.12mg and so on, were considered equianalgesic). Acquisition costs were extracted from official institutional sources. The results of the analysis are expressed through the ICER (ketorolac as basecase). Univariate sensitivity analysis was performed. **RESULTS:** The proportion of respondents treated with morphine 4mg-buprenorphine 0.12mg, morphine 6mg-buprenorphine 0.18mg, morphine 12mg-buprenorphine 0.36mg, ketorolac and parecoxib was 44.21%; 44.21%; 46.42%; 63.64% and 71.76%, respectively. The expected cost per patient of morphine 4mg, buprenorphine 0.12mg, morphine 6mg, buprenorphine 0.18mg, morphine 12mg, buprenorphine 0.36mg, ketorolac and parecoxib was $4.53; $1.45; $6.32; $1.71; $11.69; $2.48; $0.84 and $7.12, respectively. All the alternatives (except parecoxib, ICER: $77.30) are dominated by ketorolac. Furthermore, parecoxib is more effective than competing alternatives but only less expensive than morphine 12mg. **CONCLUSIONS:** At IMSS setting, parecoxib appears to be cost-saving regarding morphine 12mg and cost-effective regarding ketorolac, buprenorphine and morphine 4 and 6mg.

PSY33

ADAPTATION TO COLOMBIA AND VENEZUELA OF THE ECONOMIC MODEL DASATINIB FIRST-LINE TREATMENT OF CHRONIC MYELOID LEUKEMIA, DEVELOPED BY THE YORK HEALTH ECONOMICS CONSORTIUM

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OBJECTIVES: Based on an economic evaluation of cost-effectiveness of frontline dasatinib treatment for chronic myeloid leukemia by the York Consortium and after transferability analysis of data, we performed an adaptation of this model in Colombia and Venezuela. We compared the costs and cost-effectiveness ratio of dasatinib 100 mg/day versus imatinib 400 mg/day and nilotinib 600 mg/day as frontline treatment for CML in its three phases. with increases to 140 mg/day of dasatinib, 800 mg/day of imatinib and 800 mg/day nilotinib in a second-line therapy. **METHODS:** The original model considered those patients with CML who had not received previous treatment and a Markov's model with probabilities of change for the chronic, accelerated and death phases, over the lifetime and with a costs and benefits discount rates of 3.5%. Direct medical and treatment cost and mortality rates were taken from the local jurisdiction and WHO life tables. The results of the model included the costs of each alternative treatment with dasatinib, nilotinib or imatinib and the QALYs (Quality Adjusted Life Years). Costs are expressed in 2011 Colombian pesos and Venezuelan strong bolivars. **RESULTS:** Dasatinib 100 mg/day as frontline treatment for CML produced the greatest number of QALYs, both in Colombia and Venezuela with 10.67 and 10.53 QALYs respectively, compared with imatinib; 10.10 and 9.97 QALYs and nilotinib; 10.50 and 10.36 QALYs Dasatinib 100 mg/day was also more cost-effective than nilotinib as frontline treatment for CML, being dominant in both these countries. **CONCLUSIONS:** In the frontline treatment for CML in Colombia and Venezuela, Dasatinib was more effective than imatinib and nilotinb and showed better rates of cost-effective than nilotinib been dominant in both countries. Although there was an increase in overall costs, this is due to the increase in life years gained and thus in greater use of medical resources and medications.

PSY34

ASSESSING INTERVENTIONS FOR ADULTS WITH METABOLIC SYNDROME: A COMPREHENSIVE ECONOMIC MARKOV DECISION MODEL

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OBJECTIVES: Metabolic Syndrome (MetS) is defined as a clustering of risk factors for diabetes mellitus (T2DM) and cardiovascular disease (CVD) which puts individuals at increased risk of developing these conditions and consequently leads to a reduction in life expectancy and increased morbidity. **METHODS:** A systematic review and network meta-analysis was undertaken to assess the relative clinical effectiveness of a number of lifestyle and pharmacological interventions, both independently and in combination. A second systematic review, and series of meta-analyses, was also undertaken to estimate the increased burden that a MetS diagnosis has on the subsequent risk of T2DM, CVD and all-cause mortality. A fully probabilistic economic Markov decision model was developed in WinBUGS, and which directly included the series of meta-analyses above, in order to assess the cost-effectiveness of the various interventions. **RESULTS:** The use of both lifestyle and pharmacological interventions in combination was dominated in the incremental cost-effectiveness analysis, with the use of both of them independently producing greater health gain at lower cost. Pharmacological intervention was cost-effective compared to standard care (ICER £3050 with a probability of 0.53 at a threshold value of £20K/QALY), and lifestyle intervention was cost-effective compared to pharmacological (ICER £6933 with a probability of 0.52 at a threshold value of £20K/QALY). A series of sensitivity analyses were also undertaken both with regards to the model inputs/distributions and a number of methodological assumptions, but the results remained largely insensitive to these changes. **CONCLUSIONS:** The use of a lifestyle intervention would appear to be a potentially cost-effective treatment strategy for adults with MetS, however considerable uncertainty surrounds this decision. The use of a comprehensive approach to economic modelling within a WinBUGS framework allowed distributional assumptions to be relaxed, sources of correlation to be appropriately accounted for, and more complex sensitivity analyses to be easily undertaken.

PSY35

ECONOMIC EVALUATION OF LENALIDOMIDE IN THE MANAGEMENT OF PREVIOUSLY TREATED MULTIPLE MYELOMA (PTMM) PATIENTS IN GREECE

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OBJECTIVES: To assess the cost-effectiveness of lenalidomide with dexamethasone (Len/Dex) combination relative to bortezomib alone, in previously treated multiple myeloma patients in Greece. **METHODS:** A discrete event simulation model was locally adapted, to estimate the differences in the overall survival and treatment cost for the two alternative options. Efficacy data utilized came from the two large, multicenter, controlled, randomized clinical trials for the first option and an open label study for the second. Quality of life data were extracted from international sources. Data on resource use and prices were collected from the electronic databases of local hospitals and other relevant sources. The perspective of the analysis was that of payers. Total cost accounts for the monitoring and admin-