COMPARISON OF DOING PROFILES BETWEEN DULOXETINE AND PREGABALIN INITIATORS AMONG ELDERLY PATIENTS WITH FIBROMYALGIA

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OBJECTIVES: To assess dosing differences between duloxetine and pregabalin initia
tors among elderly patients with fibromyalgia. METHODS: Using a large US admin-istrative claims database, we examined fibromyalgia patients aged 65 and above with Medicare supplemental insurance who initiated duloxetine or pregabalin in 2006. Initiation was defined as no duloxetine or pregabalin pill coverage in the previous 90 days prior to the index date. Outcomes defined as the first initiation of duloxe
tin or pregabalin cohorts were constructed based on the index agent. All individuals selected had continuous enrollment in the 12 months pre- and post-index periods and at least 31 duloxetine or pregabalin supply days in the 12 months post-index period. Duloxetine initiators with diabetic peripheral neuropathic pain (DPNP) or depression, and pregabalin initiators with DPNP, post-herpetic neuralgia or epilepsy diagnosis in the 12-month pre-index period were excluded. Average initial daily dose, annual average daily dose, average daily dose of the first 12 prescriptions of duloxetine or pregabalin, and percent of daily dose change from previous prescription were compared between cohorts. RESULTS: Patients in the duloxetine (n = 624) or pregabalin (n = 1,199) cohorts had a mean age of 74 years. The average initial daily dose was 51.34 mg for duloxetine and 145.71 mg for pregabalin, respectively. Duloxetine patients had an annual average daily dose of 50.81 mg, while 162.82 mg for pregabalin patients. The average daily dose increase through twelfth duloxetine prescription was 49.49–53.96 mg, while the range for pregabalin was between 145.71 mg and 216.96 mg. The percentages of changes in daily dose from previous prescriptions were −4.3–2.8% for duloxetine and 0.6–12.4% for pregabalin, respectively. CONCLUSIONS: Duloxe
tin and pregabalin had very different dosing profiles among elderly patients with fibromyalgia. Specifically, duloxetine initiators had relatively stable average daily dose over time, while pregabalin initiators had clear dose escalation over the 12-month follow-up period.

PROJECTING THE NATURAL HISTORY OF OBESITY USING A NATURAL HISTORY MODEL

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OBJECTIVES: To analyze the average annual cost increase in uncomplicated Medicare beneficiaries with obesity (defined as body mass index (BMI) >30) in medicare beneficiaries. We estimated the average annual cost increases for Medicare beneficiaries with obesity over a 5-year period. We constructed a Markov model with a lifetime horizon using data from self-reported BMI data, and this potential bias deserves further exploration. RESULTS: Average annual cost increases significantly (p < 0.01) with BMI (+$362 per 5 BMI unit increase), age (+$118 for each year of age) and gender (+$547 for females). For utility levels, BMI (< 0.0246 per 5 BMI unit increase), age (< 0.0036 for each year of age), and gender (< 0.0355 for females) were all significant (p < 0.01). CONCLU-
SIONS: The model was calibrated based on public price lists (SIMPRO 2009, CBHPM 5o Ed) was applied to value the inputs such as the effectiveness of argatroban, heparin, and warfarin; weighted costs and outcomes. One-way sensitivity analysis was performed to check the robustness of the results. RESULTS: The more significant resolution of the co morbidities for OPBARS and LAPBARS resulted in an increase of 1.34 QALYs in 5 years versus CONVT (15.26 QALYs vs. 14.92 QALYs). The total costs for the 5 years were $26,456 for OPBARS, $32,515 for LAPBARS and $19,217 for CONVT. So, the incremental cost-effectiveness ratio was $7,449 per QALY for OPBARS and $10,393 per QALY for LAPBARS when compared with CONVT.

CONCLUSIONS: Findings suggest OPBARS and LAPBARS as safer and cost-effective choices for obesity treatment and co morbidity resolution, under the Brazilian private health care system.

A COST-EFFECTIVENESS ANALYSIS OF CONVENTIONAL TREATMENT VERSUS BARBITRIC SURGERY FOR OBESE PATIENTS WITH TYPE-2 DIABETES AND HYPERTENSION AS COMORBIDITIES. PRELIMINARY RESULTS UNDER THE BRAZILIAN PRIVATE PAYER PERSPECTIVE

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OBJECTIVES: To assess the cost-effectiveness of the open (OPBARS) and the lapa
toscopic bariatric surgery Roux-en-Y gastric bypass (LAPBARS) versus the conventional non-
surgical treatment (CONVT) for obese patients, in 5 years of follow up, under the Brazilian private payer perspective. METHODS: An analytic decision-tree model was built to estimate costs and outcomes among OPBARS and LAPBARS versus CONVT, measuring weight loss, co morbidity resolution, quality adjusted life years (QALY), and costs associated with unfrac
tionated heparin. CONCLUSIONS: For the base-case scenario, ELISA/SAIRA is the optimal testing strategy. Health care providers need to take into account the turnaround time for ELISA and SRA results for generalizing the study findings.

A COST-EFFECTIVENESS ANALYSIS OF HAEMAPTE PROPHYLACTIC TREATMENT FOR BLEEDING EPODES IN PATIENTS WITH SEVERE VON WILLEBRAND DISEASE

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OBJECTIVES: Haemapte is an anti-fibrinogen agent that has been used in the prevention and treatment of bleeding episodes associated with von Willebrand disease (VWD). The purpose of this study was to determine the cost-effectiveness of Haemapte for the management of bleeding in patients with VWD. METHODS: A cost-effectiveness analysis was developed using a Bayesian decision-
tree model. The model simulates costs and effectiveness outcomes in a period of 20 days. RESULTS: The total costs for the 5 years versus CONVT (15.26 QALYs vs. 14.92 QALYs). The total costs for the 5 years were $26,456 for OPBARS, $32,515 for LAPBARS and $19,217 for CONVT. So, the incremental cost-effectiveness ratio was $7,449 per QALY for OPBARS and $10,393 per QALY for LAPBARS when compared with CONVT.
PSY25
COST-EFFECTIVENESS OF NONINVASIVE MAGNETIC RESONANCE DIRECT THROMBUS IMAGING AND ULTRASONOGRAPHY FOR DIAGNOSING DISTAL DEEP VEIN THROMBOSIS
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OBJECTIVES: To determine the cost-effectiveness of the use of sevelamer to manage hyperphosphatemia in Argentina, Brazil and Mexico.

METHODS: Cost-effectiveness analysis was conducted using a Markov model to assess the disease history within a 12-month time horizon. Treatments used were sorafenib, calcitriol, calcium tablets and sevelamer. The model was applied to patients with advanced renal disease and considered the effectiveness and incremental costs of using sevelamer to manage hyperphosphatemia. The model contained three risk states: stage 1, stage 2 and stage 3. Each stage has an increased risk of cardiovascular events and death. The model assumed a 10-year time horizon. The effect of sevelamer on cardiovascular events was estimated from clinical trials. The effect of sevelamer on mortality was estimated from the literature. The incremental cost of sevelamer was estimated from real-world data. The effectiveness of sevelamer was estimated from clinical trials. The model was parameterized from clinical trials and official databases from patients seen in the Social Security Mexican Institute. Probabilistic sensitivity analyses were performed using bootstrap techniques and acceptability curves were constructed.

RESULTS: Sevelamer treatment showed the lowest incremental cost-effectiveness ratio with QALYs gained of $40,051 and $56,109, respectively, compared to the sevelamer group (54 months). The Cost-Effectiveness Ratio with calcium was $150,000.) to determine the most cost-effective strategy. RESULTS: Noninvasive MRI is the optimal strategy for diagnosis of distal DVT at all WTP thresholds greater than $25,000. Sensitivity analyses showed that this finding was cost-effective even when all costs were varied by 25%. The model results were affected by the sensitivity of the model.

CONCLUSIONS: For base-case scenario, noninvasive MRI is the most cost-effective strategy. Considering the cost-effectiveness and the clinical evidence that magnetic resonance has higher mortality compared to noninvasive MRI employing noninvasive MRI appears to be the optimal strategy. Healthcare providers should consider patient population distribution among risk groups defined by Wells score for generalizing the study results to their setting.

PSY26
COST-EFFECTIVENESS OF SEVELAMER IN THE TREATMENT OF HYPERPHOSPHATEMIA ASSOCIATED WITH CHRONIC KIDNEY DISEASE IN BRAZIL
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OBJECTIVES: The chronic kidney disease (CKD) is associated with an abnormally elevated level of phosphate in the blood, which contributes to the presence of vascular calcifications, thus increasing the probability of the occurrence of cardiovascular events and death in these patients. The objective of this analysis was to evaluate the incremental cost-effectiveness of the use of sevelamer to manage hyperphosphatemia in Brazil.

METHODS: A Markov model was created to estimate the monthly costs and benefits of the treatment with sevelamer or calcium tablets in patients with renal failure considering a temporary horizon of 60 months. The transition probabilities were taken from clinical trials identified through a systematic review of literature. The effectiveness measure considered was an increase in patient survival (months). Only direct costs were considered. Costs were calculated using 2009 prices and are expressed in US dollars. In addition, univariate sensitivity analysis and scenario changes were performed. The discount rate was 5%. Exchange rate was 3.6 Argentine pesos (ARS) per 1 US dollar. RESULTS: The expected cost was US$53,558 for calcium and US$69,678 for sevelamer. Patients in calcium group would survive 51 months, compared to the sevelamer group (54 months). The Cost-Effectiveness Ratio with calcium was US$10,180 and with sevelamer was US$1280 respectively, and the incremental cost-effectiveness ratio for the implementation of sevelamer versus calcium was US$5021. ICER of sensitivity analysis doesn’t change more than 10% of original scenario.

CONCLUSIONS: Sevelamer is a cost-effective drug for the treatment of hyperphosphatemia in patients with CKD in the Argentinean context.

PSY27
COST-EFFECTIVENESS OF SEVELAMER IN THE TREATMENT OF HYPERPHOSPHATEMIA ASSOCIATED WITH CHRONIC KIDNEY DISEASE IN MEXICO
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OBJECTIVES: The chronic kidney disease (CKD) is associated with an abnormally elevated level of phosphate in the blood, which contributes to the presence of vascular calcifications, thus increasing the probability of the occurrence of cardiovascular events and death in these patients. The objective of this analysis was to evaluate the incremental cost-effectiveness of the use of sevelamer to manage hyperphosphatemia in Mexico.

METHODS: A Markov model was created to estimate the monthly costs and benefits of the treatment with sevelamer or calcium tablets in patients with renal failure considering a temporary horizon of 60 months. The transition probabilities were taken from clinical trials identified through a systematic review of literature. The effectiveness measure considered was an increase in patient survival (months). Only direct costs were considered. Costs were calculated using 2009 prices and are expressed in US dollars. In addition, univariate sensitivity analysis and scenario changes were performed. The discount rate was 5%. Exchange rate was 3.6 Argentine pesos (ARS) per 1 US dollar. RESULTS: The expected cost was US$53,558 for calcium and US$69,678 for sevelamer. Patients in calcium group would survive 51 months, compared to the sevelamer group (54 months). The Cost-Effectiveness Ratio with calcium was US$10,180 and with sevelamer was US$1280 respectively, and the incremental cost-effectiveness ratio for the implementation of sevelamer versus calcium was US$5021. ICER of sensitivity analysis doesn’t change more than 10% of original scenario.

CONCLUSIONS: Sevelamer is a cost-effective drug for the treatment of hyperphosphatemia in patients with CKD in the Argentinean context.

PSY28
COST-EFFECTIVENESS ANALYSIS OF CELECOXIB FOR THE MANAGEMENT OF LOWER BACK PAIN AT THE SOCIAL SECURITY MEXICAN INSTITUTE
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OBJECTIVES: The aim of this research was to estimate from an institutional perspective the cost-effectiveness of celecoxib against other usual analgesics for the treatment of adult patients with low-back pain.

METHODS: A complete economic evaluation was conducted using a Markov model. Four health-states were used by the Markov model to assess the disease history within a 12-month time horizon. Treatments used in the evaluation were: Celecoxib 200 mg/day, naproxen 1 g/day (oral) for 14 days; diclofenac 150 mg/day (intramuscular) for two days followed by diclofenac 200 mg/day (oral) for 12 days; tramadol/acetaminophen 75 mg/day (oral) for 14 days and acetaminophen 1500 mg/day for 14 days. Effectiveness outcomes were: mean reduction of pain >50% vs. baseline (through visual analog scale questionnaire) and mean reduction in days of hospitalization. Hospital records were collected in several institutional Mexican City hospitals (n = 15,723). Unit costs were obtained from clinical records and official databases from patients seen in the Social Security Mexican Institute. Probabilistic sensitivity analyses were performed employing bootstrapping techniques and acceptability curves were constructed.

RESULTS: Celecoxib treatment showed the highest mean pain reduction with 57% [95%CI 55–58%] followed by tramadol/acetaminophen with 46% [95%CI 44–48%] and naproxen with 42% [90–43%]. The celecoxib-treated group also showed the lowest rate of hospitalization 0.17 [0.16–0.18] followed by tramadol/acetaminophen with 0.19 [0.19–0.20] and naproxen with 0.23 [0.23–0.24]. Celecoxib showed an ICER of US$471.71 for the mean pain reduction and US$1,088.48 for the mean reduction of hospitalized days measurement. The cost-effectiveness of celecoxib was more cost-effective as a treatment for adult patients with low back-pain (higher effectiveness with lower annual costs) than other usual analgesics.

PSY29
MODELLING THE COST-EFFECTIVENESS OF BORTEZOMIB FOR THE INITIAL TREATMENT OF MULTIPLE MYELOMA IN THE UNITED STATES
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OBJECTIVES: The current study aimed to compare the lifetime health outcomes and cost-effectiveness of bortezomib, melphalan and prednisone (VMP) vs. melphalan and prednisone alone (MP), and indirectly to thalidomide plus MP (MPT), for the initial treatment of multiple myeloma (MM) in the non-transplant setting.

METHODS: A Markov model from a US payer's perspective was developed. Simulations were performed on hypothetical cohorts of newly diagnosed MM patients ineligible for transplant. The model included seven health states representing periods of treatment response, treatment-free interval, progressive disease, second-line treatment, and death. Monthly transition probabilities were estimated from patient-level phase III VISTA trial data for VMP and MP (June 15, 2007 data cut-off) and from the published phase III IFM 99-98 trial for MPT (Faccon et al., Lancet 2007). Costs included per-protocol drug and medical costs, treatment-related adverse events, second-line treatment, and resource utilization during treatment-free interval and progressive disease. All costs were adjusted to 2009 US dollars. State-specific utility estimates were derived from patient-level EQ-5D data from VISTA using US-specific weights. Health outcomes were expressed in life-years (LYs) and quality-adjusted life-years (QALYs). Both cost and health outcomes were discounted at 3%. RESULTS: The model estimated 4.187 LYs (2.994 QALYs) with VMP versus 2.864 LYs (2.049 QALYs) with MP and 4.140 LYs (2.951 QALYs) with MPT. Lifetime direct medical costs are $110,870 for VMP versus $57,864 for MP and $129,902 for MPT. Cost per LY and QALY gained with VMP versus MP is $40,051 and $56,109, respectively. VMP is dominant versus MPT, costing 17.7% less and providing slightly more QALYs. CONCLUSIONS: The incremental cost-effectiveness of VMP versus MP is within the generally accepted range of $50,000 to $100,000 per QALY, suggesting that VMP is cost-effective versus MP in the US. VMP is dominant versus MPT, yielding lower costs and better health outcomes.