MA2

OBSERVATION OF PERSISTENCE RATES AND POTENTIAL COST SAVINGS ASSOCIATED WITH CERTOLIZUMAB PEGOL TREATMENT FOR RHEUMATOID ARTHRITIS IN ENGLAND, WALES AND NORTHERN IRELAND CLINICAL PRACTICE

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OBJECTIVES: In the UK, access to anti-TNF therapies for the treatment of rheumatoid arthritis (RA) is standardized by National Institute for Clinical Excellence guidance. Certolizumab pegol (CZP) studies in RA demonstrate that patient response to therapy at 12 weeks predicts clinical outcome at 1 year. In the UK, CZP is available via a Patient Access Scheme (PAS), providing CZP free for the first 12 weeks. This analysis examines persistency and potential cost savings realised with a 12 week CZP decision. **METHODS:** A retrospective analysis examined 2,744 patients receiving CZP between March 2010 and March 2012 from Healthcare at Home, a UK home health care service provider. Persistence was defined as patients (%) continuing to receive CZP deliveries, calculated at specific time points. Treatment start was first delivery date and patients were censored according to this. A simple cost analysis was performed. **RESULTS:** At 13, 26, 39 and 52 weeks, persistence rates were 93%, 79%, 70% and 65% in naive (no prior anti-TNF) and 88%, 68%, 56% and 48% in switch (≥1 prior anti-TNF) patients respectively. Analyzing first-line biologic drug costs only, the NHS would save £2,363.14/patient in the first year if CZP were used instead of adalimumab (assuming similar persistence); largely due to the PAS. Stopping treatment for non-responders at Week 12 (CZP) vs Week 24 (adalimumab), could allow the UK NHS to re-invest £ 2145/patient. **CONCLUSIONS:** In this UK cohort, CZP persistence was higher in naive pts. Reinforcing a 12 week treatment decision could result in more efficient spend on drugs and rapid initiation of alternative treatment in non-responders.

MA3

PALIPERIDONE PALMITATE LONG-ACTING INJECTION FOR BRAZILIAN NON-ADHERENT SCHIZOPHRENIC PATIENTS: 5-YEAR BUDGET IMPACT ANALYSIS FROM THE PUBLIC PAYER PERSPECTIVE

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OBJECTIVES: To estimate the budget impact of PP-LAI in treating chronic schizophrenia in Brazil from the perspective of the public payer, specifically for patients with adherence issues. **METHODS:** The budget impact model (BIM) was used to estimate eligible population and to project investments for the first 5y (2012-2016). An approach based on prevalence and adherence rates reported by previous studies was employed to define the eligible population. Two scenarios were simulated: 1) the current setting, in which schizophrenic patients with adherence issues receive atypical drugs already provided by the Brazilian Public Healthcare System (BPHS) (olanzapine, quetiapine and ziprasidone), and 2) the proposed setting, in which patients presenting non-adherence behaviors on oral atypical therapy can receive PP-LAI. Final costs were calculated considering drug acquisition costs and health resource consumption related to outpatient follow-up, hospitalizations and adverse events. **RESULTS:** The BIM estimated the population eligible for PP-LAI ranging from 2,207 patients (2012) to 2,271 patients (2016), approximately 0.3% of the projected schizophrenia population attending BPHS services. With all drugs tax exempted, the acquisition costs were: PP-LAI 5,566BRL (1st year) and 4,963BRL (subsequent years); olanzapine 3,850BRL; quetiapine 5,416BRL; ziprasidone 1,474BRL. The model estimated the current BPHS expenses at 287 million BRL in 2012, reaching 296 million BRL in 2016. If PP-LAI is included in the reimbursement list, the yearly budget impact in 2012 would be 2.4 million (+0.83%) and 1.1 million in 2016 (+0.37%). The cumulative budget impact would reach 6,658,573BRL in 5 years. **CONCLUSIONS:** PP-LAI is an effective therapeutic option for schizophrenic patients, particularly those who would benefit from LAI antipsychotic drugs. In this BIM, the investments to include PP-LAI on BPHS reimbursement lists were estimated to be BRL 6.7 million in five years (an increment of 0.46% in the current budget).

MA4

ADEQUATE ADHERENCE TO INTRANASAL CORTICOSTEROIDS IS ASSOCIATED WITH SIGNIFICANTLY REDUCED NUMBER AND COSTS OF OUTPATIENT VISITS AMONG PATIENTS NEWLY DIAGNOSED WITH ALLERGIC RHINITIS

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OBJECTIVES: To examine the influence of intranasal corticosteroid (INS) adherence on 18-month outpatient use and costs among patients newly diagnosed with allergic rhinitis (AR). **METHODS:** This was a 12-year (6/1997-7/2009) retrospective matched cohort study in United States (U.S.) Florida Medicaid enrollees with newly diagnosed AR (≥1 year preceding initial AR diagnosis without any claim for ICD-9 477.0, 477.8, 477.9). Selected were patients receiving ≥1 INS fill after their initial AR diagnosis with sufficient data (≥1 year of data before and ≥3 years of data after index INS fill) for analysis. "Adequate" adherence was defined as an INS medication possession ratio (MPR; calculated as the total days of supply during 18 months) ≥70% following patient's index INS fill, and inadequate adherence as MPR <70%. Patients with adequate INS adherence (Adequate-INS) were matched 1:3 to those with inadequate adherence (Inadequate-INS) on age at initial AR diagnosis; sex; race/ethnicity; and Charlson Comorbidity Index and comorbid atopic illness (asthma, atopic dermatitis, and conjunctivitis) 1 year before index INS fill. Wilcoxon signed-rank tests compared median outpatient use and costs (in U.S. dollars; USD) between Adequate-INS and Inadequate-INS groups over 18 months. **RESULTS:** Among all enrollees (N=7,524,231), 75,337 patients aged ≥12 years were newly diagnosed with AR. Of these, 343 Adequate-INS patients were matched to 698 Inadequate-INS patients. Demographics and comorbid illness rates did not significantly differ between groups at baseline. Median 18-month number of outpatient visits (19.0 versus 25.0, p<0.0001) and costs ($1,633 versus $2,552 in USD, p<0.0001) were significantly lower among Adequate-INS versus Inadequate-INS patients. **CONCLUSIONS:** Significant differences between adherence groups in number and costs of outpatient visits were observed over 18 months following INS initiation among these U.S. patients receiving State Medicaid Health care coverage. Results suggest that INS adherence may play a role in improving health outcomes of patients with AR.

PODIUM SESSION II:
RESEARCH ON MODELING METHODS

MO1

COMPREHENSIVE DISCRETE EVENT SIMULATION MODEL FOR THE EVALUATION OF HEALTH CARE TECHNOLOGIES IN DEPRESSION

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OBJECTIVES: To develop a comprehensive model to estimate health and cost outcomes associated with different therapeutic options in major depressive disorder (MDD), accounting for long-term clinical events and treatment pathways. **METHODS:** A discrete event simulation (DES) model was developed with a flexible time horizon. This model simulated short- and long-term clinical events (partial response, remission, relapse, recovery, recurrence), adverse events, and treatment changes (titration, switch, addition, discontinuation) in a cohort of MDD patients. Patient characteristics influencing clinical evolution were considered (e.g., residual symptoms). The model was tested using fictitious antidepressants with three levels of efficacy, tolerability and drug cost (low, medium, high) from first-line to third-line. In the base case analysis, a medium-profile antidepressant was used first-line, and profiles of subsequent treatment lines depended on reason for switch (lack of efficacy or low tolerability). Input data were derived from the literature. Model outputs included time by clinical state, QALYs and costs. Costs were estimated for the UK, from payer and societal perspectives. One-way sensitivity analyses were performed. This model will be provided open source so that all interested researchers can contribute by incorporating new features or adding input data. **RESULTS:** Predicted costs and QALYs from this model are within the range of results from previous economic evaluations. The largest cost components from payer perspective were physician visits and hospitalisations. Key parameters driving the predicted costs and QALYs were utility values, effectiveness and frequency of physician visits. Differences in QALYs and costs between two strategies with different effectiveness increased approximately two-fold when the time horizon increased from 1 to 5 years. **CONCLUSIONS:** This DES model can provide a more comprehensive evaluation of different therapeutic options in MDD, compared to existing Markov models and can be used to compare a wide range of health care technologies in various groups of MDD patients.

MO2

IMPACT OF STRUCTURAL ASSUMPTIONS ON COST-EFFECTIVENESS OUTCOMES: TOWARDS A STANDARDIZED COST-EFFECTIVENESS MODEL FOR ADJUVANT BREAST CANCER THERAPIES

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OBJECTIVES: Markov models developed for cost-effectiveness analysis (CEAs) often contain differences in model structure due to differences in assumptions. Such differences may lead to differences in outcome and can therefore impact decision making. The objective of this analysis was to identify structural assumptions, reported for CEAs comparing the cost-effectiveness of tamoxifen and anastrazole for adjuvant breast cancer therapy, and to subsequently evaluate the impact of these assumptions, both individually as well as combined, on analysis outcome measures. **METHODS:** Based on a literature review of available published Markov model based CEAs comparing tamoxifen and anastrazole, structural model assumptions were identified. Subsequently, a base case model was defined and built in R, representing the fundamental structure present in all identified CEAs from literature. Subsequently, different structural model components as identified from the published CEAs, were added to the base case model separately, as well as simultaneously. Outcome measures Life Years gained (LYG) and incremental costs were calculated for each of these models. **RESULTS:** The base case model outcome demonstrated a gain of 0.263 LYG for anastrazole compared to tamoxifen with an ICER of €13.868/LYG. The separate impact of assumptions on LYG, ranged from 0.207 to 0.356, while ICERs ranged from €9804/LYG to €17.966/LYG. For the comparison of combined assumptions as present in identified CEA's, LYs gained ranged even from 0.207 to 0.383 with ICERs ranging from €9683/LYG to