OBJECTIVES: All recombinant human growth hormones (rhGH) have the same molecular structure, therefore providing equal efficacy and safety, and are granted the same reimbursement in the Czech Republic (CR). All rhGH are currently administered subcutaneously once a day, differing only in applicators. Easypod is the only applicator that enables monitoring the dose, time and date of each injection and allows feedback control by doctors. The objective was to assess the cost-effectiveness of monitored rhGH treatment administered by Easypod with an increase in reimbursement of 10% compared to the standard non-monitored rhGH administration in CR. **METHODS:** The interim results (n=596) of an ongoing multicenter, non-comparative, observational, longitudinal study (ECOS) were used to populate deterministic cohort model. The model simulated long-term costs and benefits development of rhGH treatment. Evaluation was developed primarily on evidence-based connection (from ECOS) between the monitoring of treatment and patient adherence to the treatment. Increased adherence of monitored patients was transferred to the increased effectiveness of the treatment, based on published study. Model further transformed the long-term treatment benefits to the increased quality of life, using QALY as the target parameter using empirical transformation. Costs were expressed from the payer's perspective. **RESULTS:** Due to an increased adherence in monitored patients, the hypothetical cohort of 10,000 boys generated 9,517 incremental QALY and CZK1.6 billion incremental costs in a lifetime horizon. A hypothetical cohort of 10,000 girls generated 11,504 incremental QALY and CZK1.35 billion incremental costs. The average cost per 1 QALY (ICER) is approximately CZK157,000 for the patient with GHD. **CONCLUSIONS:** Monitoring of the treatment may lead to an increased adherence and more effective treatment at relatively low cost, hence being considered cost-effective. Sensitivity analysis showed that ICER did not exceed CZK500,000 upon the considered uncertainty.

PND28

THE COST EFFECTIVENESS OF BG-12 (DIMETHYL FUMARATE) FOR THE TREATMENT OF RELAPSING-REMITTING MULTIPLE SCLEROSIS IN CANADA

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OBJECTIVES: Multiple sclerosis (MS) causes significant disability and diminished quality of life globally. BG-12 is a new oral treatment for relapsing forms of MS that is currently approved in the US and Canada and is under regulatory review in Europe. A cost-effectiveness model was developed to compare the health economic impact of BG-12 against other disease-modifying therapies (DMTs) as first-line treatment for relapsing-remitting MS (RRMS) from a Ministry of Health perspective in Canada. **METHODS:** A cohort-based Markov model was developed to simulate patients' progression through a series of health states, based on the Kurtzke Extended Disability Status Scale (EDSS) over a lime-time horizon. Patients entered the model based on a distribution of baseline EDSS scores, from which they could either progress/regress to higher/lower EDSS state, or remain in the same state. Relapses could occur at any EDSS score. Results from a mixed-treatment comparison were used to inform model inputs for disease progression and relapse rates per treatment. In addition to the overall discontinuation rates reported in trials, patients discontinued treatment on conversion to secondary-progressive MS or reaching EDSS 7. Costs included direct medical costs stratified by EDSS score, along with relapse, adverse events (AEs), and treatment-related costs. Utilities were accrued based on time spent in each EDSS state, adjusted for disutilities associated with AEs and caregiver burden. A 5% discount rate was applied. **RESULTS:** Compared with glatiramer acetate, BG-12 yielded 0.396 incremental quality adjusted life years (QALYs) at an incremental cost of CAD22,437, resulting in an ICER of CAD56,649. Compared with Rebif 44µg, BG-12 resulted in an ICER of CAD10,669. Results were consistent across a wide range of one-way and probabilistic sensitivity analyses. **CONCLUSIONS:** Based on traditional cost-effectiveness thresholds in Canada, BG-12 can be considered a cost-effective option compared to other first line DMTs.

PND29

COST-EFFECTIVENESS OF GLATIRAMER ACETATE AND INTERFERON BETA-1A FOR RELAPSING-REMITTING MULTIPLE SCLEROSIS, BASED ON THE COMBIRX STUDY

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OBJECTIVES: To assess the cost-effectiveness of the Disease Modifying Treatments (DMT), Glatiramer Acetate (GA) and Interferon beta-1a (IFN) in monotherapy alone and in combination for the prevention of relapses with established Relapsing–Remitting Multiple Sclerosis (RRMS) among Spanish patients aged between 18 and 60 years old. **METHODS:** A Markov model was developed to represent the transition of a cohort of patients over a 10 year period using the perspective of the Spanish National Health Service (NHS). The model considered five different health states with one-year cycles including without relapse, patients with suspect, non-protocol defined and protocol defined exacerbations, as well as the category information lost. Efficacy data was obtained from the 3-year CombiRx Study. Costs were reported in 2013 Euros and a 3%discount rate was applied for health and benefits. Deterministic results were presented as the annual treatment cost for the number of relapses. A probabilistic sensitivity analysis was performed to test the robustness of the model. **RESULTS:** Deterministic results showed that the expected cost per patient was lower when treated with GA (€13,843) compared with IFN (€15,589) and the combined treatment with IFN+GA (€21,539). The number of relapses were lower in the GA cohort with 3.81 versus 4.08 in the IFN cohort and 4.18 in the cohort treated with IFN+GA. Results from probabilistic sensitivity analysis showed that GA has a higher probability of being cost-effective than the treatment with IFN or IFN+GA for threshold values from €28,000 onwards, independent of the maximum that the Spanish NHS is willing to pay for avoiding relapses. **CONCLUSIONS:** GA showed to be a cost-effective treatment option for the prevention of relapses in Spanish patients diagnosed with RRMS. When GA in monotherapy is compared with INF in monotherapy and IFN+GA combined, it may be concluded that the first is a dominant strategy.

PND30

ECONOMIC EVALUATION OF THE TREATMENT COMPLIANCE IN PATIENTS WITH PARKINSON'S DISEASE RECEIVED DIFFERENT PREPARATIONS OF LEVODOPA

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OBJECTIVES: To assess the cost-effectiveness of two conventional combinations of levodopa and decarboxylase inhibitors (benserazide or carbidopa) in the treatment of Russian patients with Parkinson's disease. **METHODS:** The pharmacoeconomic model was developed based on the data from multicentre randomized controlled triple-blind trial (H. Pakkenberg et al., 1976) on the efficacy and tolerance of levodopa+benserazide and levodopa+carbidopa in the treatment of patients with Parkinson's disease previously not treated with levodopa. A six-month time horizon was adopted in the model. The cost analysis included costs of the original preparation of levodopa+benserazide and costs of the available in Russia generic preparations of levodopa+carbidopa and considered on-demand antiemetic treatment with domperidone to reduce the incidence of gastrointestinal side effects of levodopa. The efficacy of treatment was defined as proportion of patients with full compliance to the treatment protocol and proportion of patients without side effects (nausea and vomiting, hyperkinesia). **RESULTS:** Treatment with levodopa+benserazide was associated with significantly lower incidence of patient non-compliance (43% as compared to 76% in the levodopa+carbidopa group). Less patients in levodopa+benserazide group experienced side effects of levodopa. The expenses for antiemetic treatment was 8.7-fold lower in patients treated with levodopa+benserazide as compared to those received levodopa+carbidopa. Total costs in levodopa+benserazide group were 912,264.90 RUB per 100 patients and varied from 682,154.60 RUB to 1,255,226.00 RUB in levodopa+carbidopa groups. The cost-effectiveness ratios (CERs) were 15,692.02 RUB and 21,988.11 – 45,866.08 RUB per one patient with full compliance to the protocol in the levodopa+benserazide and levodopa+carbidopa groups, respectively. The similar results were observed for the CERs estimated per one patient without side effects of levodopa. **CONCLUSIONS:** The present study has demonstrated that administration of levodopa+benserazide is an economically effective strategy in the treatment of Russian patients with Parkinson's disease.

PND31

PHARMACOECONOMIC ANALYSIS OF DIFERENT ANTI-PARKINSONIAN DRUGS USED IN MONOPHERAPY DURING EARLY STAGES OF PARKINSON DISEASE

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OBJECTIVES: To evaluate the cost-effectiveness ratio of antiparkinsonian medication taken as monotherapy in patients with Parkinson's disease (PD). **METHODS:** A cost-effectiveness analysis (CEA) of therapies including pramipexole ER, pramipexole, ropinirole, piribedil and rasagiline has been performed. Direct medical costs including costs of medications and treatment of adverse drug effects for 1-year therapy of PD have been considered. The clinical effect of selected antiparkinsonian medication was assessed in percentage of patients responding to treatment, and also by means of the UPDRS II-III scale. All calculations were done in RUR prices of 2013 (nominal exchange rate RUR/USD = 30/1). **RESULTS:** Pramipexole ER has the lowest cost-effectiveness ratio (CER) of RUR 57,572 per patient/year responding to antiparkinsonian therapy. Hence, pramipexole ER was the most effective antiparkinsonian preparation studied in pharmacoeconomic terms. Based on cost-effectiveness ratio, the medications evaluated can be arranged in the following order: pramipexole ER (RUR 57,572), pramipexole (RUR 59,548), piribedil (RUR 70,921), ropinirole (RUR 71,887), and rasagiline (RUR 91,112). The model results were robust to deterministic sensitivity analysis with variable drug costs. Limitations: Absence of direct comparative evidence from randomized, double-blind, controlled studies makes interpretation of the data difficult. Only short-term studies (up to 24 months) were available and hence do not allow to evaluate the influence of pharmacotherapy on motor fluctuations as well as other longterm factors. **CONCLUSIONS:** The results of the present pharmacoeconomic analysis indicate that pramipexole ER is cost-effective as first line therapy for the treatment of early stages of Parkinson's disease from a Russian health care perspective. All five formulations evaluated, are well below the conditional "willingness to pay ratio" (equal to RUR 1,308607 in 2012). Hence, these preparations would qualify for application in the Russian system of public reimbursement.

PND32

COST-EFFECTIVENESS ANALYSIS OF LACOSAMIDE COMPARED WITH STANDARD OF ANTIEPILEPTIC CARE BASED ON CLINICAL PRACTICE DATA

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OBJECTIVES: To perform a cost-utility analysis of lacosamide as add-on therapy to standard antiepileptic drugs (AEDs) compared to standard AEDs alone based on individual patients data derived from actual clinical practice in the Czech Republic. **METHODS:** Based on retrospective data collection of 409 patients with epilepsy treated with lacosamide for 6 months in actual clinical practice, we developed a cost-utility Markov cohort model. The model has 4 basic health states defined by number of seizures within 3 months plus 1 state represented by occurrence of severe side effects and 1 absorption state; death. Each health state was described by utility levels derived from literature. Transition probabilities for the first cycle were derived from observational study data and subsequently published literature. The model time-horizon was 20 years, 1 cycle length covered 3 months, and a 3% discount rate was used for costs and outcomes (Quality adjusted life years (QALYs)). Only costs attributed to drug acquisition were calculated, dosing of each AED was derived from the retrospective study. We performed probabilistic sensitivity analysis (PSA) with 3000 iterations using a willingness to pay (WTP) threshold equal to 3