disease. **METHODS:** Total, direct and indirect costs were compared in 160 patients divided into three groups categorized by disease severity: stage I Expanded Disability Status Scale (EDSS <2.5), stage II (EDSS 3- 4.5) and stage III (EDSS >5). **RESULTS:** The majority of these patients (94%) developed relapsing- remitting MS.A minority of the patients (0.2-4 %) developed secondary progressive and primary progressive MS. Cost evaluation was performed from the societal perspective and covered the one-year period. The mean total cost/patient for one year was estimated at 27095, 27997and 31662$ for stage I, II and III, respectively. Both direct and indirect costs increased with MS progression. For indirect cost the main item was productivity loss. The mean extra medicine (treatments for MS symptoms and adverse effects of medications) cost/patient for one year was calculated at 19036 $. **CONCLUSIONS:** This study confirms that MS represents a high economic burden to patients and society, with direct costs greatly exceeding indirect costs. As costs increase with disease progression, treatment efforts should focus on patients in the early stages of MS. Disease support system that monitors a variety of common progressive signs for the MS individuals is a key element of a management program as well.

PND30

COST ANALYSIS OF GLATIRAMER ACETATE VERSUS FINGOLIMOD FOR THE TREATMENT OF PATIENTS WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS IN SPAIN

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OBJECTIVES: Direct cost comparison of glatiramer acetate (GA) and fingolimod for the treatment of patients with relapsing-remitting multiple sclerosis (RRMS) in Spain. **METHODS:** To compare GA and fingolimod a cost analysis model, based on a 1-year time horizon, was developed. In addition to the pharmacological costs, resource use was estimated for GA (1 hour of training with nursing staff in self-injection techniques for subcutaneous administration) and fingolimod (vaccination for varicella-zoster virus in 5% of patients, 3 complete blood counts per year, 3 ophthalmology visits for prevention of macular edema, 3 transaminase tests to monitor liver function, and cardiovascular monitoring consisting of 1 ECG before the first fingolimod dose and at 6 hours; 1 day outpatients-hospital visit for cardiological monitoring during 6 hours on the day of the first fingolimod dose, with follow-up of blood pressure and heart rate every hour). The pharmacological costs were calculated based on the ex-factory price of the drugs evaluated, using the doses recommended in the respective SmPc. Total invoicing volume was discounted by 7.5%, as laid down in Spanish Royal Decree 8/2010. Unitary costs were obtained from the e-Salud database and the drug catalog. Costs in the model are expressed in € 2012. **RESULTS:** The cost of annual treatment was €9,439.42 for GA and €19,602.18 for fingolimod, yielding a cost difference of €10,162.76. Assuming a fixed budget of €100,000.00, approximately 10 patients could be treated with GA, compared to 5 with fingolimod. **CONCLUSIONS:** Fingolimod therapy requires twice the investment of GA.

PND31

ECONOMIC VALUE OF SLOWING PARKINSON'S DISEASE IN GERMANY: MODELING PROGRESSION THROUGH HOEHN AND YAHR STAGES

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OBJECTIVES: A model of Parkinson's Disease (PD) progression over twenty-five years was developed to assess long term economic consequences of slowing progression in a German setting. **METHODS:** Expected time to progression between Hoehn and Yahr (H&Y) stages for the base case was based on a systematic literature review identifying research since 1990 that reported survival analysis outcomes (e.g., S(t), median time to progress). Costs, health utilities, mortality ratios, and dementia likelihoods by H&Y stage were derived from published German and Austrian data. Patients were assumed to be 50% H&Y 1 and 50% H&Y2 at baseline. Hypothetical disease modification levels were assumed in comparative scenarios. The model assessed the value of slowing progression versus the base case in costs, quality-adjusted life-years (QALYs), and net health benefits (NMB), monetizing QALYs at €50,000 and discounting outcomes at 3% annually. **RESULTS:** Ten manuscripts representing 44,612 patient-years reported longitudinal H&Y outcomes usable in the model. Base case results indicated average costs of €396,897 and average QALYs of 7.28 over 25 years. A scenario where the rate of disease progression was reduced by 20% from the base case resulted in NMB of €59,966 per patient, including a €33,230 cost offset and 0.53 QALY gain. The NMB of a 100% reduction in disease progression was €360,630 per patient. Results were most sensitive to assumptions about annual direct medical costs and mortality rates by H&Y stage. **CONCLUSIONS:** Costs of PD progression are substantial. Reducing progression rates could produce significant economic gains for Germany.

PND32

ECONOMIC EVALUATION OF NATALIZUMAB FOR THE TREATMENT OF MULTIPLE SCLEROSIS IN MEXICO

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OBJECTIVES: To assess the cost-effectiveness of natalizumab in patients with highly active relapsing/remitting multiple sclerosis (RRMS) in Mexico. **METHODS:** A decision analytic model was developed based on the Kurtzke EDSS scale to estimate the incremental cost per relapse avoided with natalizumab from the Mexican Public Health care System perspective. Five-year costs of treating patients with MS included drug acquisition costs, administration and monitoring costs, and costs of treating MS relapses. Effectiveness was measured in terms of MS relapses avoided (data from AFFIRM for natalizumab and meta-analysis for interferon and glatiramer acetate [GA]). Costs and effects were discounted at 5% annually. One-way sensitivity analyses were conducted to assess uncertainty. **RESULTS:** Mean 5-year estimated treatment costs were US$103,680 (natalizumab), US$78,980 (GA), US$67,045 (GA after mitoxantrone induction) and US$125,204 (interferon plus GA). Patients receiving natalizumab resulted in 1.04 expected relapses vs 6.47 for GA and 3.55 for interferon plus GA. Natalizumab dominated interferon plus GA in the incremental cost-effectiveness analysis, as it was less costly and more effective in reducing relapses. ICER for natalizumab vs GA was US$4,548 per relapse avoided and vs GA after mitoxantrone induction was US$6,745. One-way sensitivity analysis showed the results of the model were robust to changes in drug acquisition costs, administration costs, and costs of treating MS relapses. **CONCLUSIONS:** Natalizumab is a cost-effective therapy for Mexican patients with highly active RRMS. If natalizumab were used instead of interferon plus GA the public health care system would obtain savings.

PND33

COST-EFFECTIVENESS ANALYSIS OF GENETIC TESTING OF FIRST-DEGREE RELATIVES AT RISK OF SUDDEN CARDIAC DEATH DUE TO GENE-RELATED CARDIOPATHIES IN SPAIN: PRELIMINARY RESULTS

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OBJECTIVES: Genetic testing prevents sudden cardiac death (SCD) in asymptomatic first-degree relatives of patients with established inherited cardiopathies. The objective is to estimate the cost-effectiveness of conducting genetic testing in first-degree relatives of patients with Hypertrophic Cardiomyopathy (HCM), Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC), Long-QT Syndrome (LQTS), Brugada Syndrome (BrS) or Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT). **METHODS:** A Markov model was developed to determine the cost per life-year gained (LYG) and the symptom-free years (SFY) gained of using genetic testing in first-degree relatives at risk of SCD due to gene-related cardiopathies. The comparator was real world clinical practice (with no genetic testing). Four health states were defined: 1) Asymptomatic; 2) Minor event; 3) Major event; and 4) Death. The model was populated with data derived from the literature, local sources of input costs and resources use, and expert opinion. The analysis was conducted from the Spanish Health System (NHS) and social perspective in a hypothetical cohort of 1,000 patients followed over their lifetime. All costs referred to €,2012. Univariate and probabilistic sensitivity analysis were performed. **RESULTS:** The mean cost per patient with genetic testing compared to usual practice was € 51,374 vs. € 72,611 for HCM, € 58,454 vs. € 80,337 for ARVC, € 20,575 vs. € 21,659 for LQTS, € 38,005 vs. € 60,307 for BrS, and 28,286 vs. € 37,519 for CPTV, respectively. In the case of LQTS and CPTV, genetic testing implied a mean increase in LYG of 0.96 and 0.04 years per patient, respectively. Genetic testing was dominant for LQTS and CPTV and regarding HCM, ARVC and BrS was almost equally effective and less costly compared with usual practice. Sensitivity analyses confirmed the consistency of results. **CONCLUSIONS:** Compared to current practice with no screening, genetic testing in first-degree relatives at risk of SCD is cost-effective for HCM, ARVC, BrS, CPTV and LQTS in Spain.

PND34

LONG-TERM EFFECTS ON COSTS AND QUALITY ADJUSTED LIFE YEARS OF PATIENTS WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS TREATED WITH LAQUINIMOD: RESULTS BASED ON THE ALLEGRO AND BRAVO TRIALS

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OBJECTIVES: The clinical efficacy of laquinimod in relapsing remitting multiple sclerosis (RRMS) has been assessed in the randomized phase III clinical studies ALLEGRO and BRAVO. In these studies, laquinimod showed a reduction in disability progression measured by Expanded Disability Status Scale (EDSS) by 35.9% and 33.5% respectively, and a reduction in annualized relapse rate (ARR) by 23.0% and 21.3% respectively; all compared to placebo. In BRAVO a parallel group of patients received interferon beta-1a IM which showed a 28.7% reduction in EDSS progression and 28.6% reduction in ARR. The purpose of this analysis was to investigate health economic implications of these efficacy results. **METHODS:** A Markov model was developed to estimate costs and health effects in the treatment of RRMS with laquinimod, placebo and interferon beta-1a IM from a societal perspective in Sweden. The model included 10 health states defined by EDSS levels and used on-treatment efficacy data from the pooled ALLEGRO and BRAVO trials. Off-treatment efficacy data as well as costs and quality of life data for Sweden were taken from published articles. The analysis did not include pharmaceutical costs. Costs and health effects were discounted at a rate of 3.0%. **RESULTS:** Therapy with laquinimod during 5 years and a total time horizon of 40 years resulted in a gain of 0.21 quality adjusted life years and societal cost savings of €28 000 (0.1115 €/SEK) compared to placebo. The corresponding figures for interferon beta-1a were 0.09 quality-adjusted life years and €13 000. The results were stable for reasonable variation of most parameters. In particular, sensitivity analyses showed that EDSS progression was a much stronger driver of results than ARR. **CONCLUSIONS:** Laquinimod is associated with better health effects and lower overall non-pharmaceutical management costs than placebo as well as interferon beta-1a IM due to its favorable effect on EDSS progression.