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# PND48 BURDEN OF MULTIPLE SCLEROSIS IN GERMANY — A MATCHED COHORT STUDY USING A LARGE CLAIMS DATABASE

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had higher acquisition costs, it was associated with lower total costs; due to lower disability progression, productivity loss and disease-associated costs. Results were robust in DSA and PSA (%93.5 cost-effectiveness in Iran's threshold, 2,709 US\$). **Conclusions:** Results suggested that Ocrelizumab is a more cost-effective option than Natalizumab for the treatment of RMS in the Iranian setting.

#### PND47

##### CLADRIBINE TABLET, AS A DOMINANT COMPARATOR TO NATALIZUMAB IN HIGH-DISEASE ACTIVITY RELAPSING MULTIPLE SCLEROSIS PATIENTS, IN THE CONTEXT OF A DEVELOPING COUNTRY

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**Objectives:** Cladribine tablet is the first oral immune reconstitution therapy and is used in high disease activity relapsing multiple sclerosis (HDA-RMS). Objective of present study is to conduct a cost-utility analysis (CUA) of Cladribine tablets in comparison to Natalizumab, another available disease modifying therapy in Iran, using decision analytic modelling. **Methods:** A 5-year Markov cohort model of HDA-RMS patients was developed from Iranian societal perspective. Expanded Disability Status Scale was used to develop 21 health states for patients on and off treatment. Clinical data, disability progression and relapse rate, were extracted from network Meta-analysis, due to lack of head to head trials. State-related utility scores were extracted from literature. Quality adjusted life years (QALY) and life years gained (LYG) were measurements of efficacy. Direct and indirect costs were identified by clinical expert and previous studies and calculated in Iranian Rial rates (IRR) then converted to US\$; with 2019 governmental conversion rate. Costs and QALYs were discounted by %7.2 and %3.5, respectively. Deterministic and probabilistic sensitivity analysis (D/PSA) were conducted to evaluate robustness of model and its sensitivity to model components. **Results:** Results indicated that Cladribine tablets dominated Natalizumab. 5-year cost per patient was 69,842 and 76,449 USD for Cladribine tablet and Natalizumab, respectively; with drug acquisition cost as main component (%92 in both arms). LYG was comparable between comparators and QALY difference per patient was 0.003, favoring Cladribine tablets. DSA showed that the results were sensitive to cost discount rate and patients' weight and no or less sensitivity was seen with main clinical variables. PSA showed that Cladribine tablet is cost-effective with a probability of %57.5 in Iran willingness to pay threshold of 2,709 USD (1 gross domestic product per capita). **Conclusions:** Cladribine tablet dominated Natalizumab in HDA-RMS patients from Iranian societal perspective and is a more cost-effective option.

#### PND48

##### BURDEN OF MULTIPLE SCLEROSIS IN GERMANY — A MATCHED COHORT STUDY USING A LARGE CLAIMS DATABASE

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**Objectives:** Multiple sclerosis (MS) is the most common neurological disorder of young adults in Germany. It is associated with significant medical, social and economic consequences. Aim of this study was to assess the epidemiology of MS and to describe the healthcare resource utilization and costs for MS compared to patients without MS from a statutory health insurance (SHI) perspective. **Methods:** This was a retrospective cohort study utilizing claims data of a large German health insurance. Prevalent MS patients in 2013 were identified using ICD-10-GM codes as well as ATC codes and matched to a control group of patients without MS. Matching parameters included age, gender, state of insurance, Elixhauser Comorbidity Index, federal state and residence in urban/rural areas. Demographic characteristics, healthcare resource consumption and healthcare costs were determined for 2013. Statistical differences between the groups were assessed using paired tests. **Results:** In 2013, 24,150 prevalent MS patients were identified. The age- and gender-adjusted prevalence rate was 416.6 per 100,000. Extrapolated to the German population, 335,440 patients suffered from MS. After the matching process 22,492 MS patients remained, of which 80.3% were female and the mean age was 52.7 years. Differences in healthcare consumption between the groups were most notable in the inpatient, aids, devices, and care-giving sector. The total costs from the SHI perspective were €14,240 per MS patient and €4,214 per control group patient (p<0.001). The difference was mainly due to medication costs (€7,336 vs. €1,075, p<0.001) and care-giving expenses (€2,143 vs. €241, p<0.001). **Conclusions:** The age- and gender-adjusted prevalence in this study was considerably higher than described in literature. Resource consumption of MS patients was significantly increased compared to the control group, especially

concerning the inpatient, care-giving and pharmaceutical sectors. This was also reflected in the substantially higher costs per patient.

#### PND49

##### OUT-OF-POCKET EXPENSES IN MIGRAINE IN PORTUGAL

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**Objectives:** Migraine is a disabling disease with a considerable impact on daily activities. Current standard of care has limitations regarding its efficacy and a poor tolerability profile. This may end in patients looking for alternative therapies, which in turn result in out-of-pocket expenses. We aimed to characterize the out-of-pocket expenses incurred by patients with migraine in Portugal. **Methods:** A worldwide, cross-sectional, online survey was conducted including migraine patients recruited via online panels and patient organizations from September 2017-February 2018. Study participants were adults reporting 4 or more monthly migraine days over the 3 months previous to survey with a pre-determined quota of 90% participants having received previous preventive migraine treatment. Out-of-pocket expenses were self-reported by the participants. Results from the Portuguese sample are reported. **Results:** A total of Portuguese 143 participants were included, 80% female, mean age 37.3 years (range: 18-72 years), 56% have children, 73% are employed, and 60% have an household income ≤€1,500/month. About 82% of the participants reported out-of-pocket expenses: 66% related with drug prescription fees, 52% with over-the-counter medication, 40% with medical appointment fees, 31% with transportation to medical appointments, 23% with emergency room visits, 20% with health insurance, 16% with complementary treatment, and 9% with other. Overall, out-of-pocket expense averaged €102/participant/month (range: €0-€970). Cost drivers were drug prescription fees (30% of the overall average expense) followed by medical appointment fees (15%). Participants who failed two or more prophylactic treatments reported an out-of-pocket expense mean of 141 €/participant/month like participants who failed three or more. **Conclusions:** These results are important to understand the out-of-pocket burden of migraine in Portugal and may be of support to justify new interventions capable of reducing this burden.

#### PND50

##### ECONOMIC BURDEN OF ALZHEIMER'S DISEASE DEMENTIA IN JAPAN

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**Objectives:** Alzheimer's disease dementia (ADD) was ranked as the leading cause of long-term care in Japan. This study aimed to conduct literature review on the burden of ADD and to estimate the annual healthcare and long-term care costs in FY2018 for people over 65 years old living with ADD in Japan and productivity loss for their family. **Methods:** Annual healthcare costs and long-term care costs for ADD were estimated using the literature obtained through MEDLINE, Ichushi-Web, and the MHLW Grants system. The healthcare and long-term care costs covered by the Japanese National Health Insurance were included according to the disease severity classified with clinical dementia rating (CDR) score. Productivity loss was sum up with income loss based on overall work impairment, turnover, and activity impairment in housewives due to informal care for ADD. **Results:** There were around 3.6 million people with ADD in Japan, which accounted for 10% of the population over 65 years old. The total annual healthcare costs of ADD were 1,073 billion JPY (8.9 billion Euro), of which 86% (923 billion JPY) was attributed to medical costs, and 14% (151 billion JPY) was costs for drug treatments. The annual medical costs by severity were less than 200 billion JPY for patients with CDR-0.5, CDR-1, and CDR-2, respectively, but increased to 447 billion JPY (48%) for patients with CDR-3. The annual public long-term care costs were estimated to be 4,783 billion JPY, which increased as severity worsened from 242 billion JPY for CDR-0.5 (5%), 1,059 billion for CDR-1 (22%), 1,183 billion for CDR-2 (25%) to 2,299 billion for CDR-3 (48%) JPY, respectively. Total productivity loss was 1,436 billion JPY. **Conclusions:** Costs of ADD have huge impact on the public funded healthcare and long-term care system and their family in Japan. Effective interventions in any levels are required to mitigate this societal issues.

#### PND51

##### PRODUCTIVITY LOSS IN NHS HOSPITALS DUE TO DIFFICULT-TO-TREAT MIGRAINE

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**Objectives:** To estimate the burden of migraine in professionals working on NHS Portuguese hospitals regarding productivity loss (absenteeism and presenteeism) who had 3 or more previous prophylactic treatment failures (TF3+). **Methods:** Data inputs included number of healthcare professionals working on Portuguese NHS hospitals (physicians, nurses, diagnosis and therapeutic

