1b, Peginterferon beta-1a, Teriflunomide, Dimethyl Fumarate and Azathioprine, detected by ATC Code. We extrapolated results to whole SHI by adjusting for differences in demographics of insured between TK and SHI. **RESULTS:** G-BA issued additional benefit of Fingolimod only for patients with rapidly evolving severe RRMS, i.e. 1.500 patients in Germany. We observed 9.538 patients with MS and prescription of Fingolimod in SHI in 2013 and 11.085 in 2014, corresponding to about every 10th patient with MS and prescription of DMT. Total outpatient pharmaceutical expenditure for DMT was million €1,843 in 2014, million €210 (11.4%) caused by Fingolimod. **CONCLUSIONS:** HTA and drug safety warnings don´t seem to influence prescribing behaviour. This might be accompanied by additional costs for SHI and doubtful benefit for patients. Whether marketing or patient demand is responsible for over-prescription needs to be discussed elsewhere.

PND87

**CHARACTERISTICS OF PATIENTS WITH RELAPSING REMITTING MULTIPLE SCLEROSIS TAKING ONCE DAILY FINGOLIMOD CAPSULES IN THE UNITED STATES**

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**OBJECTIVES:** Fingolimod oral capsules were the first oral disease modifying agent (DMT) approved in the United States (US) in September 2010 for the treatment of relapsing remitting multiple sclerosis (RRMS). The objective of this study is to assess the characteristics of RRMS patients taking Fingolimod capsules in the US. **METHODS:** A large US administrative retrospective claims database was used to identify patients diagnosed with RRMS and were prescribed Fingolimod between January 2010 to December 2012 were included in the study. All patients were ≥ 18 years of age and continuously enrolled in the same health plan for a year. Descriptive statistics and chi-square tests were performed on the data and statistical significance level was set a priori at 0.05. **RESULTS:** There were a total of 28,447 patients that met the study inclusion criteria. Of these, 21,629 (75.9%) were females, mean age was 49.1±10.0 years, and males were older than females (49.78 vs 48.9 years; P<0.001) with a statistical significance different between them. Thirty four percentage of the patients were from Midwest, 25.5% were from East, 34.4% from south and 5.2% from West of the USA. Thirty three percentage of the patient's prescription was with their health plan formulary and received an average of supply of 31.6 ± 13.6 days. Majority (60.9%) of the patients was under group coverage and 59.1% of patients were diagnosed with having mental health problems. Females enrolled continuously (5.1 ± 2.4 vs 5.0 ± 2.4 years) much longer than males in the same health plan. But, females had a higher number of total claims (488.2 ± 389.0 vs 416.6 ± 389.0) during the enrollment period. **CONCLUSIONS:** Majority of the patients taking Fingolimod was females and had more number of claims related to MS than males. And, majority of the patients were dispensed Fingolimod for only one month supply.

PND88

**CHARACTERISTICS OF PATIENTS WITH RELAPSING REMITTING MULTIPLE SCLEROSIS TAKING DISEASE MODIFYING AGENTS**

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**OBJECTIVES:** The objective of this study is to assess the characteristics of relapsing remitting multiple sclerosis patients taking disease modifying therapies (DMTs) in the US. **METHODS:** A large US administrative retrospective claims database was used to identify patients diagnosed with Multiple Sclerosis (MS) and were prescribed DMTs between January 2010 to December 2012 were included in the study. All patients were ≥ 18 years of age and continuously enrolled in the same health plan for a year. Descriptive statistics and chi-square tests were performed on the data and statistical significance level was set a priori at 0.05. **RESULTS:** There were a total of 741,065 patients that met the study inclusion criteria. The mean age of the patients was 52.38 ± 10.50 years, 75.7% of the patients were females, and majority of the patients were between 41 to 64 years of age (73.5%). Thirty two percent of the patients were from East, 34.6% were from Midwest, 25% from South and 7.8% is from West region. 56.6% of the patients were on a group coverage plan and 62.6% of the patients were on a DMT prescription that is under their health plan formulary. Majority of the patients (92.9%) were prescribed 30 days' supply of DMTs, 6.3% were on 90 days' supply and only 0.8% were on 60 days' supply of DMTs. More than half of the patients (55.7%) were diagnosed with mental health problems in addition to their RRMS as a primary diagnosis. On average, patients were continuously enrolled for 5.36 ± 2.40 years and submitting around 446 claims during this period. **CONCLUSIONS:** The majority of the patients was females and was between 41 to 64 years of age. And majority of the patients received 30 days' supply of DMTs.

PND89

**DIFFERENCES IN MULTIPLE SCLEROSIS RELAPSE RATES BASED ON PATIENT ADHERENCE, AVERAGE DAILY DOSE, AND PERSISTENCE WITH DISEASE-MODIFYING THERAPY: OBSERVATIONS BASED ON REAL-WORLD DATA**

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**OBJECTIVES:** To explore the relationship between medication-use patterns of multiple sclerosis (MS) disease-modifying therapy (DMT) and relapse in a real-world setting. **METHODS:** This was a retrospective, observational study using administrative claims data. Dimethyl fumarate (DF), a DMT, was selected for analysis due to availability of medication-dosing data in relation to efficacy observed in a clinical trial.1 Adult MS patients with DF claims (March 2013–January 2014) continuously enrolled for 9 months before and after therapy initiation were included. A validated algorithm was used to define relapse by either an inpatient claim with a primary MS diagnosis or a systemic corticosteroid claim within 7 days of an MS outpatient visit.2 Medication-use patterns were assessed by non-adherence (medication possession ratio (MPR) <0.90), suboptimal average daily dose (ADD <360 mg/day), and treatment non-persistence (DMT switch or ≥30-day gap in therapy). The ADD cut-point was based on the ineffectiveness of DF in reducing the number of new brain lesions at doses <360 mg/day.1 **RESULTS:** The study sample consisted of 2,879 patients; 19.8% relapsed within 9 months, with an average time to relapse of 110 days (standard deviation: 77.9). A higher proportion of non-adherent patients relapsed versus adherent patients (23.4% vs. 17.9%; p=0.0004). A higher proportion of patients with suboptimal ADD experienced relapse compared with those with ADD ≥360 mg/day (26.7% vs. 17.9%, p<0.0001). Non-persistence was associated with a higher occurrence of relapse compared with persistence (25.0% vs. 18.2%, p=0.0001). **CONCLUSIONS:** Non-adherence and suboptimal dosing with DF were related to higher relapse rates in MS patients in a real-world setting. Further research is needed to confirm these findings for other DMTs and to quantify the level of non-adherence with its impact on effectiveness.REFERENCES: 1. Kappos L, et al. Lancet. 2008;372:1463-72. 2. Chastek BJ, et al. J Med Econ. 2010;13:618-25.

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PND90

**INEQUALITIES IN ACCESS TO TREATMENT FOR MULTIPLE SCLEROSIS IN ENGLAND CONTINUE DESPITE SERVICE IMPROVEMENT INITIATIVES AND POLICY REFORMS**

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**OBJECTIVES:** Multiple sclerosis (MS) is an acquired chronic immune-mediated inflammatory condition of the central nervous system. It is the commonest cause of serious physical disability in adults of working age. Inequalities in access to treatment and care for MS have been recognised within the UK and when the UK is compared with Europe eg. 69% of patients in Germany have access to disease modifying therapies versus 21% of patients in the UK. Recent NICE guidance has been issued to tackle the inequalities in access to care for MS in England, however uptake of NICE Guidance is not uniform across the country, leading to delays and restrictions in access to treatment for patients in some areas. This paper aims to assess the current variation in access to treatment for MS in England. **METHODS:** Prescribing of fingolimod for MS in England was examined using the NHS England Innovation Scorecard for Key Secondary Care Medicines per 100,000 population. Uptake of fingolimod across the 25 area teams was examined. **RESULTS:** Despite positive NICE guidance for fingolimod issued in April 2012 there are major differences in the uptake of fingolimod in England. The highest uptake can be seen in the London area and in other area team geographies in the south. Uptake in these areas is at least 3 fold and in some cases 7 fold greater than that seen in area team geographies in the North West. Some of this variation may be explained by proximity to specialist care centres, however the existence of these centres does not explain the extent of the variation. **CONCLUSIONS:** Variations in access to treatment for MS in England persist despite NICE guidance and NHS reform aimed at addressing these inequalities.

PND91

**NATALIZUMAB USE IN MULTIPLE SCLEROSIS: A REAL WORLD EVIDENCE (RWE) ANALYSIS OF ITS IMPACT ON NHS RESOURCES IN ENGLAND**

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**OBJECTIVES:** Multiple Sclerosis (MS) is a progressive and debilitating condition with long-term impacts on patients and healthcare resources. Natalizumab is a disease-modifying biologic used in MS and administered by intravenous infusion every 28 days. This analysis evaluated the impact of natalizumab on hospital activity using Hospital Episodes Statistics (HES) data. **METHODS:** A retrospective analysis of HES was performed using data for the specific period January 2010 to May 2012 (29 consecutive months). Data after May 2012 was not used due to the introduction of a second drug which could not be differentiated from natalizumab. A systematic HES coding search identified patients via ICD and OPCS codes and patterns of hospital attendance. Attendances were collated for the period from 6 months pre- and 6 months post- natalizumab initiation. Healthcare utilisation metrics included: number of planned & unplanned hospital visits, planned & unplanned bed days, and outpatient appointments. **RESULTS:** Comparing pre- with post- natalizumab periods there was a 50.0% reduction in mean unplanned hospital visits per patient (p = 0.010) and a 49.6% reduction in the mean number of bed days per unplanned visit (p = 0.027). Other observations included a 74.8% reduction in the mean number of unplanned bed days per patient (p = 0.138) and a 44.8% increase in mean outpatient appointments per patient (p = 0.351) however these were not statistically significant. As expected, natalizumab was associated with an increase in planned admissions although the mean number of bed days per planned admission was reduced by 87.0% (p = 0.004). The changes to in-patient admissions were estimated to deliver a small reduction in healthcare expenditure. **CONCLUSIONS:** The pattern of changes in hospital activity associated with natalizumab support the expected positive clinical outcomes. Confounding aspects were an identification bias in the non-random sampling and the potential for a regression to the mean effect.

PND92

**TREATMENT PATTERNS, RESOURCE UTILIZATION AND COSTS IN MUSCULAR DYSTROPHY PATIENTS: ANALYSIS USING ADMINISTRATIVE CLAIMS DATA**

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**OBJECTIVES:** There is currently no cure for Duchenne muscular dystrophy (DMD), which results in progressive paralysis and death generally in early adulthood. Available treatments only address symptoms, with limited success. However, several new therapies targeting underlying genetic components of the disease have passed pre-clinical phases of drug development. In anticipation of new therapies coming to market, we sought to examine current treatment patterns, resource