abstraction and who experienced ≥1 cluster within the 12 months prior to the abstraction were eligible. Demographics, comorbidities, and seizure-related medical information including treatments, rescue medication, and resource utilization over a 12-month period were abstracted by the neurologist using a web-based form. Costs were estimated from the literature and converted to 2013 US dollars. **RESULTS:** 543 patient charts were collected; the mean patient age was 41 years and 58.7% were male. In this patient sample, 363 patients were utilizers of rescue medication (defined as those who consistently used rescue medication for every seizure cluster) and 180 were under-utilizers (not prescribed or failed to use rescue medication for at least 1 seizure cluster). Utilizers and under-utilizers experienced on average 2.4 and 3.1 seizure clusters, respectively. Compared to utilizers, under-utilizers were more likely to progress to status epilepticus (25.0% vs. 15.4%, p<0.01), visit an emergency department (56.7% vs. 45.2%, p=0.012), and require hospitalization (41.1% vs. 25.6%, p<0.01). Healthcare costs were significantly higher for under-utilizers than for utilizers ($21,790 vs. $13,265, p=0.038). **CONCLUSIONS:** In this study of adult patients with seizure clusters, under-utilizers of rescue medication had significantly higher seizure-related healthcare resource use and costs compared to utilizers of rescue medications. Supported by Acorda Therapeutics Inc.

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## IMPACT OF WALKING IMPAIRMENT ON HEALTHCARE RESOURCE UTILISATION IN MULTIPLE SCLEROSIS PATIENTS

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**OBJECTIVES:** Multiple sclerosis (MS) is a chronic, progressive disease. Mobility and walking impairment affect up to 90% of MS patients (Hemmett et al 2004). In clinical trials, walking impairment is often measured by walking speed (WS). The impact of walking impairment on direct and indirect healthcare resource utilisation (HCRU) and support resources, such as walking aids and home/workplace modifications, provides important information on burden of MS-related symptoms for healthcare decision makers. This analysis sought to investigate association between WS, measured by timed 25 foot walk test (T25FW), and direct HCRU, walking aid use and modifications to daily living at home and work. **METHODS:** Data were obtained from a cross-sectional 2014 study of 474 neurologists in France, Germany, Italy, Spain, UK and US. Neurologists completed 10-15 prospective records for consulting MS patients. Of the total 5538 MS patients, 737 had a T25FW score, and of these, 320 returned a self-completion form reporting on the utilization of support services. Mean age was 43.45 years. Mean time since diagnosis was 6.73 years. Logistic, Ordered Logistic, Negative Binomial and Probit (with sample selection) regressions assessed the relationship between WS and physician-reported data on direct patient HCRU and patient-reported data on walking aids and home and workplace modifications. Covariates were age, sex, body mass index, time since MS diagnosis and relevant concomitant conditions **RESULTS:** Reduced WS was associated with increased level of non-professional and professional caregiver need (p<0.001), an increase in consultations with physiotherapists (p=0.001) and urologists (p=0.033) in the last 12 months, and increased visits to ER in the same timeframe (p=0.010). Reduced WS was also associated with increased need for walking aids (p<0.001) and home (p<0.001), and workplace modification (p=0.006). **CONCLUSIONS:** Reduction in WS is associated with increased HCRU and additional support requirements. Therapies that improve patients' WS may be beneficial to reduce economic burden associated with reduced WS.

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## HEALTHCARE RESOURCE UTILIZATION ASSOCIATED WITH DALFAMPRIDINE EXTENDED RELEASE IN MULTIPLE SCLEROSIS: A RETROSPECTIVE CLAIMS DATABASE ANALYSIS

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**BACKGROUND:** While prior studies have supported clinical and health-related quality-of-life benefits of dalfampridine extended release tablets (D-ER; fampridine outside the US, 10 mg twice daily) in persons with multiple sclerosis (MS), there are limited real-world data on economic benefits as measured by healthcare resource utilization. **OBJECTIVES:** To evaluate healthcare resource utilization associated with D-ER. **METHODS:** Using the HealthCore Integrated Research DatabaseSMof administrative claims from a large, geographically diverse, US population between 1/1/2009 and 2/28/2013, resource utilization was compared between patients with MS treated with D-ER versus not. Patients aged ≥18 years; with ≥2 pre-index MS-related medical or pharmacy claims and ≥12 months each of pre-index and post-index continuous enrollment; and without prior claims for D-ER and alternate gait-impairing etiologies were included. The D-ER cohort had ≥1 D-ER claim from 1/1/2010 to 2/29/2012, while the cohort not receiving D-ER had ≥1 medical claim(s) with a walking-attributable code (ICD-9-CM 781.2, 719.7, 781.0, 781.3) and no D-ER use; in both cohorts the index date was the earliest relevant claim. The cohorts were propensity-score matched on baseline demographics, comorbidities, and MS-related resource utilization. Walking-attributable hospitalizations, emergency department (ED), neurologist office, and physical or occupational therapy visits were compared from baseline to 1-year follow-up between cohorts. **RESULTS:** 958 propensity-score–matched patients (479 per cohort) were identified. Walking-attributable outcomes for total hospitalizations, measured as the change (follow-up minus baseline) between those on and not on D-ER, were 8 and 31, respectively. Similarly, changes between cohorts in ED visits were –3 and 6; neurologist office visits, –52 and 354; and physical or occupational therapy visits, 90 and 1474 respectively. There was a significant difference in utilization changes from baseline to follow-up between cohorts (P<.05). **CONCLUSIONS:** Results demonstrated favorable walking-attributable resource utilization outcomes associated with D-ER treatment.

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## PARKINSON'S DISEASE AND CAREGIVER BURDEN: RESULTS FROM THE NATIONAL ALLIANCE OF CAREGIVING SURVEY

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**OBJECTIVES:** To compare informal caregiver burden of caregivers providing care to elderly individuals with and without Parkinson's disease (PD) and estimate costs associated with providing informal care to elderly individuals with and without PD. **METHODS:** A retrospective cross-sectional study was conducted using National Alliance for Caregiving, American Association of Retired Persons (NAC/AARP) survey (2004, 2009). Adults (age ≥ 18 years) with no formal caregiving training, who provided help with at least one activity of daily living or instrumental activity of daily living were classified as informal caregivers. The care-recipients were elderly (age ≥ 65 years) individuals with and without PD. Caregiver burden was measured (scale of 1[low] - 5[high]) based on three questions on physical strain, emotional stress and financial hardship on the caregivers. Costs associated with informal care were estimated by multiplying number of informal caregiver hours per week by the median wage ($10.10/hour) of a household aide (2013 US$). Mean differences in caregiver burden and costs were evaluated with t-tests. Multiple linear regressions were conducted to compare caregiving burden and costs among individuals with and without PD. **RESULTS:** The mean caregiver burden was similar among caregivers of individuals with and without PD (2.25 vs. 2.21). Although not statistically significant, the average number of caregiving hours per week for care-recipients with PD was higher (27.51 hours, 95% CI: 14.4- 41.2) than those without PD (19.73 hours, 95% CI: 18.3-21.2). The average costs of informal caregiving for care-recipients with and without PD were approximately $14,448 and $11,355 respectively. Multivariate analyses did not show significant differences in caregiver burden and costs. **CONCLUSIONS:** No significant differences in caregiver burden and costs were observed among caregivers of care-recipients with and without PD. Appropriate interventions are needed to reduce number of hours of informal caregiving, which may lead to decrease in overall informal caregiver burden.

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## METHODOLOGICAL ISSUES IN CLASSIFYING ADJUNCT ANTI EPILEPTIC DRUG (AED) TREATMENT IN CLAIMS DATA: ANALYSIS OF THE EFFECT OF THE MINIMUM AED CO-ADMINISTRATION PERIOD

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**OBJECTIVES:** Approximately 1/3 of patients with partial-onset seizures (POS) are drug resistant and frequently require adjunctive treatment (Brodie 2012). Although adjunctively-treated patients are identified in claims data by the concurrent administration of two or more AEDs, the minimum AED co-administration period has not been established. In order to avoid confounding in claims data analyses, the titration time to maintenance dose of AEDs used in adjunctive therapy needs to be carefully weighed in the classification of adjunctively-treated patients. This study sought to identify the impact of different co-administration periods on the proportion of patients identified as receiving adjunctive therapy within claims data. **METHODS:** This retrospective study used the HCMS employee database of commercially insured subjects. Subjects with POS [ICD9-CM=345.4x,345.5x] between Jan-2001 and Jun-30-2014 were identified from the employee's spouses and assigned an index date based on their initial AED use. Subjects were required to have >365 days of continuous eligibility following their index date. Patients were classified as having adjunctive therapy on the basis of having at least 30, 45, 60, or 90 days of concomitant AED use in the year following the index date. **RESULTS:** 350 eligible subjects married to employees were identified (69.5% female, 44.2 years old). The average time from their first POS diagnosis was 17.8 days for those initiating monotherapy, and 56.6 days for those initiating adjunctive therapy; with progression from monotherapy to adjunctive therapy averaging 41.4 days. Percent classified receiving adjunctive therapy at 30, 45, 60, and 90-days were 41.7%, 39.1%, 38.3% and 34.9%, respectively. **CONCLUSIONS:** Using a 90-day co-administration period, approximately 1 in 3 POS subjects were classified as using adjunctive therapy. Researchers may find this consideration of different overlap periods useful for studies of AEDs requiring short vs. long titration periods.

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## ORAL DISEASE MODIFYING THERAPY FOR MULTIPLE SCLEROSIS; IS THIS THE NEW NORMAL?

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**OBJECTIVES:** To describe the changing landscape of disease modifying therapy (DMT) prescribing among treatment-naïve patients diagnosed with multiple sclerosis (MS) since the recent introduction of oral options. **METHODS:** Adult (≥18 years) patients with a diagnosis of MS (ICD-9-CM 340) and ≥2 claims for an oral (fingolimod, teriflunomide, dimethyl fumarate) or non-oral (interferon beta-1a, interferon beta-1b, glatiramer acetate, natalizumab) DMT between March 29, 2013 and February 1, 2014 (first prescription=index date) were identified in the Truven Health MarketScan® databases. Patients had ≥15 months of continuous enrollment (12 months pre- and 3 months post-index) with no DMT pre-index. Demographic and clinical characteristics were measured and compared at index and in the 12 month baseline period, respectively. **RESULTS:** A total of 3,221 patients (mean age 46.5 years [SD=11.6]; 75.2% female) met all study criteria. Approximately half (49.3%) of patients were prescribed an oral DMT. The most commonly prescribed DMT was dimethyl fumarate (38.2%), followed by glatiramer acetate (23.1%), natalizumab (8.9%) and intra-muscular interferon beta-1a (8.4%). Patients initiating treatment with an oral DMT were older (47.5 years [SD=10.9] vs. 45.5 years [SD=11.6]) and a higher proportion were prescribed symptomatic medications including antidepressants (39.1% vs. 32.2%), muscle relaxants (33.5%