Absenceism (Lost Time) Among Employees With Multiple Sclerosis

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Introduction

Multiple sclerosis (MS) is an acquired inflammatory and immune-mediated disorder of the central nervous system characterized by inflammation, demyelination, and degeneration of neural tissue. MS affects more than 2 million people worldwide, and an estimated 400,000 adults from the US alone. In the United States,² MS usually affects young adults between the ages of 20–40 years, with a female-to-male risk ratio of 1.5 to 1.³

Several studies have reported that people with MS have difficulty maintaining employment due to the disease.³–⁵ Disease-modifying therapies (DMTs, immunomodulators) for MS are to reduce the frequency and severity of relapses, delay disability, and postpone the onset of the progressive phase of the disease. Available DMTs include the following:

- β-Interferon (IM IFN β-1a (Avonex®))
- β-Interferon (IM IFN β-1b (Betaseron®))
- Copaxone (glatiramer acetate)
- Natalizumab (Tysabri®)

While efficacy data on the DMTs exist, limited objective data are available on the differences in absence (lost time) among employed individuals with MS.

Objective

The overall objective of this study was to assess the diagnostic differences in absence (lost time) among employed patients treated with DMTs for MS in a real-world setting.

Methods

A retrospective analysis was performed on data from 1/1/2000 to 6/30/2004 from the Human Capital Management Services (HCMS) Research Reference Database, consisting of approximately 550,000 employees representative of the US employed civilian labor force (2004). Employees with available prescription claims were assigned to therapy cohorts and patients with MS (ICD-9 code of 340.XX).

Limitations

- While this study adds to the body of evidence about work absence levels among employees treated for MS, the study has the same limitations, characteristics of database studies using administrative claims (ie, lack of severity classification, race, region, or type) and may not be representative of patients with MS who are not diagnosed, not treated, or not able to maintain employment.

- Furthermore, the results shown in some of the cohorts suggest that results should be interpreted with caution.

Conclusions

- Despite such limitations, the study attempted to control for age, gender, employment status, and severity (using Charlson comorbidity score) and that represents an important addition to the literature.

References

1. Noonan CW et al. Presented at the Academy of Managed Care Pharmacy Annual Meeting April 16–19, 2008 San Francisco, CA

2. The JSTAC Group, Newport Beach, CA, USA. Biogen Idec, Inc. Cambridge, MA, USA


Introduction

• Multiple sclerosis (MS) is an acquired inflammatory and immune-mediated disorder of the central nervous system (CNS) that is characterized by demyelination, inflammation, and degeneration of neural tissue. MS affects more than 2 million people worldwide, and an estimated 4,000 new cases are diagnosed in the United States.3,4 MS usually affects young adults between the ages of 20–40 years, with a female-to-male ratio of 3:1.5

• Several studies have reported that people with MS require different levels of employment due to the disease.6

• Disease-modifying therapies (DMTs) (immunomodulators) are used to reduce the frequency and severity of relapses, delay disability, and postpone the onset of the irreversible phase of the disease.7

Objective

The objective of this study was to assess the objective differences in lost time (sick leave and short-term disability [STD] costs) among employed individuals with MS (Avonex®, Betaseron®, Copaxone®, and Rebif® treatment for patients with MS). The null hypothesis was that there were no differences in lost time and costs among the 4 treatment cohorts. The alternative hypothesis was that there were differences in lost time and costs among the 4 treatment cohorts.

Methods

• A retrospective analysis was performed on data (1/1/2001–6/30/2007) from the Aetna2006 database. The study included patients with a diagnosis of MS (International Classification of Diseases–9 [ICD-9] codes) who received at least 1 prescription for any of the 4 DMTs (Avonex® [interferon β-1a, intramuscular (IM) administration], Betaseron® [interferon β-1b, subcutaneous (SC) administration], Copaxone® [glatiramer acetate], and Rebif® [recombinant interferon β-1a, subcutaneous (SC) administration]).

• Aims of the study included examining the characteristics of employed patients with MS treated with DMTs for MS in a real-world setting.

• A retrospective analysis was performed on data (1/1/2000–12/31/2007) from the National Health Care Services (NHS) Research Reference Database, consisting of approximately 155,600 employees representing the US employed civilian labor force (16–65 years of age).

• Employed paper and disability insurance records were analyzed for work absences (ie, sick leave, short-term and long-term disability [STD and LTD], and workers’ compensation [WC]).

• The cohort was divided into 3 age groups: 20–39, 40–59, and 60 plus years of age.

• The cohort of patients was stratified according to severity (Charlson comorbidity score). The cohort analyzed for the study included patients who were employed at least 1 year prior to the index date (index date was 1 year after their initial prescription).

• Employed individuals were identified with the NHS database, which includes unique identifiers (9 digits). The database includes the median salary, tenure, and employment status of employees. The database does not include information on MS stage or type and may not be representative of patients with MS who are enrolled in managed care pharmacy plans.

• Funding for this study was provided by Biogen Idec, Inc.

• Patients were excluded if they received DMTs for less than 1 year or if they received DMTs for less than 6 months after their index date. This exclusion criterion was applied to reduce the likelihood of patients missing index date. Patients were included if they remained employed at least 1 year after their initial prescription.

Results

• The patients treated with the 4 different DMTs were similar demographically (Table 1), and all cohorts were mostly female (more than 60%).

• Aside from small geographic differences, patients in the 4 treatment cohorts were similar demographically and were employed in similar industries (Table 2).

• No eligible natalizumab patients were found in the data based on the study inclusion criteria.

• All cohorts were mostly female (more than 60%) except for the IM IFN-β-1a cohort, which was 50% female.

• The highest sick leave and STD lost time (20.67 days) was among those receiving IM IFN-β-1a, followed by those receiving SC IFN-β-1a (13.97 days) and IFN-β-1a IM (8.31 days).

• Patients receiving IM IFN-β-1a reported the least annual lost time due to sick leave (4.83 total days). Patients receiving SC IFN-β-1a had the smallest percentage of dual long-term disability absences (10.5% vs Avonex [IM IFN-β-1a] (17.4%) and Betaseron (glatiramer acetate) (20.8%) and Copaxone (glatiramer acetate) (25.0%) treatment). The IM IFN-β-1a cohort had the highest risk of sick leave and STD lost time (22.47 days). Followed by those receiving glatiramer acetate (17.07 days) and IFN-β-1a IM (17.34 days).

• Annual long-term disability absences were nonsignificantly fewer for patients receiving glatiramer acetate compared with those receiving IFN-β-1a IM.

• A significantly lower total and STD costs compared with those receiving IFN-β-1a IM. All other cost comparisons between the cohorts were not significant.

• Using a general linear model to test the differences between the cohorts using separate regression models for days from each type of absence.

• The IM IFN-β-1a cohort had the smallest percentage of dual long-term disability absences for all cohorts, while the percentage of indirect costs for the glatiramer acetate and SC DMT (IFN-β-1a) cohorts were 3.2 and 2.0 times higher, respectively (Table 4).

• Furthermore, the small sample sizes in some of the cohorts suggest that results should be interpreted with caution.

• Despite these limitations, the study attempted to control for age, gender, employment status, and severity (using Charlson comorbidity score) and represent an important addition to the literature.

Conclusions

• Overall, these results suggest that among employed patients treated with DMTs, patients receiving IM IFN-β-1a had significantly lower sick leave and STD costs compared with the other 3 DMTs.

• Employed individuals with DMTs for MS had significantly lower sick leave and STD costs compared with patients receiving glatiramer acetate.

• These results are in agreement with prior reports showing lower annual indirect costs for patients treated with IFN-β-1a IM compared with other treatments.

• Future research should focus on improving treatment regimens for patients with MS to reduce the number of treatment failures and to improve the quality of care for these patients.

• The study results support the use of IM IFN-β-1a as a treatment option for patients with MS.

• The results of this study provide evidence that IM IFN-β-1a is a cost-effective treatment option for patients with MS.

• The results of this study have implications for healthcare providers, employers, and policymakers.

• The results of this study support the use of IM IFN-β-1a as a treatment option for patients with MS.
Introduction

- Multiple sclerosis (MS) is an acquired inflammatory and immune-mediated disorder of the central nervous system that can lead to neurologic deficits, demyelination, and degeneration of neural tissue. MS affects more than 2 million people worldwide, and an estimated 400,000 in the United States.6
- MS usually affects young adults between the ages of 20–40 years, with a female-to-male ratio of 3:1; estimates range from 350,000 to 440,000 patients in the United States.1,2
- MS is a chronic, progressive disease that can be managed but not cured.1

Objective

- The objective of this study was to assess the objective differences in lost time (absenteeism) and indirect costs among employees treated with DMP for MS in a real-world setting.

Methods

- A retrospective analysis was performed on data (1/1/2000–12/31/2004) from the Human Resource Management Services (HRMS) Research Reference Database, consisting of approximately 556,160 employees representing the US employed civilian labor force (N = 18,000).
- Employee payer and disability insurance records were available for all absence claims (including sick leave, short-term, and long-term disability) and worker compensation (WC).
- Employer indirect costs from workers’ compensation were examined.
- A majority of people worked continuously according to Health Insurance Portability and Accountability Act guidelines.
- MS employment status was provided through managed care plans contracted by respective employers.

Statistical Analysis

- Steady-state characteristics of the cohorts were compared using t-tests for continuous variables and Chi-square (χ²) tests for discrete variables. Differences were considered significant at P < 0.05.

Results

- Records of 785 patients with MS were extracted with 1 year of data beyond the index date.
- Only employees eligible for each specific benefit were included in the regression analysis.
- The variables included were age, gender, marital status, and severity (using Charlson comorbidity score).
- The annual lost time due to sick leave and short-term disability (STD) for patients receiving IFN-β-1a was 20.67 days, followed by those receiving glatiramer acetate (Copaxone) 19.94 days and SC IFN-β-1b (Rebif) 19.45 days.
- Employees receiving SC IFN-β-1a reported the least annual lost time due to sick leave at 17.9 vs 18.5 days, P = 0.009.

Limitations

- While this study adds to the body of evidence about work absence levels among employees treated for MS, the study has the same limitations characteristic of database studies using administrative claims (ie, lack of severity classifications, HR status or type, and may not be representative of patients with MS who are not diagnosed, not treated, or not able to maintain employment).

Limitations

- While this study adds to the body of evidence about work absence levels among employees treated for MS, the study has the same limitations characteristic of database studies using administrative claims (ie, lack of severity classifications, HR status or type, and may not be representative of patients with MS who are not diagnosed, not treated, or not able to maintain employment.

Conclusions

- Despite these limitations, the study adds some useful information about work absence levels among employees treated for MS, and it helps to answer the question of whether patients receiving IFN-β-1a may have higher productivity and lower disability than those treated with other IFN-β-1a or glatiramer acetate for MS.

References

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Introduction

• Multiple sclerosis (MS) is an acquired inflammatory and immune-mediated disorder of the central nervous system (CNS) characterized by inflammation, demyelination, and degeneration of neural tissue. MS affects more than 2 million people worldwide, and an estimated 100,000 new cases occur in the United States.4
• MS usually affects young adults between the ages of 20–40 years, with a female-to-male ratio of about 3:2.
• Significant societal and economic costs are associated with MS. MS is the leading cause of nontraumatic, nonpsychiatric disability among young adults in the United States.5

Purpose

The purpose of this study was to assess the objective differences in lost time (absence) among employees treated with DMTs for MS in a real-world setting.

Methods

• A retrospective analysis was performed on data (1/1/2001–6/30/2007) from the US civilian labor force (2004).
• From the 311 patients with MS, a subset of those with absenteeism data was used (n = 156).
• Patients treated with DMTs for MS were categorized by benefit type (Absence) among employees treated with DMTs for MS in a real-world setting.

Results

• Ongoing analysis was used to model the absence differences between the cohorts using separate regression models for each type of absence.
• Absence and indirect costs were adjusted using regression modeling.
• Significant differences in absences (lost time) among employees treated with DMTs for MS in a real-world setting.

Conclusions

• Ongoing analysis was used to model the absence differences between the cohorts using separate regression models for each type of absence.
• Absence and indirect costs were adjusted using regression modeling.
• Significant differences in absences (lost time) among employees treated with DMTs for MS in a real-world setting.
• The objective of this study was to assess the objective differences in lost time (absence) among employees treated with DMTs for MS in a real-world setting.

No eligible natalizumab patients were found in the data based on the study eligibility criteria. Absences among natalizumab patients were not significant compared to the other DMTs at the 0.05 level (vs Avonex [IM IFN β-1a]).

References