P0485 - Prevalence of multiple sclerosis in the OneFlorida Data Trust (ID 471)

Speakers: A. Carlson

Authors: A. Carlson, C. Vervloet Sollero, Q. Wu, T. Gyang, Z. Li, M. Armstrong

Presentation Number: P0485
Presentation Topic: Epidemiology

Abstract

Background

Recent advances in multiple sclerosis (MS) epidemiology provided an algorithm to accurately identify people with MS (PwMS) in large datasets, leading to updated United States prevalence estimates. However, prevalence data within racial and ethnic subgroups is limited, as are treatment data and outcomes within these subgroups.

Objectives

1. Determine the 7-year (01/01/2012-12/31/2018) cumulative prevalence of multiple sclerosis in the OneFlorida Data Trust using a validated algorithm, and stratify by age, gender, and race and ethnicity.

2. Identify the frequency of disease-modifying therapy (DMT) prescriptions in OneFlorida Data Trust stratified by age, race and ethnicity, gender, and location.

Methods

This study was conducted with the OneFlorida Data Trust, which captures robust longitudinal and linked patient-level records for ~15 million Floridians receiving clinical care from >4,000 physicians, >900 clinical practices, and 22 hospitals with coverage in all 67 Florida counties. The Culpepper algorithm (≥3 of a combination of MS-related inpatient, outpatient, or DMT claims in 1 year) was applied to the population captured by OneFlorida from 01/01/2012-12/31/2018 (7 years), excluding ancillary encounters. Data were stratified based on race, ethnicity, gender, age, and location. RxNorm concept unique identifiers (RXCUI) and National Drug Codes (NDCs) were used identify DMT prescriptions. Data was de-identified and released to investigators in spreadsheet format. Summary statistics, univariate and multivariate analyses, and figure generation were completed using R programming software, version 4.0.0.

Results

Of the 6,638,649 subjects age >18 and with at least 1 encounter, 23,119 subjects had an associated MS diagnostic code. After applying the algorithm, 9681 PwMS were identified. 7-year prevalence for this population was 145.8 (per 100,000), ranging from a low of 65.2 in Hispanic men, to 253.8 in non-Hispanic Caucasian women. Stratifying by age, the highest prevalence was seen in non-Hispanic Caucasian women, age 45-54, at 501.7.

52.6% of PwMS had at least 1 DMT prescription, with glatiramer acetate and interferon beta-1a being most common. Non-Caucasian subgroups were significantly more likely to receive any treatment, but were less likely to receive highly effective therapy. The percent of treated patients also varied significantly by 3-digit zip code, ranging from 28.4 – 70.2%.
Conclusions

The prevalence of MS in OneFlorida is lower than recent national studies, which is in part to the lack of an inflationary factor as used in the national studies, as well as the diverse nature of our population and a possible latitudinal effect. Prevalence varied by race, ethnicity, and gender. Rates of highly effective DMT prescriptions in Hispanic and non-Hispanic Blacks were lower than in Caucasians despite higher rates of overall DMT prescriptions, suggesting a disparity in care that requires further investigation.