AAN 77th ANNUAL MEETING ABSTRACT

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Abstract Title: Equitable Implementation of Highly Efficacious Treatments for Multiple Sclerosis

Press Release Title: Simple algorithm helps improve treatment, reduce disparities in MS

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Objective: To determine whether a health system intervention designed to increase use of highly efficacious treatments (HETs) was implemented equitably and led to similar improvements in multiple sclerosis (MS) outcomes across racial and ethnic groups.

Background: Advances in MS have not translated into equitable improvements among minoritized people. Black and Hispanic people with MS have higher levels of disability, acquire disability at younger ages, and are under-prescribed HETs compared to their White peers.

Design/Methods: We designed and implemented an MS treatment algorithm that aligns the risk of disability with appropriate disease-modifying therapies (DMTs), incorporating social determinants of health but not race or ethnicity. Using Kaiser Permanente Southern California's electronic health record, we conducted a trend study of DMT utilization and annual relapse rates (ARR) prior to (2009–2011) and during (2012–2023) implementation of the algorithm.

Results: We identified 978 Black, 1741 Hispanic and 3400 White DMT-treated MS patients. Pre-implementation, Hispanic patients had higher ARR per 1000 person-years (245.1, 95%CI=205.5-284.8) compared to White patients (156.3, 95%CI=137.8-174.7). Black people had higher ARR compared to White people before and during early implementation, though significant in 2015 only. Over the 12 years of implementation, the increase in HET use (primarily rituximab) was highest among Hispanic (89.3%), then Black (87.4%) and White people (82.9%). The decline in age- and sex-adjusted ARR was greatest among Hispanic (90%, 95%CI=89-91%), then White (86%, 95%CI=85-87%) and Black (82%, 95%CI=80-84%) patients between 2011 and 2023. By 2023, no clinically significant difference in ARR between groups remained (35.5, 19.0, 18.1 per 1000 person-years, Hispanic, Black, and White patients, respectively).

Conclusions: Implementation of our novel health system intervention led to similar improvements in HET use and relapse rate reduction among Hispanic, Black and White DMT-treated MS patients. Implementing an algorithmic approach to increase HET use, particularly an affordable one–rituximab–can reduce racial and ethnic disparities in MS outcomes.