



New Biogen Data Presented at ACTRIMS-ECTRIMS Advance Understanding of Clinical and Health Disparities in MS

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- *Data highlights socio-demographic and clinical disparities to help raise awareness of health inequities and inform future treatment planning*
- *Real-world data from MS PATHS identifies clinically relevant benchmarks to predict employment status among people with multiple sclerosis (MS)*
- *Biogen is developing digital tools and technologies, such as CogEval® and Konectom™, to facilitate more personalized decisions in MS care with the goal of improving outcomes*

CAMBRIDGE, Mass., Sept. 08, 2020 (GLOBE NEWSWIRE) -- [Biogen Inc.](#) (Nasdaq: BIIB) today announced findings from two large, real-world studies that provide insight into the clinical and health disparities that exist for people living with multiple sclerosis (MS). These data, from MS PATHS (Multiple Sclerosis Partners Advancing Technology and Health Solutions) and the North American Registry for Care and Research in Multiple Sclerosis (NARCRMS), will be presented during MSVirtual2020, the eighth joint meeting of the Americas Committee for Treatment and Research in Multiple Sclerosis and the European Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS-ECTRIMS), to be held virtually September 11-13, 2020.

"As part of our commitment to the MS community, Biogen supports research to understand the debilitating impact this disease has on every aspect of an individual's life," said Maha Radhakrishnan, M.D., Chief Medical Officer at Biogen. "Insights from real-world datasets, such as MS PATHS and NARCRMS, highlight the health inequities in Black and Hispanic communities and can potentially inform effective changes in treatment planning. Additionally, understanding the connection between clinical results and future employment status is an important step in addressing a critical concern for people with MS."

Real-World Evidence Characterizes Health Inequities for Black and Hispanic People With MS

Real-world data from the NARCRMS registry, a longitudinal database of more than 700 people living with MS in the U.S. and Canada, show that ethnic and racial disparities exist related to occupation, income status, MS-related disability and type of treatment used. Black people with MS were more likely to be unemployed and earn less annual income compared to white people, despite comparable educational levels. Researchers also found twice as many Black people with MS had substantial MS-related disability compared to white patients. Additionally, Hispanic and non-Hispanic Black individuals with MS were also less likely to use a DMT than white non-Hispanic individuals.

Additional data being presented at MSVirtual2020 from MS PATHS, a collaboration between Biogen and leading MS centers in the U.S. and Europe to create a standardized, high-quality data repository from a diverse real-world population, support these findings. The results show that Hispanic Americans with MS are younger at age of onset and diagnosis, with higher levels of cognitive and manual dexterity impairment when compared to their white non-Hispanic counterparts. The research is designed to help build awareness of critical issues of health inequity and inform treatment data gaps.

Standardized Tests Act as Predictor of Employment Status Amongst People With MS

In a new analysis from MS PATHS, researchers utilized the Multiple Sclerosis Performance Test (MSPT) to quantify MS-related disability in MS patients based on their cognitive and motor performance and then assessed whether individuals' scores correlated with their employment status over time. The results show that individuals with MS who demonstrated worsening disability based on walking speed, manual dexterity and cognitive processing speed were more likely to be unemployed at two years. Future research will inform early risk factors for these benchmarks that may inform potential employment preservation strategies.

Cognitive difficulties and fatigue have been associated with reduced work productivity in people living with MS.¹ In a prior independent study, real-world data showed that less than half of working age respondents with MS were gainfully employed or self-employed, with 62 percent reporting the unemployment was due to their disease.¹ To help address this, Biogen is working to develop new tools to improve the way healthcare providers monitor for cognitive and other symptoms of MS both in and out of the clinic. CogEval, a free iPad®-based app that allows healthcare providers to routinely track and evaluate symptoms of cognitive dysfunction in people with MS, is now available in 39 countries and 22 languages. Konectom is a smartphone based digital platform that enables individuals with MS to quantitatively self-assess neurological disability and has potential applications for clinical research and real-world use.

Data Presentations Featured at ACTRIMS-ECTRIMS:

Note: All poster presentations from MSVirtual2020 will be made available online at 8 a.m. ET on Friday, September 11, 2020.

- Socio-demographic and Clinical Characteristics of Patients With Multiple Sclerosis by Race and Ethnicity (NARCRMS Registry) (Poster P0494)
- Characterization of US-based Hispanic Americans With Multiple Sclerosis (Poster P0444)
- Neuroperformance Test Outcomes as Predictors of Employment in a Large, Heterogeneous Real-World MS Population: Results from MS PATHS (Poster P0120)
- Konectom™ Smartphone-based Digital Outcome Assessment of Cognitive and Motor Function in Multiple Sclerosis (Poster P0102)

About Biogen

At Biogen, our mission is clear: we are pioneers in neuroscience. Biogen discovers, develops and delivers worldwide innovative therapies for people living with serious neurological and neurodegenerative diseases as well as related therapeutic adjacencies. One of the world's first global biotechnology companies, Biogen was founded in 1978 by Charles Weissmann, Heinz Schaller, Kenneth Murray and Nobel Prize winners Walter Gilbert and Phillip Sharp. Today Biogen has the leading portfolio of medicines to treat multiple sclerosis, has introduced the first approved treatment for

spinal muscular atrophy, commercializes biosimilars of advanced biologics and is focused on advancing research programs in multiple sclerosis and neuroimmunology, Alzheimer's disease and dementia, neuromuscular disorders, movement disorders, ophthalmology, immunology, neurocognitive disorders, acute neurology and pain.

We routinely post information that may be important to investors on our website at www.biogen.com. To learn more, please visit www.biogen.com and follow us on social media – [Twitter](#), [LinkedIn](#), [Facebook](#), [YouTube](#).

Biogen Safe Harbor

This news release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to the results of certain real-world data; the identification and treatment of MS; and our research and development program for the treatment of MS. These forward-looking statements may be identified by words such as “aim,” “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “may,” “plan,” “possible,” “potential,” “will,” “would” and other words and terms of similar meaning. Drug development and commercialization involve a high degree of risk, and only a small number of research and development programs result in commercialization of a product. Results in early stage clinical trials may not be indicative of full results or results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements or the scientific data presented.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including without limitation the occurrence of adverse safety events and/or unexpected concerns that may arise from additional data or analysis; risks of unexpected costs or delays; failure to protect and enforce our data, intellectual property and other proprietary rights and uncertainties relating to intellectual property claims and challenges; product liability claims; third party collaboration risks; and the direct and indirect impacts of the ongoing COVID-19 pandemic on our business, results of operations and financial condition. The foregoing sets forth many, but not all, of the factors that could cause actual results to differ from our expectations in any forward-looking statement. Investors should consider this cautionary statement, as well as the risk factors identified in our most recent annual or quarterly report and in other reports we have filed with the U.S. Securities and Exchange Commission. These statements are based on our current beliefs and expectations and speak only as of the date of this news release. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise.

References:

1. Kobelt G, Langdon D, Jönsson L. The effect of self-assessed fatigue and subjective cognitive impairment on work capacity: The case of multiple sclerosis. *Mult Scler*. 2019;25(5):740-749.

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