

Prospects continue to improve for people with MS, but disease management in older adults presents challenges

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The past five years have seen significant advancements in diagnosing and treating multiple sclerosis (MS), but challenges remain—especially

among patients who are living longer, a result of more effective treatments—according to [a new paper](#) published in *The Lancet* by University at Buffalo researchers.

The article describes new, more sensitive diagnostic criteria for MS, complemented by novel MRI techniques, some of which were developed at UB and its Buffalo Neuroimaging Analysis Center.

Bianca Weinstock-Guttman, MD, a world leader in the study of MS and SUNY Distinguished Professor in the Department of Neurology in the Jacobs School of Medicine and Biomedical Sciences at UB, was invited to be senior and corresponding author on the paper. The publication is part of *The Lancet* Seminar series, which provides comprehensive state-of-the-art reviews on the state of specific diseases every five years.

"This paper not only highlights the remarkable progress in MS research, but also underscores the need for ongoing efforts to address the challenges that persist in achieving comprehensive [disease](#) management," says Weinstock-Guttman, also a physician with UBMD Neurology.

Demographics of MS

The researchers report that MS is the most common cause of non-traumatic disability (not related to an injury) among young adults, that there are approximately 2.8 million people living with MS worldwide, and that the economic cost of the disease is estimated at about \$85 billion in the U.S. alone.

The disease is as much as three times more likely to affect women as men, and incidence is higher in the northern latitudes, including in upstate New York cities such as Buffalo.

The paper explains that significant progress has been achieved on

gaining a better understanding of the disease process, which allows for better disease control.

"A major advance in the past decade is that the life expectancy of people with MS is closing in on being nearly that of their healthy counterparts," says Weinstock-Guttman, "and significant improvement in early treatment decisions have improved quality of life for patients."

That advance brings with it new challenges because approved disease-modifying therapies tend to be less effective in older individuals with MS. In addition, aging itself is associated with an increased risk of progressive disease.

"In light of this, our research at UB delves into the study of immunosenescence—immune dysfunction that occurs with age—and its interplay with the aging central nervous system," continues Weinstock-Guttman. "This knowledge may pave the way for the development of targeted therapies tailored to the unique challenges faced by older individuals with MS."

Early detection and treatment continue to be seen as critical.

"Commencing disease-modifying treatments early in the disease course alongside early diagnosis has yielded favorable long-term disability outcomes," she says.

The paper reiterates that the definitive cause of MS remains elusive, but epidemiological studies and associations point to a significant interplay between [environmental factors](#), such as potential Epstein-Barr virus infection and low exposure to sunlight; lifestyle factors, such as obesity, low vitamin D levels and smoking; and genetic susceptibility.

Atypical symptoms years before diagnosis

Also covered in the review is the characterization in recent years of a "prodromal MS disease stage," where atypical symptoms, such as depression/anxiety, fatigue, pain and sleep disorders, may appear as long as a decade or two prior to the first clinical manifestation of MS. Similarly, the researchers found that specific MRI findings in the absence of any clinical symptoms, known as radiological isolated syndrome, may also occur in those at-risk years before fully developing the disease.

"These aspects hold promise for identifying more effective preventive interventions for MS and an opportunity to intervene or potentially mitigate development of the disease," says Weinstock-Guttman.

At the same time, the publication stresses the importance of accurate and standardized diagnostic procedures in MS so that the disease is properly diagnosed.

Weinstock-Guttman notes that the focus of many MS researchers and clinicians, including those at the Jacobs MS Center for Treatment and Research in the Jacobs School, is to better understand and effectively target the ongoing neurodegeneration that happens in MS, which is responsible for irreversible and progressive disability.

"Our research endeavors are now more focused on this aspect," she says, "with a strong emphasis on expediting the clinical translation of novel interventions for central nervous system neuroprotection and repair. Achieving this goal is essential to improving the lives of MS patients."

More information: Dejan Jakimovski et al, Multiple sclerosis, *The Lancet* (2023). [DOI: 10.1016/S0140-6736\(23\)01473-3](https://doi.org/10.1016/S0140-6736(23)01473-3)

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