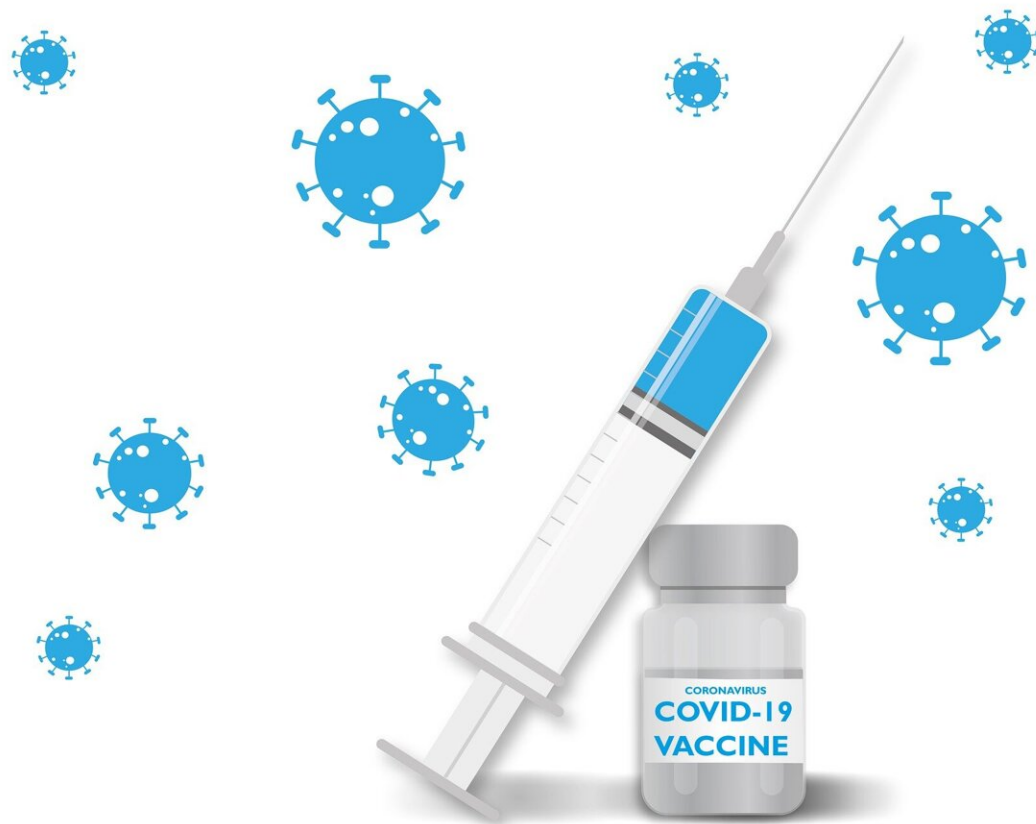


MS patients face much greater risk of hospitalization, death from COVID-19, despite high rates of vaccination

March 28 2024



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New real-world research being presented at this year's European Congress of Clinical Microbiology and Infectious Diseases ([ECCMID 2024](#)) in Barcelona, Spain (27–30 April), reveals that people living with multiple sclerosis (MS) face a much higher risk of being hospitalized and dying from COVID-19 than the general population. The risk persists in individuals who received three or more vaccine doses.

These findings indicate that vaccination alone may not adequately protect individuals with MS from severe COVID-19 outcomes, and underscore the urgent need for additional preventive measures against COVID-19 in this vulnerable population, say researchers.

Lead author Professor Jennifer Quint from Imperial College London, U.K., explains, "Having multiple sclerosis in itself doesn't increase the risk of getting COVID-19, rather it's the taking of immune modifying medicine such as B-cell depletion therapies that can reduce the effectiveness of vaccines by preventing the [immune system](#) from mounting a robust protective response.

"Some MS-specific factors, such as having underlying conditions or higher levels of disability can contribute to poor outcomes. As a result, even after repeated doses of COVID-19 vaccines, some individuals with MS remain at high risk of serious outcomes from COVID-19."

The new analyses are part of the INFORM (INvestigation oF COVID-19 Risk among iMmunocompromised populations) study, which analyzed data of nearly 12 million people aged 12 years and older in England to assess COVID-19's impact, risk, and health care resource use (HCRU) among immunocompromised populations compared with the general

population during the omicron wave.

[Previous results](#) from INFORM found that immunocompromised individuals face disproportionate burdens from COVID-19, with substantially higher risk of developing severe COVID-19 outcomes than the general population. However, the specific burden faced by individuals with MS, which was not categorized as immunocompromised, was not assessed previously.

To find out more, researchers compared the risk of COVID-19 hospitalization and death in vaccinated individuals with MS and the general population in England from 1st January to 31st December, 2022.

They analyzed routinely collected, national primary and secondary care electronic data from a random sample of 25% of all individuals aged 12 years or older in England registered with the National Health Service (NHS). Subgroup analysis was conducted among individuals who had been vaccinated with three or more doses of COVID-19 vaccines by Jan 1, 2022.

Of 11,990,730 individuals included in the study, 16,350 (0.1%) individuals with MS were identified. More than half (6,060,635) of those in the general population and more than three-quarters (12,905) of patients with MS had been fully vaccinated (received at least three doses of a COVID-19 vaccine by Jan 1, 2022).

During the study, a total of 20,910 COVID-19 hospitalizations and 4,810 COVID-19 deaths were recorded in the general population, corresponding to crude overall incidence rates of 0.24 and 0.06 per 100 person-years, respectively.

Among individuals with MS, there were 215 COVID-19 hospitalizations and 25 COVID-19 deaths, corresponding to substantially higher overall

incidence rates of 1.28 and 0.14 per 100 person-years, respectively.

After adjusting for age and sex, having MS was associated with a seven times greater risk of COVID-19 hospitalization and fourfold increased risk of dying from COVID-19 compared to the general population.

"We hope that these findings raise awareness that the threat of COVID-19 is still very real for many, and that vaccine boosters are inadequate to protect this clinically vulnerable group", says Professor Quint. "With new variants constantly emerging, people living with MS should be considered an important high-risk group for COVID-19 hospitalization and death for which additional preventive measures and multi-layered public health protections are urgently needed."

Despite the important findings, the authors point to several limitations, including that they can't rule out the possibility that other unmeasured factors such as underlying illness and level of MS disability might have influenced the results. They also note that they did not examine the effect of use of disease-modifying therapies, time since last vaccination, type of vaccination, and prior infection.

Provided by European Society of Clinical Microbiology and Infectious Diseases

Citation: MS patients face much greater risk of hospitalization, death from COVID-19, despite high rates of vaccination (2024, March 28) retrieved 27 April 2024 from <https://medicalxpress.com/news/2024-03-ms-patients-greater-hospitalization-death.html>

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