

## **Fighting MS through innovation** <sup>[1]</sup>

### Access to Healthcare <sup>[2]</sup>

Amid the coronavirus pandemic, concern has grown over the potential neglect of other serious diseases. Multiple sclerosis (MS), for example, is a condition for which timely diagnosis, early treatment and the development of innovative therapies are particularly important for reducing the disabling progress of the disease. MS is the most common auto immune disorder to affect the central nervous system - that is, the brain and spinal cord. In many patients, the symptoms cause serious distress, increasingly diminishing their quality of life as their disability worsens. The average age of onset is 30, with a strong female preponderance.

Symptoms commonly include nerve inflammation, double vision, sensory loss, weak limbs, fatigue, difficulty in walking, and cognitive dysfunction. After traffic accidents, MS is the leading cause of disability in young adults globally (European MS platform).

## **Social costs**

The debilitating symptoms and progressive nature of MS result in a significant economic burden on patients and their families, even those with a low level of physical disability.

In addition to the suffering and economic burden for patients and caregivers, MS has a significant impact on society as a whole. A recent study conducted in France in 2021, for example, calculated that the global cost of the disease to the country reached EUR 2.8 billion a year. The costs of lost working time and income for patients, caregivers and employers, together with the payment of state benefits and costs to insurance companies account for EUR 1.4 billion, half the annual cost. Medical costs make up the other 50%.

There is no trade-off between economics and health.

**Nicolas Bouzou**, economist and founder of ASTERES consulting company

This study was conducted using an innovative medical device that helps patients and physicians monitor the disease. MS Copilot®, which can be downloaded to a smart phone, was developed by Ad Scientiam, a French start-up in collaboration with patient advocacy groups and a panel of medical experts.

The study showed how MS affects employment, either by forcing patients out of work or by reducing the amount of time they can spend at their jobs. The disease was also shown to reduce the time people caring for MS patients were able to work. People living with MS are much more likely to work part-time than the average worker and many also retire early, the study found - in France about 1 800 patients leave the labor market early every year. About

75% of them take sick leave, on average for 30 days.

The study showed that MS patients pay an average of EUR 1 000 a year in out-of-pocket expenses not covered by health insurance, including purchasing mobility equipment and adapting vehicles. One in five patients had to forego medical care or was unable to purchase equipment because of a lack of means. “More than a million people in Europe are living with multiple sclerosis, a chronic disease with severe impact on patients’ lives and their families,” says Janneke Van Der Kamp, Region Europe Head of Novartis Pharmaceuticals. “The social burden of the disease is significant, as shown in this study, and collaboration between all actors in the health care ecosystem is needed to accelerate diagnosis and treatment and improve care.”

## Innovation milestones

A recent Spanish study found that an investment of EUR 148 million in implementing a set of proposals to improve management of MS in the Spanish national health service would have a social return equivalent to EUR 272 million. The 18 proposals include faster access to magnetic resonance imaging (MRI) exams and improving coordination between primary care doctors and neurologists. Every euro invested in these measures, the study found, would yield a social return of EUR 2 (Moral Torres et al. 2020).

Over the past decade, important milestones have been reached in improving the quality of life of MS patients, mainly by developing innovative treatment therapies that reduce the progression of disability. For science to continue to evolve and for advances like these to continue to be made available to patients, it is vital to continue investing in areas including:

- Timely diagnosis and access to advanced imaging devices
- Using innovative therapies early in the course of the disease to improve short- and long-term outcomes for people living with MS
- Improving disease monitoring and diagnosis

“There is no trade-off between economics and health. This is true for multiple sclerosis as it is for Covid-19. When we allow these diseases to develop, we weaken the economy. When we invest in vaccines or treatments, we are, on the contrary, giving ourselves the means to unleash new potential for growth and progress,” says Nicolas Bouzou, an economist and founder of ASTERES consulting company.



Patient Perspectives [3]

# Debunking the myths about multiple sclerosis [4]

## Easing the burden

As the landscape of MS treatment evolves, there is a pressing need to make the best use of innovations like these. “As part of our journey to reimagine medicine, by providing medical innovations and supporting health care systems, our aim is to help improve the management of the disease and the quality of life of people living with MS,” says Mrs. Van Der Kamp.

The coronavirus pandemic has highlighted the vulnerability of patients with chronic diseases such as MS and the need to address with even greater attention issues that, among other benefits, can help reduce hospital overloads. These include:

- Vaccinating MS patients against Covid-19, a measure that has already been prioritized in Spain
- Continuing efforts to ensure detection of early symptoms and patient follow-up
- Leveraging digital technologies for disease monitoring

Digital tools such as MSCopilot® can provide vital support. “We help patients keep track of their disease between consultations,” says Dr Saad Zinaï, Chief Medical Officer at Ad Scientiam. “Our software medical device provides a more objective picture of the disease and supports physicians in their treatment decisions. Ultimately, it might help them alleviate the patients’ burden.”

While Covid-19 has clearly highlighted the impact that outbreaks of acute disease can have on the global economy, it is important not to forget the burden that chronic diseases like MS continue to impose on patients and society, and the constant need to invest in medical advances that can improve patient outcomes and their quality of life.

## Neuroscience at Novartis

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### Disclaimer:

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### Tags:

[Access to Healthcare](#) [6]

[Digital](#) [7]

[Future of Healthcare](#) [8]

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**Links**

- [1] <https://www.novartis.com/stories/access-healthcare/fighting-ms-through-innovation>
- [2] <https://www.novartis.com/stories/access-to-healthcare>
- [3] <https://www.novartis.com/stories/patient-perspectives>
- [4] <https://www.novartis.com/stories/patient-perspectives/debunking-myths-about-multiple-sclerosis>
- [5] <https://www.novartis.com/our-focus/neuroscience>
- [6] <https://www.novartis.com/tags/access-healthcare>
- [7] <https://www.novartis.com/tags/digital>
- [8] <https://www.novartis.com/tags/future-healthcare>
- [9] <https://www.novartis.com/tags/neuroscience>