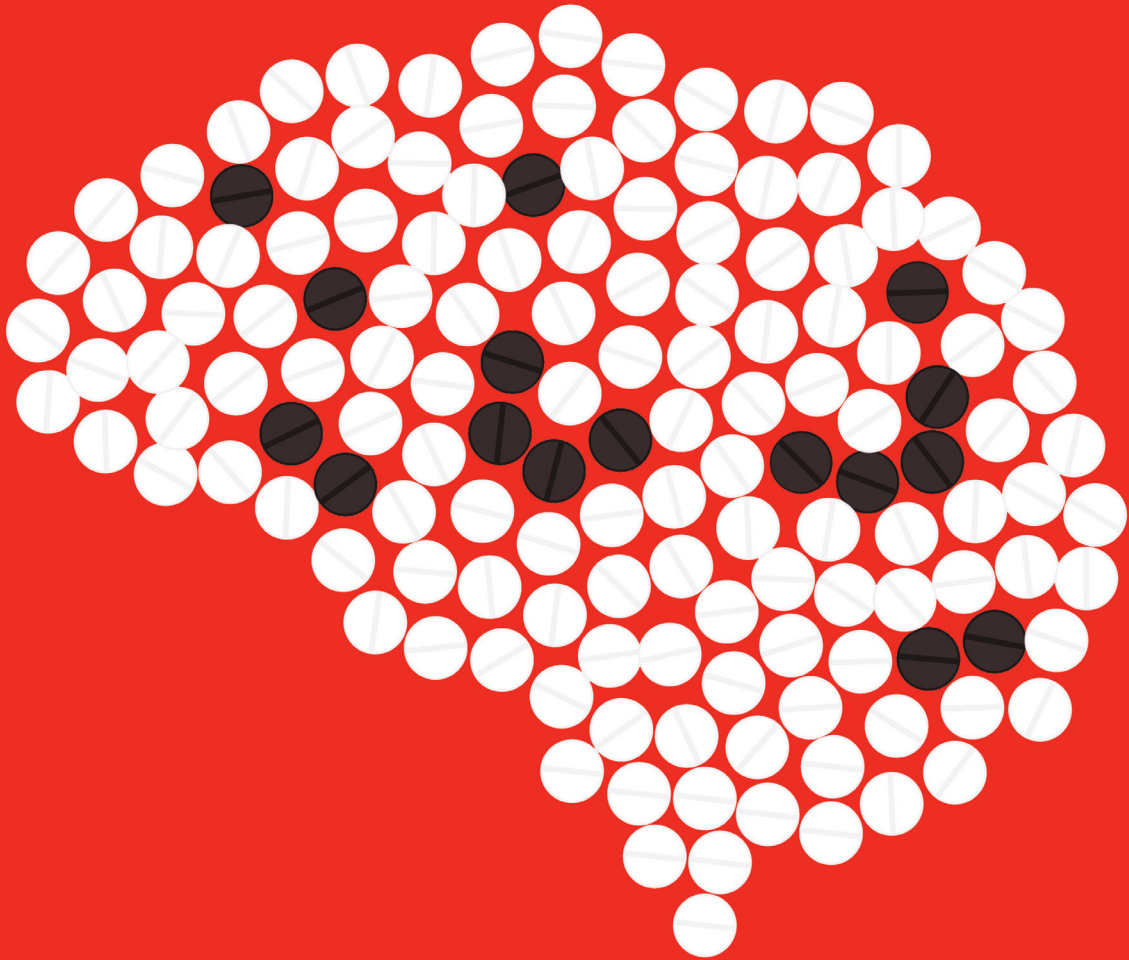




Executive Summary

Health Economic Impact of Multiple Sclerosis in Australia in 2017

An analysis of MS Research Australia's platform
– the Australian MS Longitudinal Study (AMSLS)



1. Prevalence of MS in Australia

Most people with MS in Australia experience their first symptoms between 20 and 40 years of age. About three-quarters of people with MS are female.



The number of people living with **MS in Australia increased by just over 20%** from 21,283 in 2010 to 25,607 in 2017.



103.7 people per 100,000 have MS in Australia.



The percentage of people using disease modifying therapies (DMTs) in 2017 **increased by 40%** compared to 2010.



The latitude gradient of MS prevalence continues to persist with the prevalence of **MS highest in Tasmania (TAS) at 138.7 per 100,000 people**, almost double that of Queensland (QLD) at 74.6 per 100,000 and Western Australia (WA) 87.7 per 100,000.



2. Economic Impact in Australia

Total costs for all people with MS in Australia have increased substantially over time from \$1.24 billion in 2010 to \$1.75 billion in 2017 (an increase of 41%) due to both an increase in number of people living with MS and increased per person costs.

The annual total costs of MS per person (direct and indirect costs) **increased by 17% from \$58,652 in 2010 to \$68,382 in 2017**, driven largely by increased costs of DMTs and offset by decreased costs of lost wages and decreased informal care costs.

The largest component was the direct costs (44%, \$30,346). Twenty two percent of the direct per person cost (\$8,437) were borne 'out of pocket' by the people with MS themselves, while government and community jointly incurred 78% of the direct per person costs (\$21,911). The second largest component was the indirect costs from lost wages (32%, \$21,858).

Annual per person costs increased by 276% from \$30,561 for people with MS with no disability to \$114,813 for people with severe disability. The direct costs were the largest total cost component for all disability classes.

The total per person costs of MS were slightly higher for males compared to females. Whereas direct costs for women are higher, including costs of medications, alterations to car and home, and health and community services, indirect costs due to lost wages are higher for men.

Costs of people on DMT are slightly higher, driven by higher costs of medicines, but informal care costs and costs from lost wages (for people aged <65 years) are lower.

People with Secondary Progressive MS (SPMS) incurred the highest total costs and this is despite the significant drop in costs relating to DMTs.





3. Quality of Life Impact

Costs for people with Primary Progressive MS (PPMS) are also high; however, as they are frequently diagnosed at a later age, the impact of lost earnings contributes less to the overall costs for people with PPMS.

Costs for severe MS are more than triple compared to people with no/mild disability.

While the direct costs of MS have almost doubled between 2010 and 2017, driven largely by the cost of DMTs, the overall increase in costs per person with MS has been limited to less than \$10,000 due to a significant reduction in the indirect costs of MS through lost wages and informal care. **Lost wages now account for only 32% of the economic burden of MS compared to almost 50% in 2010.**



The direct per person costs of MS exhibited a steady increase with increasing disability severity. The prescription medications were the largest direct cost component for all disability classes.



The annual per person costs of MS are comparable to those of a person with Parkinson's disease, or the first year following a stroke and are three times higher than for a person with Type 2 Diabetes.

On average, the Quality of Life (QoL) as measured by the health state utility valuation (HSUV) of the Australian MS population is 31% less than the Australian population norm.

Quality of Life for people with MS who are living with severe disability is 41% lower compared to people with MS with no disability.

This substantially reduced QoL is primarily driven by the individual health domains of pain, independent living, mental health and relationships.



QoL for people with severe MS is comparable to, or even lower than the QoL reported for people with terminal metastatic cancer, chronic kidney disease and severe heart disease.



Psychosocial QoL impacts for people with MS are substantial across all age groups, whereas physical health impacts become substantially higher as people with MS get older.



Costs for people living in Inner Regional areas are higher compared to those in metropolitan areas due to higher indirect costs from lost wages.



While there are positive signs that the landscape is improving for people with MS in Australia, MS continues to represent a serious burden for people with MS and the community in terms of both economic impact and Quality of Life.

Recommendations

- **Interventions to prevent people from developing MS are crucial** to counteract the rising prevalence of MS in Australia.
- **Improving early diagnosis and affordable access to effective treatments** to slow or prevent disability accumulation is likely to have a substantial impact on the economic costs and quality of life of people with MS.
- **To further reduce the economic costs and improve quality of life for people with MS**, research is urgently needed to develop further effective interventions to slow or prevent disease progression.
- **There should be a continued focus on managing symptoms and supporting people with MS and their carers in employment**, particularly for men with MS and people living outside of major metropolitan areas.
- **Quality of life for people with MS could be significantly improved through effective interventions to manage pain and mental health**, and support people with MS to maintain independent living and relationships.
- **Interventions and support to help people with MS to maintain physical health** as they age will also improve quality of life for older people with MS.

Prepared For

Multiple Sclerosis Research Australia
Level 19, 100 Miller St, North Sydney,
NSW 2060

Prepared By

Menzies Health Economics Research Group
Hasnat Ahmad
Professor Andrew J Palmer
Julie A Campbell
and

Associate Professor Ingrid van der Mei
Professor Bruce Taylor

Menzies Institute for Medical Research,
University of Tasmania
17 Liverpool Street, Hobart, TAS 7000
T +61 3 6226 7729
E andrew.palmer@utas.edu.au

Acknowledgements

There are many people to thank who assisted in some way in the preparation of this report. We would like to thank all the people with MS who participated in the AMSLS surveys and cost diaries – this valuable data informed the comprehensiveness of this report. We would also like to thank Associate Professor Ingrid van der Mei's wonderfully dedicated team who managed the AMSLS survey design, management and data entry including Dr Kirsty Hawkes, Carol Hurst, Alice Saul, Bronwyn Weaver-Pirie, Furley Johnston, Heather Chaplin, Mithun Rajshekar, Carol Ingram, Dot Melross and Wendy Davidson.

Thank you to MS Research Australia for establishing and supporting the AMSLS over 16 years, and the MS Societies for providing data for the age-adjustments of the prevalence in Chapter 2.

This Report is an MS Research Australia initiative and generously supported by an unconditional grant provided to MS Research Australia by Merck Australia.

The Australian Multiple Sclerosis Longitudinal Study (AMSLS) is one of MS Research Australia's collaborative research platforms.