NZIER
NEW ZEALAND INSTITUTE OF ECONOMIC RESEARCH

Ocrevus Subcutaneous

Valuing the benefits to people living with MS, whānau caregivers, and the health system

NZIER report to Roche NZ

August 2025

About NZIER

New Zealand Institute of Economic Research (NZIER) is an independent, not-for-profit economic consultancy that has been informing and encouraging debate on issues affecting Aotearoa New Zealand for more than 65 years.

Our core values of independence and promoting better outcomes for all New Zealanders are the driving force behind why we exist and how we work today. We aim to help our clients and members make better business and policy decisions and provide valuable insights and leadership on important public issues affecting our future.

We are unique in that we reinvest our returns into public good research for the betterment of Aotearoa New Zealand.

Our expert team is based in Auckland and Wellington and operates across all sectors of the New Zealand economy. They combine their sector knowledge with the application of robust economic logic, models and data and understanding of the linkages between government and business to help our clients and tackle complex issues.

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Forward

Multiple Sclerosis New Zealand (MSNZ) welcomes this timely and evidence-based report from NZIER, commissioned by Roche Products NZ. Representing 18 member organisations and over 5,000 New Zealanders living with MS, along with their whānau, carers and supporters, MSNZ has long advocated for equitable access to life-changing treatments.

Over the past decade, therapies like ocrelizumab have transformed lives, enabling people with MS to stay in work, raise families, and contribute meaningfully to their communities and the economy. Yet despite the availability of high-efficacy disease-modifying therapies (DMTs), access remains uneven. Too often, treatment decisions are shaped not by clinical need, but by logistical and financial barriers.

Subcutaneous DMTs offer a breakthrough. They reduce the burden of travel, fatigue, and time away from work or caregiving responsibilities. They empower patients to make better treatment choices and improve quality of life. Crucially, they help dismantle geographic, social and ethnic inequities in healthcare access across Aotearoa.

This report builds on the foundational work of Dr Richard Milne, highlighting the cost-effectiveness of ocrelizumab for primary progressive MS. It reinforces a critical truth: chronic conditions like MS carry significant costs, not just to individuals and their whānau, but to the wider health system and government. Smarter funding decisions that account for these broader impacts will unlock long-term savings and better outcomes.

Timely diagnosis and access to treatment are key to preserving brain health and slowing disease progression. MS is complex, but increasingly manageable and treatable. Subcutaneous therapies can relieve pressure on infusion centres, freeing up capacity for other life-saving treatments and enabling a shift toward community-based care models.

This report calls for coordinated action across government - Pharmac, health and disability - to fund subcutaneous MS treatments. The benefits are clear: reduced costs, improved productivity, and more efficient use of scarce resources. The evidence is compelling, and the opportunity is urgent.

We urge decision makers to act. This report is not just a case for MS. It's a blueprint for smarter, more equitable medicine funding across New Zealand.

Amanda Rose

National Manager, Multiple Sclerosis Society of New Zealand

Key points

Multiple sclerosis (MS) is a chronic and often unpredictable autoimmune disease. There is no cure for MS, but disease-modifying therapies (DMTs) can help manage symptoms, reduce relapse frequency, and slow disease progression.

We estimate that approximately 5,295 New Zealanders have MS, including 3,515 people living with either relapsing-remitting MS (RRMS) or primary progressive MS (PPMS) – the two forms of MS for which a significant treatment opportunity is now available.

1,299 people should have access to Ocrevus

Over the last ten years, DMTs for multiple sclerosis have expanded significantly. Ocrevus is a high-efficacy DMT that is indicated for the treatment of both RRMS and PPMS. People being treated with Ocrevus travel every 6 months, often with a whānau caregiver, to receive it by intravenous infusion in one of the facilities that offer this treatment.

The effectiveness and safety of Ocrevus, and the benefits to people living with MS and whānau caregivers of its six-monthly treatment cycle (compared with a six-weekly cycle for some other DMTs), have contributed to decisions to fund this medicine first for a subgroup of people with RRMS, and more recently for an expanded group of people with RRMS as well as people living with PPMS.

We estimate that approximately 1,299 people living with RRMS and PPMS would now be seeking treatment with Ocrevus. This is expected to increase to 1,885 by 2031. For newly eligible people, Ocrevus is a lifeline. Access to Ocrevus slows the progression of MS for people with RRMS (Hauser et al. 2017) and PPMS (Montalban et al. 2017), allowing people to maintain their independence for longer, and reducing the relapses that severely impact their quality of life, their ability to work, and their dependence on others, often for weeks at a time.

But costly infusion capacity makes meeting the need challenging

However, access to funded Ocrevus for this expanded group of people living with MS has been limited by health system capacity. The currently funded formulation is Ocrevus IV, which is delivered by infusion over a period of 4 to 6 hours. This, along with the general rising demand for infusions by other patients, has created a supply and demand imbalance:

- Our analysis of infusion service volumes in outpatient data shows that volumes of both MS and non-MS infusions started increasing rapidly from 2016–17.
- The use of infusions by people with MS peaked in 2018 and then decreased, even as broader infusion volumes increased, revealing efforts by infusion facilities to manage the demand for DMTs among people living with MS due to capacity constraints.
- The health system has invested heavily in increasing capacity over the last 5 years, with more facilities offering infusions for people living with MS; however, many still limit the number of Ocrevus infusions that can be offered.
- Anecdotally, people living with MS struggle to access Ocrevus infusions locally. Some must travel long distances. Some go privately and pay a high cost.

Ocrevus Subcutaneous offers improved system productivity and private benefits

A new formulation, Ocrevus Subcutaneous (SC), has now been approved by Medsafe. Ocrevus SC offers significant benefits due to it being delivered by injection under the skin rather than by infusion. From a health system perspective, Ocrevus SC has two key benefits:

- The time to administer it is significantly reduced: 1,299 people treated with Ocrevus SC would require the same level of staffing as 433 people treated with Ocrevus IV, and the same infusion bed capacity as 143 people treated with Ocrevus IV.
- Being an injection, there is potential for Ocrevus SC to be delivered in a community setting for some people, releasing even more capacity in infusion facilities.

From the perspective of people living with MS and their whānau caregivers, Ocrevus SC reduces the time away from employment and family responsibilities, making for a less tiring treatment experience. Making better use of system capacity will also improve access to treatment. The potential for being able to access treatment within their local community if and when community models of care are implemented means increased ability to travel independently to access treatment, reduced time away from employment and family responsibilities, and reduced travel costs.

Table 1 describes the value of the current and future Ocrevus SC opportunities compared with the counterfactual of Ocrevus IV for the estimated 1,299 people living with MS.

Table 1 Summary of implications of Ocrevus SC

By delivery model, compared with the counterfactual Ocrevus IV

	Counterfactual (Ocrevus IV) costs	Model 1 costs*	Model 2 costs**	Model 1 savings*	Model 2 savings**
Patient and whānau caregiver	$1,108,000	$340,000	$169,000	$768,000	$939,000
Health system	$1,415,000	$208,000	$237,000	$1,207,000	$1,178,000
Other (travel/transport subsidies)	$71,000	$63,000	$27,000	$8,000	$44,000
Total annual (1,299 patients)	**$2,594,000**	**$611,000**	**$433,000**	**$1,983,000**	**$2,161,000**

***Model 1:** Delivery of Ocrevus SC in infusion facilities. ****Model 2:** Delivery of Ocrevus SC in the community, where all people with MS receive their first year of treatment in an infusion facility before being approved for community-based treatment and 10 percent continue to be treated in infusion facilities.

Figures have been rounded to the nearest thousand.

Source: NZIER

Based on these results, we recommend that:

- Pharmac includes the value of Ocrevus SC to people living with MS, their whānau caregiver, the health system, and other benefits when considering this investment.
- Health NZ and Pharmac coordinate investment to optimise health system resources with analysis of infusion capacity and infusion demand by MS patients and the broader population as well as horizon scanning for potential future treatments that may require investment in physical capacity years before medicines are funded.
- Health NZ begin to investigate options to implement community-based models of care for people living with MS treated with Ocrevus SC to reduce personal travel costs and optimise the use of limited infusion facility capacity.

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1 Background and purpose

1.1 Roche commissioned NZIER to assess the non-clinical impacts of Ocrevus Subcutaneous

Ocrevus Subcutaneous (SC) is a new treatment for people with multiple sclerosis (MS), which is not funded by Pharmac. The key difference between Ocrevus SC and Ocrevus IV, which is funded by Pharmac, is that Ocrevus SC is delivered as an injection rather than by infusion.

Clinically, Ocrevus SC is considered to be equivalent to Ocrevus IV (Newsome et al. 2025). However, the non-health benefits of a subcutaneous formulation accrue to people with MS and their whānau caregivers, as well as to the health system in the form of efficiency gains. Not all of these impacts are considered by Pharmac.

Roche commissioned NZIER to assess these impacts.

Ocrevus is a Prescription Medicine for the treatment of multiple sclerosis. Before prescribing Ocrevus, read the data sheet, available at www.medsafe.govt.nz, for information on indications, dose, contraindications, precautions, interactions and adverse effects.

Intravenous ocrelizumab is funded by Pharmac for patients with multiple sclerosis under Special Authority for patients who meet predefined criteria.

Subcutaneous ocrelizumab is MedSafe registered but is not funded by Pharmac.

1.2 Multiple sclerosis

Multiple sclerosis (MS) is an inflammatory disease of the central nervous system (CNS) resulting in neurological deficits and is the most prevalent non-injury-related cause of long-term neurological disability in younger adults.

The impacts of MS can play out differently for different individuals over time. MS can be unpredictable, and this unpredictability is a source of stress and anxiety for people with MS.

The underlying cause of MS has not been established, but it is widely considered to be an autoimmune disease. Disability resulting from MS often results in loss of independence, employment and quality of life. According to MS New Zealand, in New Zealand the average age of diagnosis 37.8 years old. As one of the major causes of disability in younger adults, MS is associated with significant financial burdens on people living with MS, their families, and the health and disability system.

1.3 Types of MS

There are four types of MS:

- Relapsing-remitting (RRMS): This form of MS causes individuals to experience periods of new or worsening symptoms (relapses) followed by periods of recovery (remission). People with RRMS may remain symptom-free for months or years. This is the most

common form of MS for people to be diagnosed with. Around half of people with RRMS will transition to SPMS within a decade of diagnosis (Heathline 2025).

- Secondary-progressive (SPMS): This form of MS is a phase that typically develops after a period of relapsing-remitting MS (RRMS). In SPMS, the disease progresses with a steady worsening of symptoms and disability, even without noticeable relapses.
- Primary-progressive (PPMS): This is a form of MS characterised by a gradual worsening of symptoms from the onset, without distinct periods of remission or relapse.
- Progressive relapsing (PRMS): This type of MS is a rare and severe form of MS characterised by a gradual worsening of disability from the onset, with relapses. It's a combination of both PPMS and RRMS.

1.4 Disease-modifying therapy for MS

Disease-modifying therapy (DMT) for MS is a form of treatment that reduces relapses and disability progression (Stahmann et al. 2024). The number of DMTs available globally has increased significantly over the past decade. Consensus guidelines from the European Academy of Neurology (EAN) and the European Committee for Treatment and Research in MS (ECTRIMS) recommend the early introduction of DMT (Stahmann et al. 2024).

While DMTs have been widely available to people with MS in other OECD countries, access to DMTs has been more limited in New Zealand. In 2023, there were 14 DMTs listed on the Australian Pharmaceutical Benefits Scheme (PBS) but only eight on the New Zealand Pharmaceutical Schedule (Shipley et al. 2025). These are the same eight available at the time this report was written.

Funded DMTs in New Zealand include oral pills, self-administered injections, and infusions (see Table 2 below).

Table 2 Funded DMTs for people living with MS in New Zealand

Delivery	Treatment
Oral pills	fingolimod (Gilenya) teriflunomide (Aubagio) dimethyl fumarate (Tecfidera)
Self-administered subcutaneous or intramuscular injections	beta interferons (interferon beta-1-beta (Betaferon) and interferon beta-1-alpha (Avonex)) glatiramer acetate (Copaxone)
Infusion	natalizumab (Tysabri) ocrelizumab (Ocrevus IV)

Source: Pharmac (2021)

1.5 Treatment burden for people living with MS

Not only is MS a significant burden for people with MS and their families due to the disabling impacts of the disease, but they must also contend with the treatment burden of their MS therapy.

Treatment burden includes key factors related to administration and treatment schedule, and the interactions of these with disease-related factors.

Tysabri and Ocrevus are both administered by infusion in New Zealand, and this requires people living with MS to travel to infusion facilities. Tysabri is administered every six weeks. The introduction of funding for Ocrevus reduced the travel burden to every six months. However, the treatment time for infusions is several hours, which means infusion days – whether a person is on Tysabri or Ocrevus – are long days during which people with MS must forego other activities, including work for those who are employed and other responsibilities such as childcare.

According to Multiple Sclerosis New Zealand, people living with MS typically experience a high level of fatigue in the weeks or days leading up to their infusions and often feel unwell or more fatigued after the infusion.

This means that even people living with MS who can drive are likely to have a whānau caregiver accompany them, or to travel by Uber or taxi, for infusions.

For some people living with MS who must travel long distances, the level of fatigue, the time and distance involved in travel, and the need to arrive at the infusion facility early in the day can necessitate overnight accommodation.

Adhering to treatment schedules and keeping infusion appointments can be difficult for people living with MS who may have a busy work life, children, and/or who rely on a whānau caregiver with such responsibilities. Infusion appointments may need to be cancelled and rescheduled for a wide range of reasons related to these issues or even simply due to a minor illness in either the person living with MS or the whānau caregiver. Infusion facilities need to have sufficient spare capacity to accommodate last-minute cancellations and rescheduling with minimal delays to treatment (Singer et al. 2024).

1.6 Ocrevus

Ocrevus is a relatively recent treatment. It was first registered for use in people living with RMS and PPMS by Medsafe in 2017 (Medsafe 2017). Funding of the intravenous formulation of Ocrevus (Ocrevus IV) was announced by Pharmac for people with RRMS under strict criteria in 2019 (Medsafe 2025).

In 2023, Pharmac announced that from 1 October 2023, it would fund Ocrevus IV for a broader group of people living with RRMS as well as people with PPMS, providing the first funded targeted medicine shown to slow the rate of worsening for people with PPMS (Montalban et al. 2017).

In 2025, Medsafe registered the subcutaneous injection form of Ocrevus (Ocrevus SC) for the treatment of adults with relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS).

This means there are now two options for people with RMS and PPMS being treated with Ocrevus:

- Intravenous infusion (Ocrevus IV), which is currently funded by Pharmac for RRMS and PPMS.
- Subcutaneous injection (Ocrevus SC), which is not funded by Pharmac but is available through private clinics.

The difference between the intravenous and subcutaneous formulations of Ocrevus is material to people living with MS. Ocrevus SC is administered as a 10-minute subcutaneous injection every six months, offering the same twice-yearly dosing schedule as the currently funded IV infusion, whereas the IV formulation takes several hours to infuse. Not only can Ocrevus SC be delivered more quickly, reducing treatment time, but there is also potential for Ocrevus SC to be delivered in alternative clinical contexts, including other hospital outpatient settings and even community settings, such as primary care. This could mean significant savings in both time and out-of-pocket costs for people living with MS and whānau caregivers.

The difference between the two formulations is also material to the health system: It is well known that the current health system is under significant pressure, with capacity constraints associated with both physical space and workforce being key drivers.

Subcutaneous administration offers a more efficient way of treating people living with MS, reducing staffing requirements and providing flexibility in the physical context of treatment, including the opportunity for community delivery.

1.7 The problem: Ocrevus IV and infusion facility capacity

While funding for Ocrevus IV was expanded to include eligible people from October 2023, it soon became clear that realising the potential benefits would be limited by existing system capacity constraints, including a lack of staff and physical capacity in existing infusion units to accommodate the new demand.

Mismatch of demand and capacity

When Pharmac announced its decision to fund Ocrevus for people living with PPMS in late 2023, the mismatch between infusion capacity and population demand for Ocrevus became apparent: Despite being eligible for Ocrevus, many people living with MS were unable to access this treatment. This was highlighted in a 2024 news article (Williams 2024), which argued that hospitals were “caught short” by the funding decision, which required substantial additional resources in infusion facilities.

Our discussion with Multiple Sclerosis New Zealand revealed that, although most people living with MS cannot afford to access Ocrevus privately, access challenges in the public system have driven some people to travel to private clinics and pay out-of-pocket for their treatment. The list cost of Ocrevus IV is $9,346 (plus GST) per vial. With two vials required per infusion, this translates to a cost of $37,384 (plus GST) per year, excluding travel and time costs. Even with some discount applied to private facilities (the 2024 news article indicated one person was able to access Ocrevus at a cost of $5,000 per infusion by travelling from Christchurch to Auckland), the magnitude of the private cost of treatment absorbed by some people indicates how severe access challenges have been in some areas.

Lack of flexibility in the system

A key consequence of a system that faces excess demand is a lack of flexibility to schedule and reschedule appointments, which can also become a barrier to optimal care.

Challenges scheduling infusions for people living with MS, owing to capacity constraints, are exacerbated by even minor disruptions:

- Many people living with MS are dependent on a whānau caregiver's availability to help them travel to infusion facilities. If a whānau caregiver is not available, appointments may need to be rescheduled.
- Because travel and the experience of infusion are challenging for people with MS at the point in time when they are due for infusion, a minor illness may mean they cancel their appointment.
- Before an infusion can be initiated, nurses must determine whether an active infection is present, as this will necessitate a delay in the infusion until the infection has resolved (Roche 2025).
- In many centres, non-cancer infusions and cancer treatments are being delivered in the same infusion suite. The urgency of cancer treatments adds to the scheduling disruption affecting MS patients as well as others requiring non-cancer infusions that have more flexibility around timing.

Rescheduling appointments is challenging in infusion facilities where there is no spare capacity.

This means that people living with MS (and other patients) may experience longer than clinically optimal periods between infusions. For people with MS, this can mean a worsening of symptoms and disease progression but also results in significant stress and anxiety.

2 Our approach

Our approach to assessing the impacts of Ocrevus SC on the people living with MS, whānau caregivers and the health system is based on a comparison of three treatment options for people living with MS treated with Ocrevus (including a counterfactual).

- The counterfactual is the delivery of Ocrevus IV in infusion facilities for people with RRMS and PPMS.
- Model 1 is the delivery of Ocrevus SC in infusion facilities for people with RRMS and PPMS.
- Model 2 is the delivery of Ocrevus SC in a community-based model for people with RRMS and PPMS.

Model 1 is the primary model of interest because it is possible now. The key benefit of Model 1 is the release of health system resources to better meet the needs of all people requiring infusions by reducing the staff and overhead requirements associated with treating people with MS with Ocrevus. An additional benefit of this model is the time savings for people living with MS and whānau caregivers.

Model 2 is a possible future model of care that would further release infusion facility capacity but would also deliver significant benefits for people living with MS who would be able to access care close to home or close to workplaces.

Based on these three models, our analysis is focused on estimating:

- The value of treatment time savings to the health system.
- The value of treatment time savings for people living with MS (and whānau caregivers).
- The cost implications for the health system and value to people with MS and whānau caregivers of a possible future alternative model of care.

Our analysis is informed by:

- contextual data analysis
- MS population estimates
- a cost model.

2.1 Contextual data analysis

We used a linked dataset containing inpatient and outpatient events from 2012 to 2021 to provide some basic context analysis for this report. Patient NHIs were encrypted, and all patient-identifiable information was removed by Health NZ.

Patient use of infusion services is captured in the national non-admitted patient collection (NNPAC) under two purchase unit codes, one of which describes cancer-related infusions and one which describes non-cancer-related infusions. Infusions for people living with MS are non-cancer related; however, many other types of infusions for many different people with other diagnoses and conditions also access infusions under the same purchase unit code.

Patient diagnoses and the type of infusion being accessed are not recorded in NNPAC. As a result, NNPAC data by itself can only inform the analysis of total use of non-cancer infusions. This provides an overall picture of the number of people accessing non-cancer infusion services.

To separately identify people with MS, we use the National Minimum Dataset (NMDS), which describes inpatient events. The NMDS records diagnoses, including the diagnosis of MS, but not the MS subtype.

Our use of these two datasets is described in Table 3 below.

Table 3 Datasets used in the analysis

	NMDS	NNPAC
Full name	National Minimum Data Set	National non-admitted patient collection
Content of extract	Inpatient events from 2012 to 2021 Primary diagnoses (ICD10-AM codes)	Outpatient events from 2012 to 2021 Purchase units (PU codes)
Use	Identify the population with MS based on primary diagnosis within an inpatient event	Identify the facilities offering infusion services Identify the facilities and infusion services attended by people with MS Identify the number of people with MS who received infusions Identify the number of infusion attendances by people with MS Identify the number of people who do not have MS using infusion services Identify the number of infusion attendances by people who do not have MS
Relevant codes	ICD10-AM code for MS: G35	Purchase unit codes for infusion attendances: MS02008*
Limitations	Does not capture people with MS who have never been hospitalised with MS recorded as their primary diagnosis	Some people with MS may access different infusions that are coded under the same PU code. Infusion services are coded in broad categories (cancer, paediatric cancer, and non-cancer). It is not possible to identify what type of infusion people with MS received when accessing non-cancer infusion services.

*Note that this purchase unit code was replaced in 2023 by MS02029, so any analysis using updated data would need to capture this new code.

Source: NZIER

PU code MS02008, and its 2023 replacement MS02029, are described in Table 4 below.

Table 4 Infusion services, outpatient purchase units

NNPAC

Purchase Unit Code	Purchase Unit Description	Purchase Unit Definition	Unit of Measure
MS02008 (prior to 2023)	IV Chemotherapy – non-cancer – any health speciality	An attendance to receive intravenous chemotherapy treatment for conditions other than cancer. The specialist may or may not be in attendance, and the service may be provided under any other health speciality. Includes all pharmaceuticals administered during the attendance. Includes day case treatments excluded from CWDs as per the definition of WIESNZ. Note: PCT drugs may NOT be recovered through Sector Operations for non-cancer.	Attendance
MS02029 (from 2023)	Same day pharmaceutical infusions	An attendance to receive pharmaceutical intravenous treatment for non-cancer conditions. The specialist may or may not be in attendance, and the service may be provided under any health speciality. Includes all pharmaceutical costs administered during the attendance.	Attendance

Source: NZIER, NNPAC data dictionary

2.2 MS population estimates

We estimate the population of New Zealanders with MS based on the findings of three previously published prevalence studies and 2024 population estimates from Stats NZ. These estimates informed our cost modelling.

The studies that underpin our MS population estimates are:

- Taylor et al. (2010). This study identified the prevalence of multiple sclerosis in New Zealand using a nationwide prevalence study approach based on Census data. It found that in 2006, 2,896 people were living with MS. The study also provides a regional breakdown of the population with MS, allowing for a 2006 prevalence rate to be calculated using Stats NZ regional population estimates for the same year. Additionally, the study provided a national breakdown of the four MS phenotypes, which we applied to both regional and national population estimates.
- Alla et al. (2014). This study reviewed the evidence from five previously published studies to quantify the increasing prevalence of multiple sclerosis in New Zealand for selected regions. Underlying studies provided base year prevalence rates for years between 1968 and 2001. The authors compared these to 2006 prevalence rates and demonstrated significant increases in the prevalence rates of MS in most regions.
- Boven et al. (2025). This study identified the prevalence of MS in New Zealand, updating the prevalence estimates from Taylor et al. (2010). It found that in 2022, the prevalence rate for MS was 96.6 per 100,000 population. While this study provided the most recent national prevalence estimate, it did not provide specific regional estimates.

Table 5 Sources of prevalence evidence to estimate the 2024 population with MS

Study	Estimate type	Year of estimate	Estimates used
Taylor et al. 2010	Regional MS prevalence	2006	Regional prevalence rates of MS in 2006.
Alla et al. 2014	MS prevalence growth rates	1968–2006	Increase in prevalence rates of selected regions to 2006.
Boven et al. 2025	National MS prevalence rate	2022	National prevalence rate 2022

Source: NZIER

The 2024 MS population was estimated by:

- Applying the regional prevalence rates from Taylor et al. (2010) to the 2006 regional population estimates.
- Applying the compound annual growth rates (CAGR) in prevalence calculated from the increase documented in Alla et al. (2014) to the years from 2006 to 2024. We calculated the CAGR for each region over the specified periods and used these estimates to predict the likely growth in prevalence from 2006 to 2024. For regions that were not included in the study, we applied a population-weighted average annual growth rate derived from the CAGRs of included regions:
  - For Waikato and Bay of Plenty, we directly applied the respective CAGRs calculated from the respective prevalence rates to each region's population estimate.
  - For Canterbury, we applied the CAGR calculated from the Christchurch prevalence rates.
  - For Wellington, because there were two studies providing estimates for this region, we used the average rate derived from the two sources.
  - For Otago and Southland, the reported prevalence rates were combined in the source study, so the CAGR calculated from the combined prevalence rates was applied to both regions' populations separately.
  - For regions not included in the study, we applied the population-weighted average CAGR for the North and South Islands from the included regions within those islands.

See Table 6 below.

Table 6 Estimated annual growth in prevalence by region

Compound annual growth rate (CAGR)

Region	CAGR to 2006 based on Alla et al. (2014)	CAGR applied to 2006–2014
Northland		1.89%
Auckland		1.89%
Waikato	2.85%	2.85%
Bay of Plenty	0.52%	0.52%
Gisborne		1.89%
Hawke's Bay		1.89%
Taranaki		1.89%
Manawatū-Wanganui		1.89%
Wellington	2.2% and 1.5%	1.85%
Tasman and Nelson		2.94%
Marlborough		2.94%
West Coast		2.94%
Canterbury	3.05% (Christchurch)	3.05%
Otago	2.73% (Otago-Southland)	2.73%
Southland	2.73% (Otago-Southland)	2.73%

Source: NZIER based on Alla et al. (2014)

The regional prevalence rate estimates for 2024 were then applied to the respective regional populations, as described by Stats NZ's regional population estimates. The respective regional shares of the total MS population were then applied to the 2024 MS national population as indicated by the most recent estimate of the national prevalence rate (Boven et al. 2025).

2.3 Cost model

Models of care and cost implications

As described, there are three options analysed:

- The counterfactual: delivery of Ocrevus IV in infusion facilities for people with RRMS and PPMS.
- Model 1: delivery of Ocrevus SC in infusion facilities for people with RRMS and PPMS.
- Model 2: delivery of Ocrevus SC in a community-based model for people with RRMS and PPMS.

The counterfactual is not the status quo. It is a scenario in which all people living with MS who are eligible for and choose Ocrevus are treated on a clinically optimal cycle with Ocrevus IV in their local infusion facility.

Model 1 is a scenario in which all people living with MS who are eligible for and choose Ocrevus are treated on a clinically optimal cycle with Ocrevus SC in their local infusion facility.

Model 2 is a future scenario in which a community-based model has been fully implemented. Our community-based model of care assumes everyone would be treated with Ocrevus SC in infusion facilities for the first year, after which 90 percent of people would be approved for community-based treatment. We assume General Practice (GP) nurses would provide Ocrevus SC injections, and their time is valued using the practice nurse hourly cost from the same source. Therefore, costs in this model reflect a 90 percent community delivery cost profile and a 10 percent infusion facility cost profile.

In all instances where people with MS (and whānau caregivers) travel to infusion facilities for treatment with Ocrevus IV or Ocrevus SC, we assume the same distances, times, whānau caregiver requirements, and travel costs. That is, the only difference between the counterfactual and Models 1 and 2 for people who travel to infusion facilities is in the treatment time requirements.

Treatment time costs

Costs to people living with MS, whānau caregivers and the health system are a function of treatment times and cycles. Our modelling was based on information supplied by Roche or obtained from online sources providing information for health professionals on the administration of Ocrevus IV and SC and information for people with MS on the experience of being treated with Ocrevus IV and SC (Roche 2025).

Treatment times for Ocrevus IV and Ocrevus SC were estimated separately for people living with MS and staff, as staff were able to treat more than one person at a time. We assume that the treatment and infusion bed overhead times are equal. We also assume whānau caregivers who travel with people living with MS to appointments remain with them for the duration of the appointment (or at least are absent from work during that time, e.g. they may wait in a café on site, or similar).

We do not consider formal caregivers explicitly in our analysis because the criteria for access to Ocrevus mean that most people accessing it have less severe disability (EDSS scores below 6.5).

Our estimates of health system costs are based on nurse time costs and infusion facility bed overhead costs from the Pharmac cost manual (Pharmac 2018). All cost values were inflated to 2024 using the CBAx model (The Treasury 2024).

Eligibility for publicly funded Ocrevus versus access to Ocrevus

People living with MS are assessed by clinicians against a range of criteria set out by Pharmac to determine eligibility for funded access to Ocrevus (Pharmac 2025). However, being eligible and wanting to be treated with Ocrevus does not always translate into access. Capacity constraints in some regions where the eligible patient population is higher in number have been a barrier to take-up.

The population expected to take up any form of Ocrevus if sufficient capacity were locally available was estimated by applying the proportions indicated by Roche to the estimated RRMS and PPMS populations.

Time horizon

Our cost estimates are based on a four-year treatment period, consistent with a UK time and motion study (Rog et al. 2024), which adopted this time period for its estimation of the relative uses of time by infusion staff across three different DMTs delivered by infusion for people living with MS in four UK infusion facilities.

This time period allows the differential time requirements of a first infusion to be appropriately incorporated into a single time value estimate without excessive weighting. We present cost estimates on an average annual basis per patient and for the total population expected to take up Ocrevus.

Time and travel costs for people with MS and whānau caregivers

To calculate travel time, we drew on the sample of people with MS accessing infusions between 2012 and 2021. We assume that the geographic distribution of people with MS' domicile area units in that period is approximately the same as it is today.

However, rather than using the infusion facilities that people with MS were accessing between 2012 and 2022 to identify travel distances and times, we use the list of facilities offering Ocrevus or Tysabri in 2024, which was provided by Roche.

Distances travelled between individuals' homes and infusion facilities were calculated by:

- identifying the area unit of individuals accessing infusion services from 2012 to 2021
- matching the area unit of their domicile to coordinates
- identifying the coordinates for the nearest infusion facility offering Ocrevus or Tysabri in 2024 (information supplied by Roche)
- applying real-time commuting metrics from Google Maps to calculate driving distances and travel time for each journey.

From this process, we calculated the average distance travelled and travel time for a round trip from a person's home to the nearest infusion centre.

For the community-based model, we used the average travel time to GP clinics, as estimated by Brabyn and Barnett (2004).

Employment for people with MS was assumed to be 31 percent, as reported by Pearson et al. (2017). We assume that whānau caregivers are employed.

We used a range of evidence sources for time and travel cost values:

- Stats NZ average employment earnings for people of the same average age as people with MS accessing infusions in NNPAC data (we assume the average age of whānau caregivers is approximately equal to the average age of people with MS) (44 years)
- IRD Tier 1 mileage rates for petrol or diesel vehicles (Inland Revenue 2025)
- NZTA equalised values of travel time for all users (NZ Transport Agency Waka Kotahi 2025a)
- Non-private vehicle costs are assumed to be approximated by 50 percent taxi/50 percent Uber costs (Ministry of Transport 2023)
- Disability travel subsidies were based on (NZ Transport Agency Waka Kotahi 2025b)

Parking costs were assumed to be $10 per visit to infusion facilities only.

2.4 Out of scope

This report does not describe a cost-benefit analysis, cost-effectiveness analysis, or cost-utility analysis. It focuses on benefits to people living with MS, the system, and whānau caregivers, not on costs to Pharmac. Direct medication cost differences between Ocrevus SC and Ocrevus IV, either on a per-person basis or in total, are out of scope.

Any capacity that is freed up in infusion facilities due to people living with MS switching to Ocrevus SC from Ocrevus IV could benefit people with MS or other people needing to access infusions. Currently, infusion facilities restrict some capacity for specific uses. It is impossible to determine what future decisions may be made as to prioritisation of patient groups or treatments or ring-fencing of capacity. While we estimate the capacity freed up by a switch to Ocrevus SC, we do not estimate how that capacity would be used and, therefore, the potential benefit of increased access to infusions is out of scope.

3 Expected demand for Ocrevus

In this section, we present estimates of the population of New Zealanders with MS, including the sub-populations with RRMS and PPMS.

3.1 Population with MS

The estimation of the 2024 MS population is described in section 2.2.

The regional prevalence rates and population with MS are described in Table 7 below.

Table 7 Estimated population with MS by region and total

2024

Region	Prevalence rate	Population	Population with MS
Northland	72.3	200,800	145
Auckland	73.5	1,797,300	1321
Waikato	72.0	527,600	380
Bay of Plenty	52.6	351,700	185
Gisborne	58.8	53,000	31
Hawke's Bay	72.6	181,100	132
Taranaki	90.5	130,500	118
Manawatū-Wanganui	70.6	261,100	184
Wellington	110.9	541,500	600
Tasman and Nelson	135.1	114,200	154
Marlborough	155.5	51,600	80
West Coast	201.3	34,300	69
Canterbury	171.5	687,100	1179
Otago	183.2	251,300	460
Southland	247.2	103,800	257
Total	**100.2**	**5,286,900**	**5295**

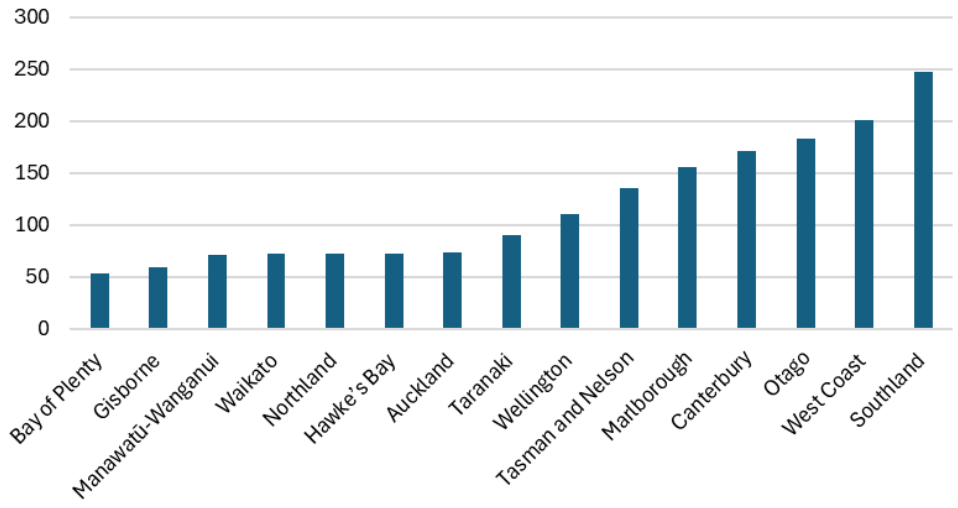
Source: NZIER

As expected, the prevalence rate (per 100,000 population) of MS is highest in the southern regions,[1] with Southland having a prevalence rate of 247.2 per 100,000 population, which is over three times the prevalence rate of the Auckland region.

[1] Prevalence rates of MS are known to increase with distance from the equator.

Figure 1 Estimated regional MS prevalence rates

Number of MS cases per 100,000 population, 2024

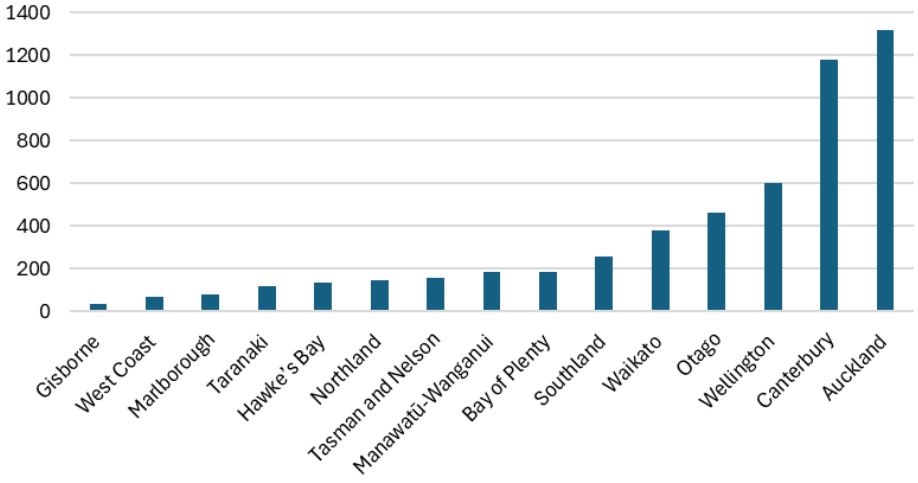


Source: NZIER

However, when combined with regional population estimates, the resulting estimated number of people with MS is highest in regions around the main facilities of Auckland, Christchurch and Wellington, with Otago and Southland regions representing the 4th and 6th largest regional populations with MS.

Figure 2 Estimated regional MS populations

2024



Source: NZIER

3.2 Populations with RRMS and PPMS

Ocrevus is only registered for people living with RRMS or PPMS, so we estimate the 2024 population with these two phenotypes using the MS breakdown by phenotype provided by Taylor et al. (2010):

- 50.6 percent have RRMS
- 31.8 percent have SPMS
- 15.8 percent have PPMS
- 1.8 percent have NRMS.

Applying these proportions to our 2024 regional MS population estimates yields the subgroup estimates shown in Table 8 below.

Table 8 Estimated population by phenotype

2024

Region	RRMS	SPMS	PPMS	NR	Total MS
Northland	73	46	23	3	145
Auckland	668	420	208	24	1320
Waikato	192	121	60	7	380
Bay of Plenty	94	59	29	3	185
Gisborne	16	10	5	1	31
Hawke's Bay	67	42	21	2	132
Taranaki	60	37	19	2	118
Manawatū-Wanganui	93	59	29	3	184
Wellington	304	191	95	11	600
Tasman and Nelson	78	49	24	3	154
Marlborough	41	26	13	1	80
West Coast	35	22	11	1	69
Canterbury	596	375	186	22	1179
Otago	233	147	73	8	461
Southland	130	82	41	5	257
New Zealand Total	**2679**	**1684**	**836**	**97**	**5,295**

Figures are rounded to the nearest integer.

Source: NZIER

3.3 Expected demand for Ocrevus

No estimates were available regarding the proportion of people living with RRMS or PPMS in New Zealand who are currently treated with or could be treated with Ocrevus.

There are multiple forms of DMTs available to people with MS. Clinicians take into consideration a range of factors (including Pharmac funding eligibility criteria, age, disease stage, active disease, etc.) when prescribing appropriate treatment, so not all people with PPMS and RRMS will be treated with Ocrevus. Infusion data from NNPAC do not identify the medicines used; therefore, we cannot determine the proportion or number of people with PPMS and RRMS who are likely to be treated with Ocrevus.

However, based on the experience of Ocrevus in clinical trials and clinical advice, Roche estimates that:

- the current take-up of Ocrevus in eligible people with RRMS is approximately 41 percent, but is expected to rise to 45 percent
- the current take-up of Ocrevus in eligible people with PPMS is approximately 25 percent but is expected to rise to 48 percent.

Based on these estimates, if Ocrevus SC is not funded for eligible people with RRMS and PPMS, infusion facilities will require capacity to provide Ocrevus IV to at least 1,299 MS people, with a plan to increase capacity to 1,885 in the near future.

Table 9 Expected demand for Ocrevus

2024 and future years

	Total population	Take-up rate (current)	Total Ocrevus users 2024	Take-up rate (potential)	Total expected Ocrevus users
RRMS	2,679	41%	1,098	45%	1,524
PPMS	836	24%	201	48%	471
Total	3,515		1,299		1,886

Figures are rounded to the nearest integer.

Source: NZIER, based on Roche estimates of Ocrevus take-up in RRMS and PPMS

4 Infusion services historical demand growth

To understand how infusion services have expanded over time, we analysed a dataset containing patient events from 2012 to 2021. Several points are important to note regarding this time period:

- Prior to 2019, people with MS could not access Ocrevus through publicly funded infusion facilities.
- In 2019, Ocrevus began being funded for people with RRMS under strict criteria.
- It was not until 2023 that:
  - the criteria for accessing Ocrevus for people with RRMS were widened
  - Ocrevus was funded for people with PPMS.

Nevertheless, people living with MS had access during this period to another infusion of a high-efficacy DMT: Tysabri, which was funded from November 2014 for people with RRMS. Tysabri is administered as an infusion every six weeks.

4.1 Facilities offering non-cancer infusion services 2012–2021

Based on outpatient events coded under MS02008, we identified the DHB regions and facilities offering non-cancer infusion services between 2012 and 2021. These are shown in Table 10 below.

Table 10 DHBs and facilities offering non-cancer infusion services prior to 2022

Based on services provided at any time between 2012 and 2021 to any individual

DHB region	Facility
Auckland District Health Board	Auckland City Hospital
Counties Manukau District Health Board	Manukau SuperClinic
	Middlemore Hospital
	Pukekohe Hospital
Lakes District Health Board	Rotorua Hospital
	Taupo Hospital
Northland District Health Board	Whangarei Hospital
Southern District Health Board	Lakes District Hospital
	Southland Hospital
Tairawhiti District Health Board	Gisborne Hospital
Taranaki District Health Board	Taranaki Base Hospital

Source: NZIER, based on NNPAC Purchase unit code MS02008

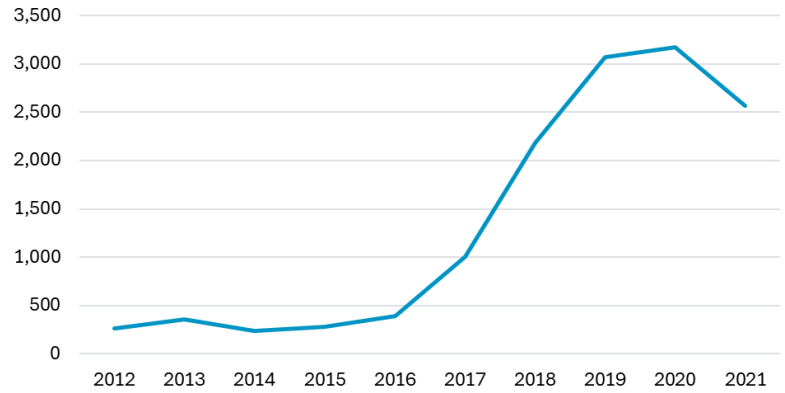
Note that, because our data extract is limited to 2012–2021, it cannot identify any new services that may have been implemented from 2022 onwards.

4.2 Overall volume of infusion services

The facilities that offered infusion services saw significant growth in service volumes, particularly since 2016 (two years after Tysabri began being funded by Pharmac for people with RRMS), with the number of non-cancer infusion attendances rising from under 500 nationally in 2016 to over 3,000 by 2019 before volumes plateaued in 2020 and drop off in 2021, likely as a result of the COVID-19 pandemic and pandemic restrictions.

Figure 3 Number of attendances in non-cancer infusion services

All diagnoses, 2012–2021



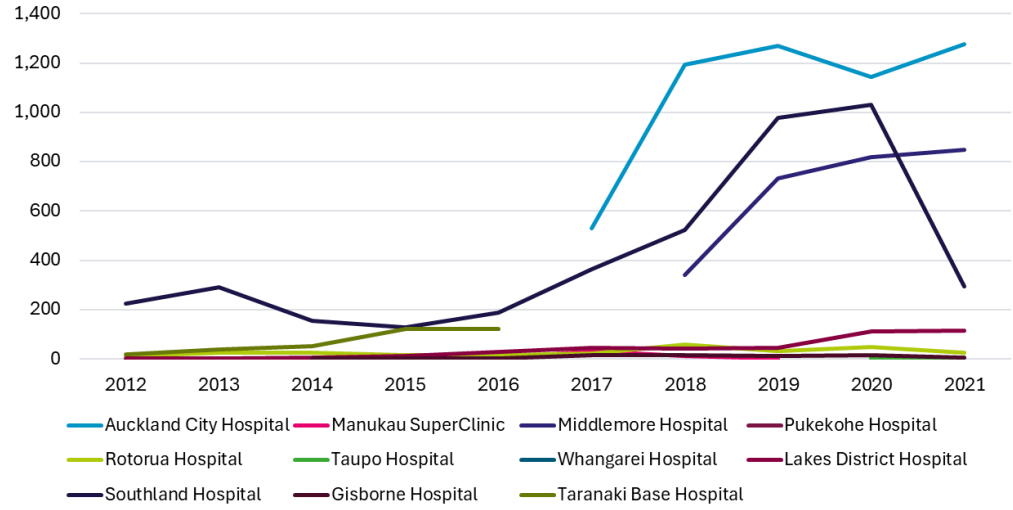
Source: NZIER, based on NNPAC data

Facility data reveal that a small number of facilities dominated overall growth in infusions:

- Auckland City Hospital
- Middlemore Hospital
- Southland Hospital.

Figure 4 Non-cancer infusion attendances by facility

All diagnoses, 2012–2022



Source: NZIER, based on NNPAC data

Based on this, it is likely that people with MS in the Auckland and Southland regions experienced increased access to infusions, whereas other regions with significant MS populations, such as the Canterbury, Otago, and Wellington regions, would have faced access barriers.

4.3 Use of infusion services by people identified with MS

We identified people with MS based on inpatient events for people who had a primary diagnosis of MS and tracked these people by matching encrypted national health identifiers (NHIs) across inpatient and outpatient data. While this method does not allow for the complete identification of the population with MS, or indeed the population with MS using infusion services, it enables the identification of infusion services that serve people with MS and provides some analysis of their use of infusion services.

Based on people with MS accessing infusion services coded under MS02008 with or without an identified inpatient MS diagnosis, we identified the DHB regions and facilities offering non-cancer infusion services and infusion services specifically for people with MS. These are shown in Table 11 below. Note, it is not possible to identify whether the infusions offered to people with MS in these facilities included Ocrevus.

Table 11 Facilities offering non-cancer infusion services for people living with MS

Based on services provided at any time between 2012 and 2021 to any person with an inpatient diagnosis of MS

DHB region	Facility	Infusion services for people with MS*	Latest year of access for people with MS*
Auckland District Health Board	Auckland City Hospital	Yes	2021
Counties Manukau District Health Board	Manukau SuperClinic		
	Middlemore Hospital		
	Pukekohe Hospital		
Lakes District Health Board	Rotorua Hospital	Yes	2018
	Taupo Hospital		
Northland District Health Board	Whangarei Hospital		
Southern District Health Board	Lakes District Hospital		
	Southland Hospital	Yes	2021
Tairawhiti District Health Board	Gisborne Hospital	Yes	2020
Taranaki District Health Board	Taranaki Base Hospital	Yes	2016

*Based on people identified in NMDS with a primary diagnosis of MS between 2012 and 2021.

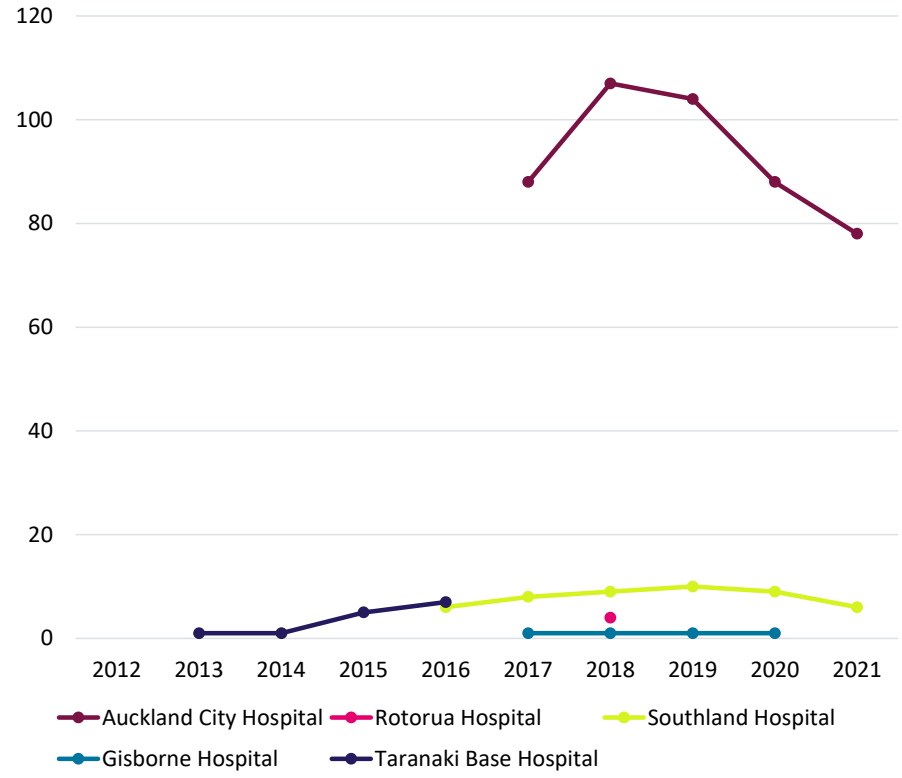
Source: NZIER, based on NNPAC Purchase unit code MS02008

The number of people with MS accessing infusion services indicates that demand was concentrated primarily at Auckland City Hospital, where the number of people with an MS diagnosis accessing infusions peaked at 107 in 2018.

In comparison, the number of MS-diagnosed people accessing infusions at Southland Hospital, the only other facility providing infusions to people living with MS in 2021, has been below 15 per annum. Taranaki Base Hospital, Rotorua Hospital, and Gisborne Hospital have had very few people with MS accessing treatment and provided no infusions to them in 2021.

Figure 5 Number of MS-diagnosed individuals accessing infusions

2012–2021



Source: NZIER, based on NMDS and NNPAC data

These volumes of people are low when compared with our population estimates for those years. In 2018, based on inpatient diagnoses, we estimate that:

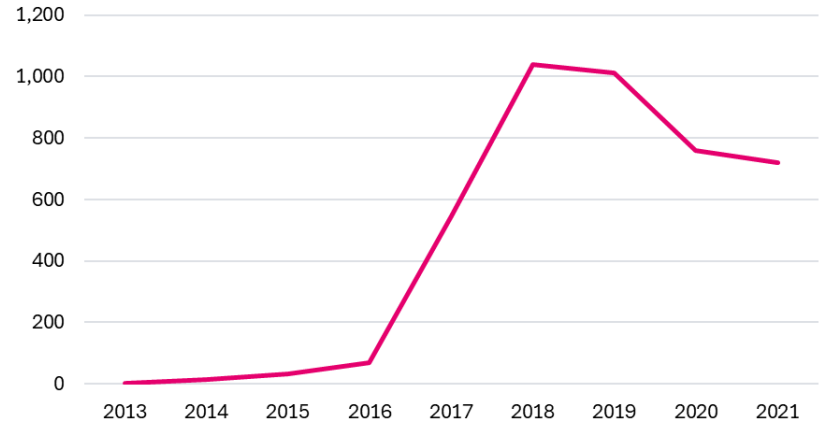
- approximately 16 percent of people with RRMS were benefiting from infusions in the Auckland region
- approximately 13 percent of people with RRMS were benefiting from infusions in the Southland region.

Overall infusion volumes for people with MS during this period show that only a minority of people (7 percent) with an inpatient diagnosis of MS accessed infusions from 2012 to 2021.

Mirroring overall growth in infusion services, there was significant growth in the volume of infusions by the population we identified as having MS, particularly between 2016 and 2018 (see Figure 6 below).

Figure 6 Infusion attendances by MS-diagnosed individuals

2013–2021 infusion attendances



Source: NZIER, based on NMDS and NNPAC data

Because it is not possible to identify the drugs used in infusions, it is not possible to identify if the use of non-cancer infusion services by people living with MS was MS-related or non-MS related. However, the data indicate that some of the increased demand for infusions for people with MS was driven by an increase in the number of infusion attendances per year per person with MS, consistent with the introduction and increased use of Tysabri, an infusion-delivered DMT that is administered approximately every six weeks.

Between 2016 and 2018, the number of attendances per person with MS grew from 5.38 to 8.60 per year. Since 2018, people with MS who access infusions have attended infusion services between 8 and 9 times per year on average, consistent with the optimal frequency of Tysabri infusions.

A summary table describing the use of infusion services by the identified MS-diagnosed population is provided below.

Table 12 Infusion service use summary for people living with MS

2013–2021

Year	Cumulative MS diagnosed population	MS-diagnosed people accessing non-cancer infusions	% of MS diagnosed people accessing non-cancer infusions	Non-cancer infusion attendances involving an MS-diagnosed person	Infusion events per patient, MS patient accessing non-cancer infusions
2013	456	1	0.2%	1	1.0
2014	663	2	0.3%	13	6.5
2015	1,109	5	0.5%	31	6.2
2016	1,355	13	1.0%	70	5.4
2017	1,589	97	6.1%	545	5.6
2018	1,778	121	6.8%	1,040	8.6
2019	1,995	115	5.8%	1,011	8.8
2020	2,221	98	4.4%	758	7.7
2021	2,459	84	3.4%	721	8.6

Source: NZIER, based on NMDS and NNPAC data

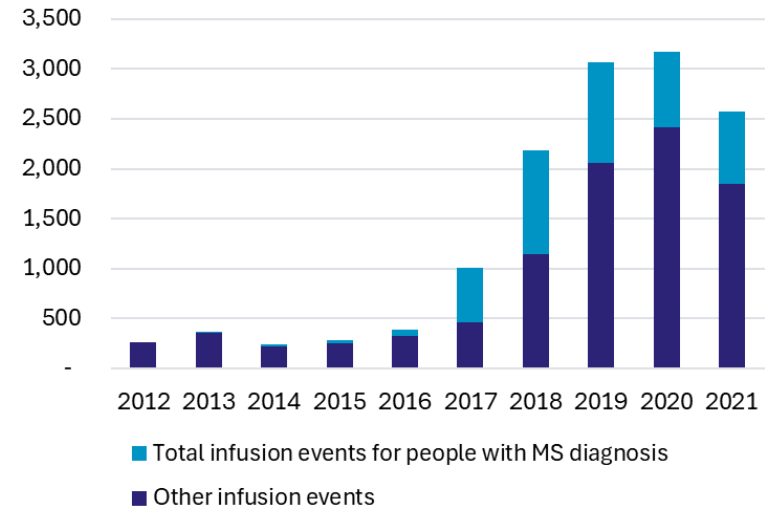
4.4 Infusions for people with MS within overall infusion volumes

Breaking down the number of events to identify those that were events for a person with an MS diagnosis versus those where our data did not identify an MS diagnosis for the person indicates that both people with MS and other patients have driven demand (see Figure 7). However, two key points are notable:

- People with MS have represented a significant proportion of infusion attendances since 2017.
- The proportion of infusion attendances accessed by people with MS has decreased since 2018.

Figure 7 Non-cancer infusion attendances by people with an MS diagnosis

2012–2021



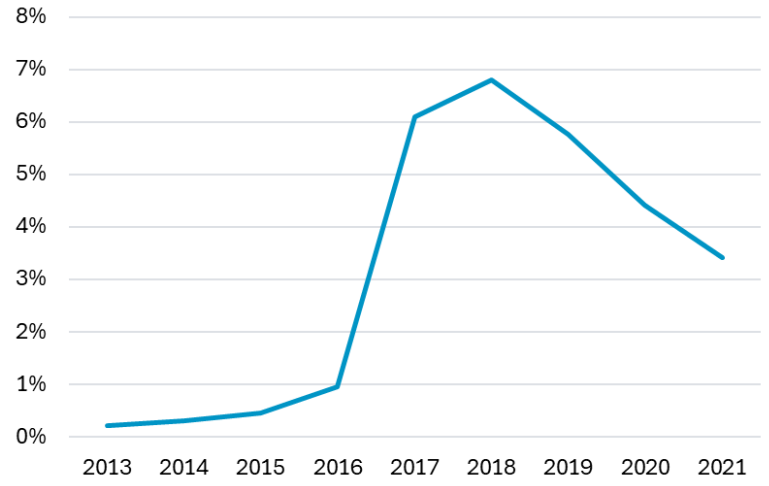
Source: NZIER, based on NMDS and NNPAC data

These findings likely reflect efforts by infusion services to balance service delivery to different patient groups, including by imposing limits on the number of chairs or infusions of DMTs for MS that can be administered each day.

Further evidence of constrained access to DMTs is provided by the percentage of identified people with MS accessing infusion services over time. While overall service volumes continued to increase until 2020, from 2018, a decreasing percentage of MS-diagnosed individuals were using infusion services.

Figure 8 Percentage of people diagnosed with MS accessing infusion services

Based on inpatient diagnosis, 2013–2021



Source: NZIER, based on NMDS and NNPAC data

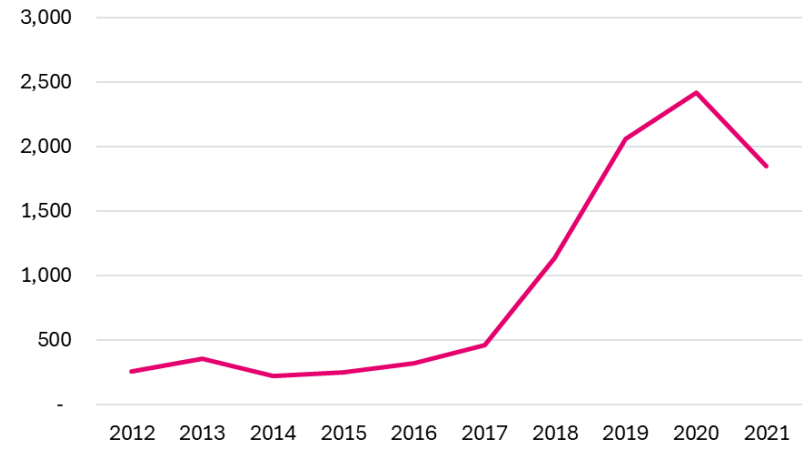
4.5 The broader context of infusion demand creates additional pressure

Increased demand for infusions for people with MS is occurring within the broader context of increased demand for infusions.

The data show that non-cancer infusion attendances were increasing rapidly before the COVID-19 pandemic, even for people who did not have an MS diagnosis.

Figure 9 Infusion attendances by non-MS diagnosed individuals

Non-cancer infusion events

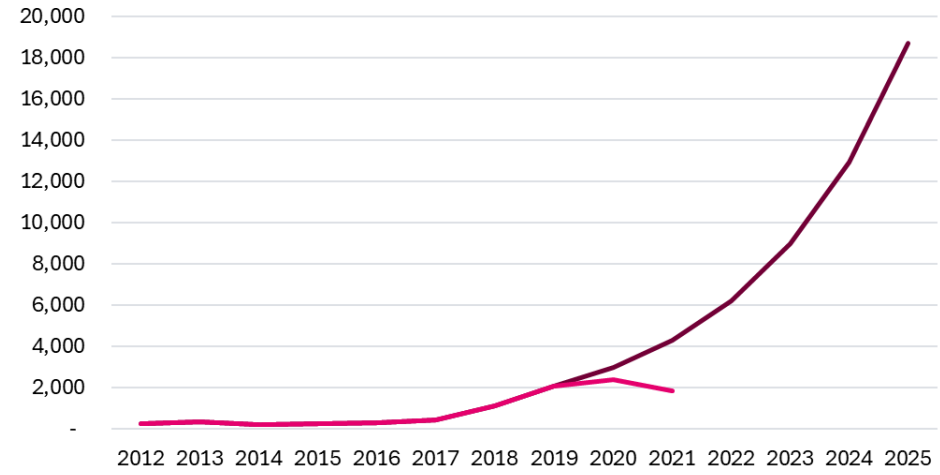


Source: NZIER, based on NNPAC data

If capacity were unconstrained, the average rate of growth in non-cancer infusions for non-MS-diagnosed individuals suggests that current demand (2025) could exceed 18,000 attendances per year (see Figure 10 below).

Figure 10 Projected demand for infusions by non-MS diagnosed individuals

Non-cancer infusion events



Source: NZIER, based on NNPAC data

While our projections cannot consider changes in drugs available for infusions or other factors not reflected in the underlying data, they illustrate that:

- historical trends in infusion volumes are a significant pressure on the system that would be expected to require both workforce and physical capacity to support if access is not to be compromised
- the requirement for rapidly increasing infusion capacity is being driven by both people with and without MS.

The health system is facing tremendous pressure for costly services that place high demands on both the workforce and physical infrastructure. There is an imperative for the system to investigate opportunities that reduce pressure on the system, increase system flexibility, and boost productivity.

4.6 Insights on infusion demand drivers

The data presented here indicate a few key points about non-cancer infusion services:

- historically, infusion facilities have struggled to meet the needs of people with MS
- regional access to infusions for people with MS has been inconsistent
- growth in demand for infusion services has been driving growth in both MS infusions and non-MS infusions, with MS infusions (likely primarily Tysabri delivered on a six-weekly basis) accounting for between one-third and half of all infusion attendances since 2016
- despite significant growth in the volume of infusions for people living with MS, as the COVID-19 pandemic struck, only a small proportion of people with MS who could be treated with Ocrevus had been able to access infusions, and that proportion had already begun to decrease
- demand for infusions by non-MS patients is expected to continue growing, adding pressure to the capacity of infusion centres.

5 The opportunity: Ocrevus SC

5.1 Key differences between Ocrevus IV and SC

A key difference between Ocrevus IV and Ocrevus SC is the time requirements across the three key stages of a treatment episode for both patients and nursing staff. Time requirements are set out in Table 13 and Table 14 below.

Table 13 Ocrevus IV treatment episode

Phase	Description	Patient time	Nurse time
Pre-infusion	Patients are given premedication at the infusion facility (it may be part of their IV infusion).	30 to 60 minutes (mean 45 minutes)	~10 minutes
Infusion	The patient is asked to sit down, and a thin needle is inserted into the arm to start the infusion. An automatic pump is set up to ensure the patient receives the exact amount.[2]	1st infusion 150 minutes Subsequent infusions 120 minutes to 210 minutes (mean time 165 minutes)	~10 minutes to set up ~5 minutes per ½ hour for monitoring and rate adjustment* ~10 minutes to terminate and dispose of materials
Post-infusion	The patient is observed for at least an hour after their infusion. During this time, the patient is being observed for side effects of the treatment.	60 minutes	~10 minutes
Total		Mean 4 hours, 10 minutes for 1st infusion Mean 4 hours, 25 minutes for subsequent infusions	60 minutes for 1st infusion 63 minutes for subsequent infusions

* The infusion rate is typically adjusted every 30 minutes (Roche 2025)

Source: Roche 2025

[2] If an infusion reaction occurs, a nurse may stop or slow the rate of infusion. These occur in at least one-third of patients, with the majority being mild-moderate severity See Flynn and Gerriets (2025).

Table 14 Ocrevus SC treatment episode

Phase	Description	Patient time	Nurse time
Pre-injection	Patients take premedication (usually pills that are swallowed) at least 30 minutes prior to injection. Patients may be able to take premedication at home.	1st injection: 30 minutes in centre [Subsequent injections: 30 minutes at home or en route]	1st injection: 10 minutes
Injection[3]	The patient is asked to sit or lie down, and a thin needle is inserted under the skin in the abdominal area. This needle is connected to the prepared syringe containing Ocrevus. A nurse either injects Ocrevus manually or uses an automatic pump.	~10 minutes	~ 10 minutes to administer ~ 5 minutes to dispose of materials
Post-injection	The patient is observed for at least an hour after their first injection. Subsequent injections have a shorter observation period – usually around 15 minutes. During this time, the patient is being observed for side effects of the treatment.	60 minutes for first injection 15 minutes for subsequent injections	5–10 minutes
Total		1 hour 40 minutes for 1st injection 25 minutes for subsequent injections	30–35 minutes for 1st injection 20 minutes for subsequent injections

Source: Roche 2025

5.2 Staffing and infusion bed trade-offs

Based on the above treatment episodes and limited infusion facility capacity, there are significant trade-offs in the decision to fund Ocrevus SC:

- The same level of staffing that supports one person to be treated with Ocrevus IV could provide Ocrevus SC to three people.
- The same level of bed capacity that supports one person to be treated with Ocrevus IV could provide Ocrevus SC to nine people.
- 1,299 people living with MS who are treated with Ocrevus SC would require the same level of staffing as 433 people treated with Ocrevus IV, and the same infusion bed capacity as 144 people treated with Ocrevus IV.

[3] If an injection reaction occurs the injection may be interrupted until the symptoms resolve.

5.3 Ocrevus SC offers benefits to people with MS, whānau caregivers and the health system

As an injection under the skin, and in addition to offering the same efficacy as Ocrevus IV, Ocrevus SC has two key benefits:

- it takes significantly less time to administer
- it could potentially be delivered in other contexts, such as in community contexts, if a safe model of community delivery can be developed.

These two benefits translate into two models of care: One in which Ocrevus SC is available in infusion facilities and one in which Ocrevus SC is available in the community. Both have benefits related to time spent by people with MS, whānau caregivers and the health system (see Table 15 below).

Table 15 Ocrevus SC benefits to people with MS, whānau caregivers and the health system

	Ocrevus SC delivered in infusion facilities	Ocrevus SC delivered in the community
People with MS	Increased access to care due to the system's ability to provide treatment to more people. Reduced time spent accessing treatment (and away from employment/family responsibilities). Accessing treatment is less physically demanding due to shorter treatment times.	Increased access to care for those still receiving treatment in infusion facilities due to the system's ability to provide treatment to more people. Increased access to care due to care being closer to home for those accessing treatment in the community. Increased ability to access treatment independently. Reduced travel and travel costs. Accessing treatment is less physically demanding due to shorter treatment times and reduced travel.
Whānau caregivers	Reduced time spent accompanying people with MS to access treatment (and away from employment/family responsibilities).	Reduced need to provide transport and accompany people with MS for treatment due to their improved ability to access treatment independently. Reduced travel time, travel, and treatment time costs when accompanying people with MS for treatments.
Health system	Reduced time required to set up and deliver treatment. Infusion facility capacity freed up to meet other infusion needs/reduced need to expand infusion facility capacity. Increased health system productivity – delivering more care to more patients within the same level of resources.	Even more infusion facility capacity freed up to meet other infusion needs/reduced need to expand infusion facility capacity. Increased ability to meet the needs of the population through services closer to home and provide geographically equitable access to services. Increased health system productivity – delivering more care to more patients within the same level of resources.

Source: NZIER

These benefits have been demonstrated in practice.

From the perspective of someone with MS, Ocrevus SC has demonstrated its value. In trials, responses by people with MS to the SC formulation have been generally positive, even within randomly assigned samples (Poinsatte 2024).

- 92.3 percent of people reported high levels of satisfaction with Ocrevus SC
- 90.1 percent of people said the injection formulation was convenient or very convenient.

The experience for people with MS has highlighted several advantages:

- Reduced Treatment Time: The injection significantly cuts down the time people with MS spend in clinical settings (estimated at 90 percent by the NHS (NHS England 2024), offering greater flexibility and convenience.
- Improved Accessibility: For people with difficult-to-access veins, the injection provides a less invasive and more manageable alternative.
- Enhanced Quality of Life: Shorter administration time allows people to better manage personal responsibilities, such as work and childcare.

The advantages of Ocrevus SC for the health system were recognised by the NHS in its funding decision: "*the new time-saving treatment is in line with NHS England's focus on adopting less clinically demanding treatments, which drive productivity and improve patient outcomes*" (NHS England 2024).

5.4 Value of the opportunity presented by Ocrevus SC

In this section, we estimate the value of the time savings associated with a substitution from Ocrevus IV to Ocrevus SC, based on an Ocrevus IV counterfactual and two models of care for Ocrevus SC:

- Counterfactual: Ocrevus IV is delivered as per the current model in existing infusion facilities.
- Model 1: Ocrevus SC is delivered in infusion facilities for 100 percent of people with MS.
- Model 2: Ocrevus SC is delivered in the community by GP practice nurses for 90 percent of people with MS, while 10 percent of people access Ocrevus SC in infusion facilities (allowing for 10 percent of people requiring care in a hospital context). In the community model, we assume all people new to Ocrevus SC would receive their first-year injections in an infusion facility before being approved for future treatment in the community.

We estimate the value of Ocrevus SC to people with MS and whānau caregivers based on the treatment time requirements previously described, as well as the patient, whānau caregiver, health system, and other fiscal values outlined in the tables below.

Table 16 Values for people living with MS and whānau caregivers

Component	Counterfactual assumptions	Model 1 assumptions	Model 2 assumptions	Details
People with MS	1,299 RRMS and PPMS	1,299 RRMS and PPMS	1,299 RRMS and PPMS	Estimated (see Section 4)
Context of care	Infusion facility 100%	Infusion facility 100%	Infusion facility 10% (for these patients, Model 1 assumptions apply) GP clinic 90%	Assumed 10% of patients will require infusion facility delivery even when a community model is available
First dose	2 visits	1 visit	1 visit	Ocrevus Data Sheet (Roche 2025)
First year	3 visits	2 visits	2 visits	Ocrevus Data Sheet (Roche 2025)
Subsequent years	2 visits	2 visits	2 visits	Ocrevus Data Sheet (Roche 2025)
% of patients requiring a whānau caregiver to travel to appointments	75% (travelling by the whānau caregiver's private vehicle) Mileage rate: $0.35 per km Parking: $10 per visit	75% (travelling by the whānau caregiver's private vehicle) Mileage rate: $0.35 per km Parking: $10 per visit	25% of community-eligible patients (travelling by the whānau caregiver's private vehicle) Mileage rate: $0.35 per km No parking cost	Assumed based on advice from MS NZ IRD petrol or diesel Tier 1 mileage rates (Inland Revenue 2025). Parking cost assumed.
% of patients travelling alone to appointments by taxi or travel service	25% Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to patient/whānau caregiver: $0.54 per km	25% Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to patient/whānau caregiver: $0.54 per km	25% of community-eligible patients Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to patient/whānau caregiver: $0.54 per km	Costs estimated based on 50% taxi / 50% Uber costs (Ministry of Transport 2023)
% of patients travelling independently by private vehicle	0%	0%	50% of community eligible patients Mileage rate: $0.35 per km No parking cost	Assumed based on advice from MS NZ IRD petrol or diesel Tier 1 mileage rates (Inland Revenue 2025). Parking cost assumed.

Component	Counterfactual assumptions	Model 1 assumptions	Model 2 assumptions	Details
Mean travel distance and time to facility	People travel to nearest infusion facility – mean distance 30.5km (one way) Mean travel time 29.2 minutes (one way)	People travel to nearest infusion facility – mean distance 30.5km (one way) Mean travel time 29.2 minutes (one way)	People accessing treatment in the community travel to nearest GP clinic – mean travel time 5 minutes Brabyn and Barnett (2004) – assumed mean distance 5km (one way)	Travel time to infusion facilities based on coordinates of domicile area unit of people with MS accessing infusions from 2012 to 2021 (NNPAC data) and coordinates of facilities offering infusions for people with MS in 2024 (information supplied by Roche). Travel time to GP clinic based on Brabyn and Barnett (2004)
Employment status for people with MS	31% employed	31% employed	31% employed	Pearson et al. (2017)
Time value to people with MS	Average employment earnings for 44-year-olds (31% employed) Ministry of Transport time value (69% unemployed)	Average employment earnings for 44-year-olds (31% employed) Ministry of Transport time value (69% unemployed)	Average employment earnings for 44-year-olds (31% employed) Ministry of Transport time value (69% unemployed)	Based on our analysis of people with MS accessing infusions between 2012 and 2021, the average age of a person being treated by infusion is 44 years.
Whānau caregiver employment status	100% employed	100% employed	100% employed	Statistics NZ Employment Earnings data
Whānau caregiver time value	Average employment earnings for 44-year-olds	Average employment earnings for 44-year-olds	Average employment earnings for 44-year-olds	We assume whānau caregivers are the same age as people with MS on average.

Source: NZIER

Table 17 Health system values

Component	Counterfactual assumptions	Model 1 assumptions	Model 2 assumptions	Details
First dose	2 events	1 event	1 event	Ocrevus Data Sheet (Roche 2025)
First year	3 events	2 events	2 events in an infusion centre, after which 90% become eligible for community-based delivery	Ocrevus Data Sheet (Roche 2025)
Subsequent years	2 events	2 events	2 events (90% in community setting, 10% in infusion centre)	Ocrevus Data Sheet (Roche 2025)
Infusion facility nurse costs	100% of people $77/hour	100% of people $77/hour	10% of people $77/hour	Pharmac (2018) cost manual value, inflated to 2024 using CBAx model*
Infusion facility bed overhead cost	100% of people $91/hour	100% of people $91/hour	10% of people $91 per hour	Pharmac (2018) cost manual, inflated to 2024 using CBAx model*
GP nurse cost (includes overheads)			90% of people $240 per hour	Pharmac (2018) cost manual, inflated to 2024 using CBAx model*

* The Treasury (2024)

Source: NZIER

Table 18 Other fiscal values

Component	Counterfactual assumptions	Model 1 assumptions	Model 2 assumptions	Details
Travel subsidy or benefit	25% of people with MS travel without a whānau caregiver and use a subsidised transport option or receive a benefit to help pay for travel to health services Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to funder: $1.61 per km	25% of people with MS travel without a whānau caregiver and use a subsidised transport option or receive a benefit to help pay for travel to health services Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to funder: $1.61 per km	25% of community-eligible people diagnosed with MS use a subsidised transport option or receive a benefit to help pay for travel to health services Mean cost per km: $2.15 Subsidy/public funding: 75% Cost to funder: $1.61 per km	Costs estimated based on 50% taxi/50% Uber costs (Ministry of Transport 2023) Assumed to apply to a variety of subsidised options for health services-related travel or travel for disabled people. Funders include Health NZ, MSD, and local councils.

Source: NZIER

5.5 Results: Savings associated with Ocrevus SC

We estimate the costs and savings associated with Ocrevus SC in each model of care relative to the counterfactual.

Based on these assumptions, we estimate the savings associated with Ocrevus SC for the two models of care considered.

Costs and savings to people with MS and whānau caregivers

Based on the travel and time assumptions detailed above, we estimate that the average annual cost to people with MS and their whānau caregiver per patient amounts to:

- $853 for the counterfactual, Ocrevus IV
- $262 for Ocrevus SC in Model 1
- $130 for Ocrevus SC in Model 2.

This means that a switch to Ocrevus SC, delivered in the same context as Ocrevus IV (Model 1), offers people with MS and their whānau caregivers savings of approximately $591 per year. These are entirely associated with treatment time, as Model 1 has the same travel requirements as the Ocrevus IV counterfactual.

In Model 2, there are additional benefits to people with MS and whānau caregivers due to services being available closer to home after the first year of treatment and for 90 percent of people, which removes a significant travel burden, making travel not only lower cost in terms of time, mileage and direct transport costs, but also increasing the person's ability to travel independently and reducing the need for a whānau caregiver.

This means a switch to Ocrevus SC (Model 1) offers people with MS and whānau caregivers' savings of approximately $591 per year per patient, which could be increased to $723 per year per patient if a community model of care (Model 2) were possible.

Over a potential MS population of 1,299 demanding Ocrevus, total savings for people with and their whānau caregivers amount to $768,000 annually in Model 1 and would be extended to $939,000 annually in Model 2.

These results are shown in Table 19 below.

Table 19 Implications of Ocrevus SC on people with MS and whānau caregivers

By delivery model, compared with the counterfactual Ocrevus IV

	Counterfactual costs	Model 1 costs	Model 2 costs	Model 1 savings	Model 2 savings
Average annual	$853	$262	$130	$591	$723
Total annual (1,299 patients)	$1,108,000	$340,000	$169,000	$768,000	$939,000

Note: Total figures have been rounded to the nearest thousand.

Source: NZIER

Health system costs and savings

The value of Ocrevus SC to the health system is calculated based on treatment time savings, staffing and overhead costs.

Comparing annual per patient infusion facility costs between Ocrevus IV and Ocrevus SC in Model 1, average annual costs per person treated with Ocrevus are expected to amount to:

- $179 in infusion facility nursing costs and $910 in infusion facility overhead costs for the counterfactual, Ocrevus IV
- $59 in infusion facility nursing costs and $101 in infusion facility overhead costs for Ocrevus SC in Model 1
- $6 in infusion facility nursing costs and $10 in infusion facility overhead costs for Ocrevus SC in Model 2 (due to only 10 percent of people in the community-based model receiving treatment in infusion facilities)
- total infusion facility costs of $1,089 for Ocrevus IV
- total infusion facility costs of $160 for Ocrevus SC in Model 1.

In Model 2, 90 percent of people with MS receive Ocrevus SC in the community after completing their first year of treatment in an infusion centre. This means the cost of delivering care is largely transferred from infusion facilities to primary care clinics. Value to the health system is calculated based on the associated staffing and overhead costs. However, based on the values available, the staffing and overhead costs are slightly higher in a primary care context than in an infusion centre.

This means a switch to Ocrevus SC delivered in infusion facilities (Model 1) offers the health system savings of approximately $929 per patient per year, but this would be reduced to $907 per patient per year in a community model (Model 2).

For a potential population of 1,299 eligible for Ocrevus, total health system savings of $1,207,000 would be achieved annually in Model 1, while Model 2 offers total health system savings of $1,178,000. While these savings are unlikely to be realised in financial terms, they represent the size of the opportunity to increase services to other patients and/or reduce future expansion of infusion capacity.

Table 20 Health system implications of Ocrevus SC

By delivery model, compared with the counterfactual Ocrevus IV

	Counterfactual costs	Model 1 costs	Model 2 costs	Model 1 savings	Model 2 savings
Infusion nurse costs per patient	$179	$59	$6	$120	$173
Infusion bed overhead costs per patient	$910	$101	$10	$810	$900
Primary care cost (based on practice nurse)	n.a.	n.a.	$166	n.a.	-$166
Average annual health system cost	$1,089	$160	$182	$929	$907
Total annual (1,299 patients)	$1,415,000	$208,000	$237,000	$1,207,000	$1,178,000

Note: Total figures have been rounded to the nearest thousand.

Source: NZIER

Other costs and savings

Many people with MS experience disability that makes travelling to medical appointments challenging and may not have a whānau caregiver available to provide transport. Travel subsidies are available to people with permanent disabilities who are unable to access public transport services independently.

Various arrangements for fully funded or subsidised travel exist, which support people to access public transport at lower costs, private taxi services at lower costs, or shuttle services set up for hospital services. The need to travel for medical appointments can also mean that people with MS receive additional income, such as disability benefits, to help meet the costs. These travel assistance arrangements may be funded by Health NZ, the Ministry of Social Development, or even by local councils. It is not possible to identify the specific mix of services used by people with MS.

We estimate, however, that:

- In Model 1, 25 percent of people with MS are likely to travel without a whānau caregiver and use a subsidised transport option or receive a benefit to help pay for travel.
- In Model 2, because people with MS access care in their local community, they would not require a whānau caregiver, instead opting to travel fully independently 50 percent of the time, with a whānau caregiver 25 percent of the time, and with some form of subsidised transport 25 percent of the time.

Comparing annual per patient travel subsidies, average annual costs per patient to funders are expected to amount to:

- $55 in the counterfactual of Ocrevus IV
- $49 in Model 1
- $21 in Model 2.

This means a switch to Ocrevus SC delivered in infusion facilities (Model 1) offers funders savings of approximately $6 per patient per year, but this would be extended to $34 per patient per year in a community model (Model 2).

For a potential patient population of 1,299, total savings of $7,794 would be achieved annually in Model 1, while Model 2 offers total savings of $44,166. These savings would be distributed across the variety of funders of medical and disability transport options.

Table 21 Other fiscal implications of Ocrevus SC

By delivery model, compared with the counterfactual Ocrevus IV

	Counterfactual costs	Model 1 costs	Model 2 costs	Model 1 savings	Model 2 savings
Average annual cost per patient	$55	$49	$21	$6	$34
Total annual (1,299 patients)	$71,000	$63,000	$27,000	$8,000	$44,000

Note: Total figures have been rounded to the nearest thousand.

Source: NZIER

5.6 Summary of results

Overall, these results indicate that the total societal benefits associated with Ocrevus SC would be at least $1,526 per patient per year, totalling slightly less than $2 million per year even if Ocrevus SC is offered through infusion facilities. If and when a community-based model of care is implemented, the value of benefits would increase to $2.16 million per year.

Table 22 Summary of implications of Ocrevus SC

By delivery model, compared with the counterfactual Ocrevus IV

	Counterfactual costs	Model 1 costs	Model 2 costs	Model 1 savings	Model 2 savings
Patient and whānau caregiver (average annual)	$853	$262	$130	$591	$723
Health system (average annual)	$1,089	$160	$182	$929	$907
Other fiscal (average annual)	$55	$49	$21	$6	$34
Annual per patient	**$1,997**	**$471**	**$333**	**$1,526**	**$1,664**
Total patient and whānau caregiver (1,299 patients)	$1,108,000	$340,000	$169,000	$768,000	$939,000
Total health system (1,299 patients)	$1,415,000	$208,000	$237,000	$1,207,000	$1,178,000
Total other fiscal (1,299 patients)	$71,000	$63,000	$27,000	$8,000	$44,000
Total annual (1,299 patients)	**$2,594,000**	**$611,000**	**$433,000**	**$1,983,000**	**$2,161,000**

Note: Total figures have been rounded to the nearest thousand.

Source: NZIER

6 Conclusion and recommendations

Our analysis provides estimates of the value of benefits from making Ocrevus available to meet the total expected demand of 1,299 people with RRMS and PPMS in the form of an injection (Ocrevus SC), which could be delivered in infusion facilities or potentially in the community, compared with a counterfactual in which people with MS access Ocrevus IV.

Infusion facility capacity is a significant concern for the health system, and the rapid increase in medicines delivered by infusion has presented a challenge to the system's ability to meet demand. Ocrevus IV takes hours to deliver, while Ocrevus SC is delivered in minutes. This difference is material to people with MS and their whānau caregivers, as well as to the health system. Travel times and costs, as well as the need for whānau caregivers to accompany people living with MS when travelling to infusion facilities, underscore the importance of exploring a community-based model of care.

Capacity pressures at infusion facilities have already led to various alternative service models being considered for a range of infusions, including community-based models such as a Community Infusion Service (CIS) developed in Canterbury DHB, which was implemented as a nurse-led service with medical oversight under a fee-for-service contract with a group of general practices (McGonigle et al. 2022). This means such a model could be possible for Ocrevus SC.

Our modelling indicates that:

- The current MS population numbers approximately 5,295, including 2,679 people with RRMS and 836 people with PPMS.
- Expected Ocrevus take-up in the absence of capacity constraints would have meant 1,299 people could have benefited from Ocrevus in 2024 – a figure expected to rise to 1,885 by 2031.
- Staff time requirements for the two forms of Ocrevus mean that every person treated with Ocrevus IV is using staff time that could provide Ocrevus SC to three people with MS. Infusion bed time for one person on Ocrevus IV could support nine people with MS to be treated with Ocrevus SC.
- Ocrevus SC delivered in infusion facilities using existing resources offers substantial benefits to both people with MS and the health system, valued at:
  - $768,000 worth of benefits in 2024 for people with MS and whānau caregivers due to the reduced treatment time compared with Ocrevus IV
  - $1.2 million worth of benefits in 2024 for the health system due to the reduced requirements for staff and physical capacity in infusion facilities.
- A future community-based model of care for Ocrevus SC would cost the health system slightly more than delivering Ocrevus SC in infusion facilities, but that additional cost would be heavily outweighed by benefits to people with MS and whānau caregivers.

Our assumptions are conservative. We excluded long-distance travel costs and accommodation for people with MS who cannot access Ocrevus at their local infusion facility and must travel to other parts of the country for public, or in some cases, private care. Anecdotally, these costs are not uncommon and can be substantial.

We also excluded childcare costs, which are likely to be an issue for at least some people living with MS and whānau caregivers.

While we have estimated health system 'savings', these are not expected to be achieved as financial savings. The health system faces high demand for services. The capacity that is released in infusion facilities is expected to be used to deliver more care to people with MS who need it. The result will be increased system productivity and better outcomes for New Zealanders.

Based on these results, we recommend that:

- Pharmac includes the value of Ocrevus SC to people living with MS, their whānau caregiver, the health system, and other benefits when considering this opportunity for investment.
- Health NZ and Pharmac coordinate investment to optimise health system resources with analysis of infusion capacity and infusion demand by MS patients and the broader population as well as horizon scanning for potential future treatments that may require investment in physical capacity years before medicines are funded.
- Health NZ begin to investigate options to implement community-based models of care for people living with MS treated with Ocrevus SC to reduce personal travel costs and optimise the use of limited infusion facility capacity.

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Appendix A Ocrevus Abridged Product Information

Ocrevus® intravenous formulation (IV) and Ocrevus® subcutaneous formulation (SC)

Abridged Product Information (API) version 6.0

Ocrevus (ocrelizumab) 300 mg/10 mL concentrate solution for intravenous infusion (Ocrevus IV) and Ocrevus SC (ocrelizumab) 920 mg/23 mL solution for subcutaneous injection (Ocrevus SC) are **Prescription Medicines** indicated for the treatment of adult patients with relapsing forms of multiple sclerosis (RMS) to suppress relapses and disease progression (clinical and subclinical disease activity) and for the treatment of adult patients with primary progressive multiple sclerosis (PPMS) to delay disease progression and reduce deterioration in walking speed.

Dose and Method of Administration: Please refer to the Ocrevus Data Sheet for information.

Contraindications: Patients with known hypersensitivity to ocrelizumab or any of the excipients.

Special Warnings and Precautions for Use: ***Infusion-related reactions (IRRs) – IV formulation:*** IRRs may present as pruritus, rash, urticaria, erythema, throat irritation, oropharyngeal pain, dyspnoea, pharyngeal or laryngeal oedema, flushing, hypotension, pyrexia, fatigue, headache, dizziness, nausea, tachycardia and anaphylaxis. ***Injection reactions (IRs) - SC formulation***: local IRs at the injection site may present as erythema, pain, swelling and pruritus and systemic IRs may present as headache and nausea. *Premedication (IV and SC):* Premedicate patients before each Ocrevus administration (see Data Sheet) and observe for at least one hour post-administration, with access to appropriate medical support to manage any severe reactions; post-injection monitoring is at the treating physician's discretion for subsequent doses of Ocrevus SC. *Management of life-threatening IRRs (IV) and IRs (SC):* Immediately stop the Ocrevus administration and permanently discontinue. See Data Sheet for the management of mild to moderate and severe IRRs and of severe and life-threatening IRs. ***Hypersensitivity reactions:*** If a hypersensitivity reaction is suspected, stop the administration immediately and permanently discontinue. **Infections:** Delay administration in patients with an active infection until resolved. ***Progressive Multifocal Leukoencephalopathy (PML):*** Rare cases of PML have been reported. Be vigilant for early signs and symptoms of PML. If PML is suspected, withhold dosing. If PML is confirmed, discontinue permanently. ***Hepatitis B reactivation:*** Perform HBV screening in all patients before initiation of treatment. Patients with active HBV infection should not be treated. ***Treatment with other immunosuppressants:*** Exercise caution and consider the pharmacodynamics of other disease-modifying therapies. ***Vaccinations:*** Immunisation with live or live-attenuated vaccines is not recommended during treatment and not until B-cell repletion. Review patient immunisation status before starting treatment. Complete vaccinations at least 6 weeks prior to treatment initiation. ***Pregnancy Category C:*** Avoid treatment during the second and third trimester of pregnancy unless the potential benefit to the mother outweighs the potential risk to the fetus. Due to potential B-cells depletion in neonates/infants of mothers exposed to Ocrevus during pregnancy, CD19-positive B-cell levels should be measured. Any live/live-attenuated vaccines given only when infant B-cell levels are above LLN. Other infant vaccinations should follow the local immunisation

schedule. Measurement of vaccine-induced response titers should be considered to check vaccine efficacy. ***Use in lactation:*** Human IgGs are excreted in breast milk during the colostrum period at birth, then decrease to low concentrations. If clinically needed, Ocrevus can be used during breastfeeding starting a few days after birth.

Undesirable Effects: See Data Sheet for full list. ***IV formulation - IRRs***; upper respiratory tract infections (nasopharyngitis; sinusitis); bronchitis; influenza; gastroenteritis; herpes (oral, zoster, simplex, genital); viral infection; conjunctivitis; cellulitis; cough; catarrh. ***SC formulation - IRs***: systemic IRs may present as headache, and nausea, and local IRs may present as injection site erythema, injection site pain, injection site swelling, and injection site pruritus. ***Laboratory abnormalities:*** Decrease in total immunoglobulins driven by reduced IgM. An apparent association between decreased level of immunoglobulins and serious infections (SI), which is most apparent for IgG (0.5% of patients had a SI during a period with IgG < LLN). Decreased neutrophils (majority transient, Grade 1 and 2). Grade 3 or 4 neutropenia observed in~1% of patients.

Ocrevus IV formulation is funded under Special Authority for patients with relapsing multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS) who meet predefined criteria.

Ocrevus SC formulation is not a PHARMAC funded medicine.

Before prescribing, please review the Ocrevus Data Sheet available at www.medsafe.govt.nz.

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