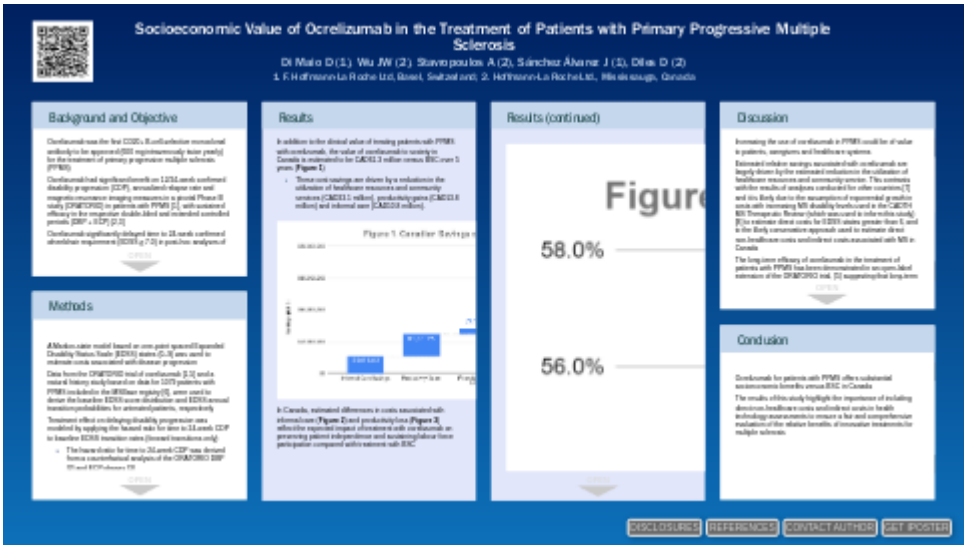
Socioeconomic Value of Ocrelizumab in the Treatment of Patients with Primary Progressive Multiple Sclerosis



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PRESENTED AT:

BACKGROUND AND OBJECTIVE

Ocrelizumab was the first CD20+ B-cell-selective monoclonal antibody to be approved (600 mg intravenously twice yearly) for the treatment of primary progressive multiple sclerosis (PPMS)

Ocrelizumab had significant benefit on 12/24-week confirmed disability progression (CDP), annualized relapse rate and magnetic resonance imaging measures in a pivotal Phase III study (ORATORIO) in patients with PPMS [1], with sustained efficacy in the respective double-blind and extended controlled periods (DBP + ECP) [2,3]

Ocrelizumab significantly delayed time to 24-week confirmed wheelchair requirement (EDSS ≧7.0) in post-hoc analyses of ORATORIO [4]

Estimates of the relative socioeconomic benefits offered by innovative treatments for multiple sclerosis, such as ocrelizumab, can inform the evaluations and decision-making of health technology assessment agencies and other healthcare stakeholders

Objective

To assess the socioeconomic benefits derived from using ocrelizumab in PPMS compared with best supportive care (BSC) in Canada

METHODS

A Markov-state model based on one-point spaced Expanded Disability Status Scale (EDSS) states (0–9) was used to estimate costs associated with disease progression

Data from the ORATORIO trial of ocrelizumab [1,5] and a natural history study based on data for 1079 patients with PPMS included in the MSBase registry [6], were used to derive the baseline EDSS score distribution and EDSS annual transition probabilities for untreated patients, respectively

Treatment effect on delaying disability progression was modeled by applying the hazard ratio for time to 24-week CDP to baseline EDSS transition rates (forward transitions only)

- The hazard ratio for time to 24-week CDP was derived from a counterfactual analysis of the ORATORIO DBP [2] and ECP phases [3]

Socioeconomic benefits included savings in direct healthcare (outpatient care) and non-healthcare costs (including community services and financial support), as well as indirect costs (including informal care and work productivity losses)

Drug costs were not included in the analysis to enable a focus on treatment benefits

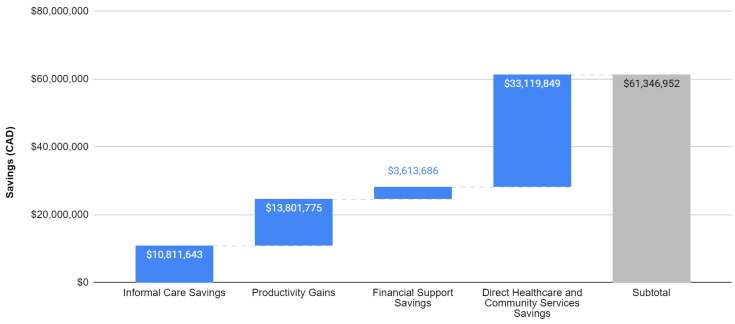
For further details of the methods used and assumptions made, please refer to the supplemental information available via the QR code on this poster

RESULTS

In addition to the clinical value of treating patients with PPMS with ocrelizumab, the value of ocrelizumab to society in Canada is estimated to be CAD61.3 million versus BSC over 5 years (**Figure 1**)

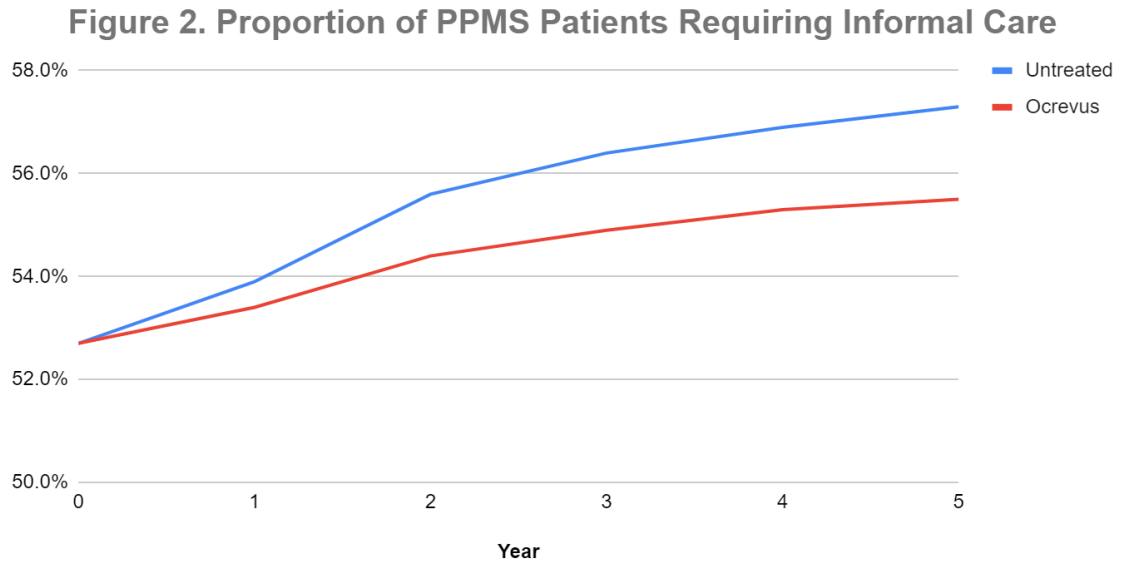
- These cost savings are driven by a reduction in the utilization of healthcare resources and community services (CAD33.1 million), productivity gains (CAD13.8 million) and informal care (CAD10.8 million).

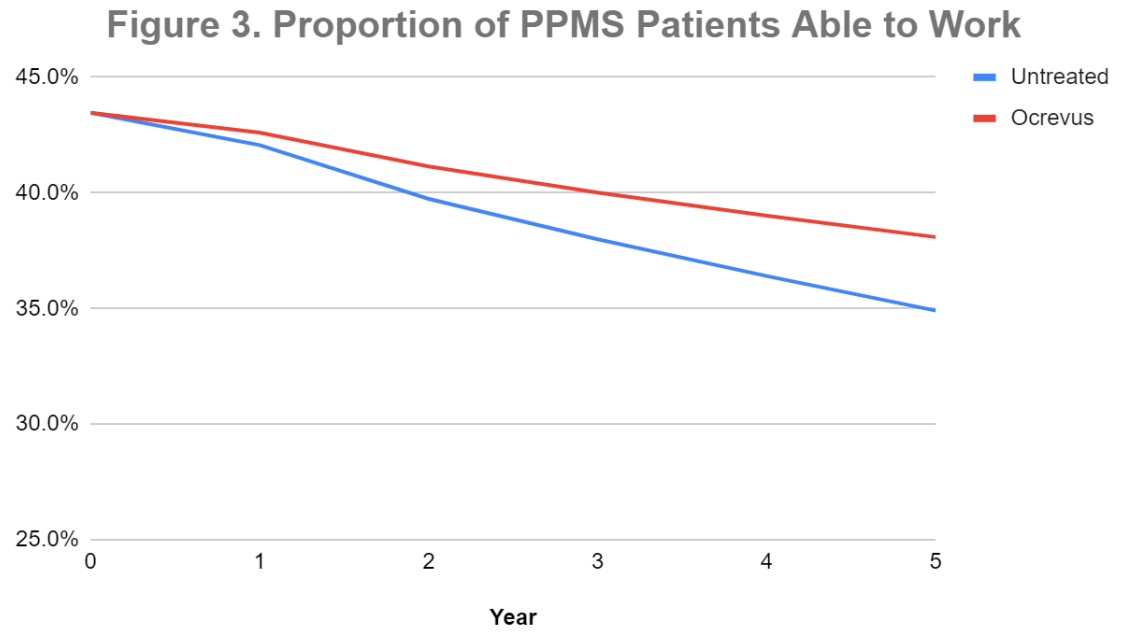
Figure 1. Canadian Savings of Ocrevus in PPMS



In Canada, estimated differences in costs associated with informal care (**Figure 2**) and productivity loss (**Figure 3**) reflect the expected impact of treatment with ocrelizumab on preserving patient independence and sustaining labour force participation compared with treatment with BSC

RESULTS (CONTINUED)





DISCUSSION

Increasing the use of ocrelizumab in PPMS could be of value to patients, caregivers and healthcare systems

Estimated relative savings associated with ocrelizumab are largely driven by the estimated reduction in the utilization of healthcare resources and community service. This contrasts with the results of analyses conducted for other countries [7] and it is likely due to the assumption of exponential growth in costs with increasing MS disability levels used in the CADTH MS Therapeutic Review (which was used to inform this study) [8] to estimate direct costs for EDSS states greater than 6, and to the likely conservative approach used to estimate direct non-healthcare costs and indirect costs associated with MS in Canada

The long-term efficacy of ocrelizumab in the treatment of patients with PPMS has been demonstrated in an open-label extension of the ORATORIO trial, [5] suggesting that long-term treatment with ocrelizumab will be associated with sustained socioeconomic benefit

A limitation of this study is that mortality was not modeled

- However, given that multiple sclerosis has only a small effect on life expectancy and that the time horizon of the analysis was relatively short (5 years), the impact of mortality on differential costs would be small

Drug costs were not included in these analyses because our objective was not to conduct a full cost–benefit analysis, but rather to compare the socioeconomic value of treatment with ocrelizumab with BSC alone and show a direct relationship with treatment efficacy

CONCLUSION

Ocrelizumab for patients with PPMS offers substantial socioeconomic benefits versus BSC in Canada

The results of this study highlight the importance of including direct non-healthcare costs and indirect costs in health technology assessments to ensure a fair and comprehensive evaluation of the relative benefits of innovative treatments for multiple sclerosis

DISCLOSURES

Funding for the conduct of this study and medical writing support was provided by F. Hoffmann-La Roche Ltd and all authors are employees of Hoffmann-La Roche Ltd.

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