INTRODUCTION

• Injectable first-line treatments for relapsing-remitting multiple sclerosis (RRMS) are interferon (IFN) beta-1a, IFN beta-1b and glatiramer acetate (GA).
• These therapies generally have good efficacy and safety. However, they are administered subcutaneously or intramuscularly with a frequency ranging from once a day to once a week.
• The high frequency of administration has been a poor adherence to therapy by patients and, consequently, in reduced effectiveness and a worsened prognosis.
• Peginterferon (PEG-IFN) beta-1a is the first pegylated form of IFN beta-1a and the only therapy for the treatment of adult patients with RRMS that has a biweekly subcutaneous administration.
• The efficacy and safety of PEG-IFN beta-1a was assessed in the Phase 3, double-blind, randomised, placebo-controlled ADVANCE study.1

OBJECTIVE

• The objective of this economic analysis was to assess the cost-effectiveness of PEG-IFN beta-1a compared with other injectable first-line RRMS treatments in Italy.

METHODS

• The study population comprised adult patients with RRMS. Baseline characteristics (age, percent male, distribution in Expanded Disability Status Scale (EDSS) states in RRMS) were derived from the ADVANCE study.
• The cost-effectiveness analysis was performed through a Markov cohort simulation model developed in Microsoft Excel (Figure 1).

RESULTS

• PEG-IFN beta-1a provided numerically longer patient survival (19.94 vs. 19.68–19.81 discounted life-years; QALYs; 0.97 vs. 0.86–0.85 discounted QALYs, respectively; Table 3).
• Total costs for PEG-IFN beta-1a were higher than those of IFN beta-1a 30 mcg, IFN beta-1a 22 mcg, IFN beta-1b 250 mcg and GA. The increase in purchase cost was partially offset by lower costs for relapse, adverse events and management. The direct healthcare cost of PEG-IFN beta-1a was lower than that of IFN beta-1a 44 mcg (Table 3).
• The incremental cost-effectiveness ratio (ICER) for PEG-IFN beta-1a was €11,112/QALY vs. IFN beta-1a 30 mcg, €12,604/QALY vs. IFN beta-1a 22 mcg, €10,580/QALY and €16,702/QALY vs. IFN beta-1b 250 mcg and €22,023/QALY vs. GA 20 mg (Figure 2).
• In all cases, the ICER was below the threshold commonly accepted as economically sustainable (€30,000–50,000/QALY gained) in Italy.
• Both the 1-way deterministic sensitivity and the probabilistic sensitivity analyses were conducted on pairwise comparisons and scenarios, confirming the robustness and reliability of the base-case results (Figure 3).

CONCLUSIONS

• The results of this economic analysis show that the use of PEG-IFN beta-1a in the treatment of RRMS is a cost-effective alternative with respect to both IFN beta-1a and the other first-line injectable treatments (IFN beta-1b and GA) from the perspective of the Italian NHS.
• These results, together with the findings in the budget impact analysis reported in another poster presentation in this congress (PND23), indicate that PEG-IFN beta-1a is a cost-effective and economically sustainable solution for patients with RRMS in Italy.

REFERENCES


DISCLOSURES

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Figure 1. Markov model

Figure 2. Results of the cost-effectiveness analysis: PEG-IFN beta-1a ICERS vs. comparators

Figure 3. Results of the probabilistic sensitivity analysis (cost-effectiveness acceptability curves)