EE187

Cost Savings from Patient Preference-Based Allocation of High-Efficacy Therapies for MS

Evidence from Switzerland

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Objectives

- To examine whether the current distribution of parenteral high-efficacy therapies (HETs) for relapsing multiple sclerosis (MS) in Switzerland aligns with patient preferences regarding administration profiles.
- To estimate the societal cost impact of reallocating HET-utilization according to patient preferences.

Background

- Various HET for relapsing MS became available in recent years. They are increasingly used in clinical practice due to their superior effectiveness in controlling disease activity and delaying disease progression at a favourable risk profile [1–3].
- Significant cross-country differences in utilization patterns remain, as highlighted both in the literature and in market data [4]. This concerns both the share of people living with relapsing MS (PWMS) receiving high- vs. low-efficacy therapy, and the allocation of the different HET, i.e., the market shares of individual drugs.
- System-level factors, such as regulatory frameworks, reimbursement restrictions, and prescribing behaviours, contribute to these variations [1,5].
- The resulting utilization patterns of HET may not necessarily align with patient preferences regarding treatment modalities.
- In Switzerland, four parenteral HETs with distinct administration modalities were available in 2024. Their characteristics regarding administration are summarized in Table 1.

Table 1. Administration profiles of HETs in Switzerland (2024)

Therapy	Route	Frequency	Duration	Place	Pre-medication
Ofatumumab s.c.	Pen	monthly	10-15min	self-administered at home	not required
Ocrelizumab i.v.	Infusion	6-monthly	2.5-3.5h	outpatient hospital/ office-based neurologist	required
Natalizumab i.v.	Infusion	monthly	1-2h	outpatient hospital/ office-based neurologist	not Required
Natalizumab s.c.	Syringe	monthly	10-15min	outpatient hospital/ office-based neurologist	not required

i.v. – intravenous, s.c. - subcutaneous

Table 2. Cost components of the cost-minimization analysis

Cost component	Description	Source
Drug cost	Pharmaceutical product costs (parenteral HET only)	Regulated prices incl. price models [6]; Summary of Product Characteristics [7]
Administration cost	Costs directly related to administration (e.g., outpatient infusion)	Outpatient hospital billing data [8]
Indirect cost	Productivity losses due to patient work absence for administration visits	Official labour cost statistics [9], expert-validated time assumptions

Study design & data sources

- We conducted a cost-minimization analysis (CMA) from a societal perspective for the parenteral HETs of Table 1.
- We estimated the total number of PWMS and patient shares for each parenteral HET from national sales data and defined daily doses [4,10].
- Preferences for administration profiles were obtained from a discrete choice experiment (DCE) among 66 PWMS and 985 people living without MS in Switzerland, conducted in March 2025. For details see ISPOR Europe 2025 poster PCR87.
- A counterfactual allocation was derived from predicted choice probabilities for the administration profiles from Table 1 and the preference structure of the DCE.
- We estimated annual, non-discretionary costs in the maintenance phase of therapy, including the cost components with corresponding data sources as specified in Table 2.

Comparative analysis

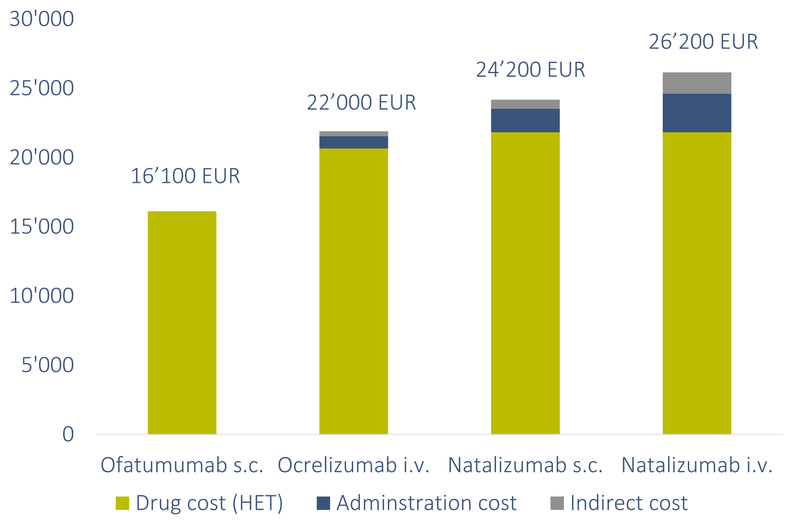
- Estimated total costs for observed HET-utilization were compared against a counterfactual allocation reflecting patient preferences for administration profiles.
- Deterministic sensitivity analyses explored the impact of drug prices and administration frequency.

Results

A. Per-patient annual costs

- Ofatumumab shows the lowest annual cost (EUR 16,100 per patient), incurring neither administration nor indirect costs, since it is self-administered at home.
- Ocrelizumab i.v. is EUR 5,800 more costly, mainly due to higher drug acquisition costs (+EUR 4,500) and administration (+EUR 900).
- Natalizumab is associated with even higher incremental costs (s.c. +EUR 8,000; i.v. +EUR 10,000).
- Natalizumab i.v. incurs the highest indirect costs, since this product has to be applied monthly by a health care professional in a health care facility and therefore leads to productivity losses by the patients for his/her work absence during the time for the administration visit.
- Cost savings primarily result from reduced drug costs, but also lower administration needs and avoided productivity losses (Figure 1).

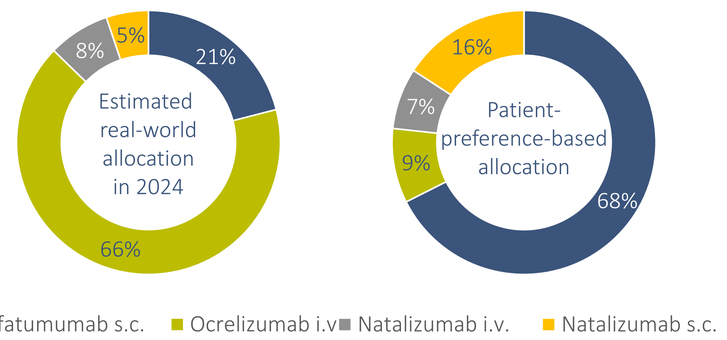
Figure 1. Annual (administration, drug and indirect) cost of HET in Switzerland, 2024 (EUR)



B. Real-world utilization vs. patient preferences

- Estimated parenteral HET utilization in 2024 is 66% ocrelizumab i.v., 21% ofatumumab, 8% natalizumab i.v., and 5% natalizumab s.c.. In total, about 7,067 PWMS receive HET [4,10].
- Patient preferences for administration profiles (from the DCE) showed that administration duration, frequency, and place are the most important drivers of therapy choice (when efficacy and safety are assumed to be comparable).
- Mapped on the administration profiles of the four available HET in Switzerland in 2024 from Table 1, this results in a patient-preference based distribution with 9% ocrelizumab i.v., 68% ofatumumab, 7% natalizumab i.v., 16% natalizumab s.c. (Figure 2).
- This reveals a marked divergence between real-world allocation and patient-preferred treatment profiles.

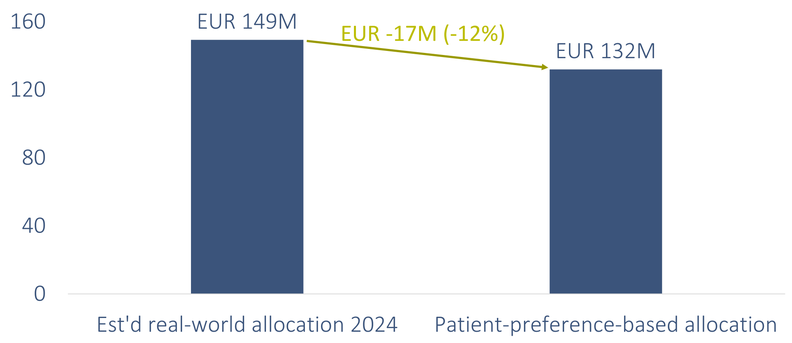
Figure 2. Real-world and patient preference-based allocation of HET (share of patients per therapy)



C. HET-related costs and savings potential

- Real world HET-allocation resulted in treatment related costs of EUR 149M in 2024 (Figure 3).
- Reallocation to match patient preferences would reduce total annual costs by EUR 17M (−12%).

Figure 3. HET-related costs in Switzerland and potential savings of a preference-based allocation of HET



D. Sensitivity analysis

- Deterministic sensitivity analysis showed that drug acquisition prices and administration frequency were the key cost drivers.
- Extended interval dosing (EID) for ocrelizumab (every 9 instead of 6 months) and natalizumab (every 6 instead of 4 weeks) is currently discussed in clinical practice but remains off-label. Assuming that 20% of PWMS treated with ocrelizumab and 40% of those treated with natalizumab receive EID, potential savings decrease to EUR 15M.
- Price cuts are regulated in the Swiss market and may occur every three years. An assumed 10% price cut for ocrelizumab (last assessed in 2022) reduces potential savings temporarily to EUR 9M (until the next price cut for other products), highlighting drug prices as a key cost driver.
- Applying a preference-based allocation of people living without MS (N=985 in the DCE, see poster PCR87) reveals even stronger preferences for pen-at-home administration, and results in estimated total annual cost savings of EUR 31M (-20%). This perspective might be a good approximation for treatment naïve patients.
- Results were robust across alternative assumptions on productivity losses.

Discussion

- Pen-at-home administration (ofatumumab) is both the most cost-efficient and most preferred option by PWMS.
- Current real-world allocation in Switzerland deviates from these preferences, with a much higher share of ocrelizumab infusions. This may reflect system-level determinants such as prescribing traditions and financial incentives, but also patient-level factors like peer experiences.
- This aligns with broader evidence showing variability in adoption patterns across countries, driven by regulatory and reimbursement differences [1,5].
- International evidence shows that patient preferences are relatively stable across countries. [11] However, real-world data reveal divergences from the preferences identified in this study in several European countries. The Swiss results may therefore be relevant beyond national borders.
- The observed mismatch between patient preferences and real-world utilization highlights an important inefficiency: Therapies that PWMS value most are also associated with lower societal costs, yet they are underused. This is a call for action for patient-centered decision-making.

Limitations

- The DCE focuses on differences in administration attributes of HET while assuming comparable efficacy and safety. But in clinical reality, individual perception of efficacy and safety may affect treatment choices.
- The cost estimation is limited to Switzerland. Relative prices may differ in other healthcare systems due to variations in prices and different reimbursement systems.
- Administration costs were estimated using outpatient hospital data only; however, HETs are also administered by office-based physicians, where patient characteristics and treatment practices may vary.

Conclusion

- Aligning HET allocation with patient preferences could **reduce societal costs by 12%** (EUR -17M p.a.) in Switzerland
- **Pen-at-home** administration is **strongly preferred** by PWMS and, at the same time, represents the **most cost-efficient** option among parenteral HETs.
- Cost savings primarily result from **reduced drug costs**, but also lower **administration needs** and avoided **productivity losses**.
- An **incentive-neutral reimbursement system** and objective **inclusion of patient preferences** may simultaneously enhance **resource efficiency** and align practice with what **PWMS value most**.

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