

Budget Impact for Patients of Making Emicizumab Available at the Community Pharmacy in Addition to the Hospital Pharmacy



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Objectives

Emicizumab is the first prophylactic treatment that can be administered subcutaneously in hemophilia. It has been approved since 2018 as a prophylactic treatment, administered weekly, for severe hemophilia A (HA), a hereditary bleeding disorder where the blood cannot clot properly leading to prolonged and spontaneous bleeding that can be associated with life-altering complications such as long-term joint problems or intracerebral hemorrhage. In the past, HA treatments in France could only be obtained from hospital pharmacies (HP), necessitating frequent hospital visits for patients and imposing a strain on them and their caregivers. But, starting from June 2021, emicizumab can be dispensed both in HPs and community pharmacies (CP) in France, offering patients and their families an alternative to reduce the need for regular hospital trips. The objective of this study was to assess the budget impact of dual dispensing for patients.

Methods

A budget impact model was built to estimate the time and costs associated with one year HP or CP delivery of emicizumab in the patients' or caregivers' perspective. Parameters are detailed in table 1. Costs included transportation costs to and from the HP or CP considering average distances and transportation modes, as well as wage lost (for independently employed workers only) because of time spent in transport and waiting for drug delivery. Budget impact was estimated separately for HP or CP, and the overall for patients using emicizumab in France. Model parameters were based on a systematic literature review as well as the national PASO DOBLE DEMI study². The PASO DOBLE DEMI is a national cross-sectional study based on the Kirkpatrick model to evaluate the systemic impact of the dispensing of Emicizumab in community pharmacies. The fourth level of the evaluation consisted in evaluating the satisfaction of patients treated with Emicizumab or caregivers. The study included information on travel times to HP or CP, mode of transportation and time spent on average waiting at a CP or HP. Two scenarios were compared, assuming a 1,000 HA patients are currently receiving emicizumab in France: before and after CP availability, assuming 50% of patients are choosing CP in 2022.

Results

- Table 2 shows the average annual time spent and direct costs associated with HP and CP visits to get emicizumab. Compared to going to the HP, getting emicizumab at the CP were associated with a fraction (3%) of the time and costs.
- Table 3 shows the average annual time spent and direct costs associated with HP and CP visits for all patients currently treated with emicizumab compared to a world without dual dispensing circuit. Overall, patients or caregivers free almost 2.1 years of their life and save 144,000 € with the dual dispensing circuit.
- Table 4 shows the costs savings depending on the revenue bracket of the patients or caregivers, and where they get emicizumab. While higher earner save more money when going to CP compared to HP, the possibility of going to HP greatly reduces the economic burden of getting emicizumab for low earners (1st decile) compared to high earners (last decile).
- Figure 2 shows the prediction intervals for the probabilistic sensitivity analysis when taking into account the uncertainty in the parameters.
- Figure 3 shows the results of the deterministic sensitivity analysis for the cost saved comparison of the current situation and a world without dual dispensing. The proportion of patients or caregivers taking ½ day off has the greatest impact on the results.

Conclusions

Emicizumab availability in community pharmacy has substantially reduce the burden of getting treatment for some HA patients in France, possibly liberating time and money for non-disease-related activities. In addition, it has potentially reduced income inequalities by reducing the cost burden for low-income families of going to the HP to get emicizumab. While reducing cost and time burden is important for some, the PASO DOBLE DEMI study¹ has also shown that new dispensing circuit is associated with a high satisfaction for the patients and a strong relationship with the community pharmacist. Dual dispensing has given additional options for hemophilia patients and their caregivers to get their treatment, enabling them to make decision based on their preferences, better engaging the provider of their choice, enabling them to building relationships that could improve long term adherence to medication strategy. Dual dispensing offers challenges to ensure that the safety and quality of the treatment administration is preserved including effective communication channels between healthcare professionals, and training community pharmacists on therapeutic education support for patients and their caregivers. However, when do appropriately, it can reduce the burden of getting treatment for patients and caregivers already faced with a burdensome chronic disease and increase patients and caregivers' satisfaction.

Table 1. Impact Model Parameters & Sources

	Hospital Pharmacy	Community Pharmacy	
Number of patients treated in 2022	500	500	Assumption
Average travel times (minutes)	5 [5-10]	20 [10-30]	PASO DOBLE DEMI study ²
Average time spent waiting (min)	20 [15-25]	6 [5-7]	Extrapolated from PASO DOBLE DEMI study ²
Average distance traveled (km)	22.5 [18.0-27.0]	3.5 [2.8-4.2]	Extrapolated based on average travel times, and average speeds in France
Mode of transportation			
Car	88.5%	66.7%	PASO DOBLE DEMI study ²
Foot	1.9%	26.8%	PASO DOBLE DEMI study ²
Public transport	5.8%	1.6%	PASO DOBLE DEMI study ²
Proportion of patients or caregivers taking half a day to go the pharmacy	75%	0%	Assumption based on proportion of patients/caregivers going to the pharmacy from home in the PASO DOBLE DEMI study ²
Transportation costs (€)			
Car (per km)	0.339		French Tax rate
Public transport (on way)	1.90		Average cost from major cities in France
Average income in France (€)	2448.1		INSEE, 2020 ³
Proportion of adults employed	82%		INSEE, 2020 ³
Proportion of independently employed	11.4%		INSEE, 2020 ³
Frequency of pharmacy visits	Once per month		Assumption

Table 2. Time and Costs associated with a year of emicizumab when going to hospital compared to community pharmacies

	HP	CP	Δ
Time Spent (hours)	37.4	1.2	36.2 (97%)
Direct Costs (€)	298	10	288 (97%)
Proportion of available income	1.9%	0.1%	1.8%

Table 3. Time and Costs associated with a year of emicizumab for all currently treatment patients compared to a world without dual dispensing circuit

	HP	HP+CP	Δ
Time Spent (years)	4.3	2.2	2.1
Direct Costs (thousands €)	298	154	144

Table 4. Costs saved depending on the dispensation local and revenue bracket

	1st decile	Last decile	Δ
Average Cost for HP (€)	223	422	
Average Cost for CP (€)	10	10	
Δ HP vs CP (€)	213	411	
Proportion of available income			
HP	2.57%	1.42%	-1.16%
CP	0.12%	0.03%	-0.08%

References

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Figure 3. Tornado graph presenting the deterministic sensitivity analysis results for the annual costs saved for the current situation compared to a world without dual dispensing.

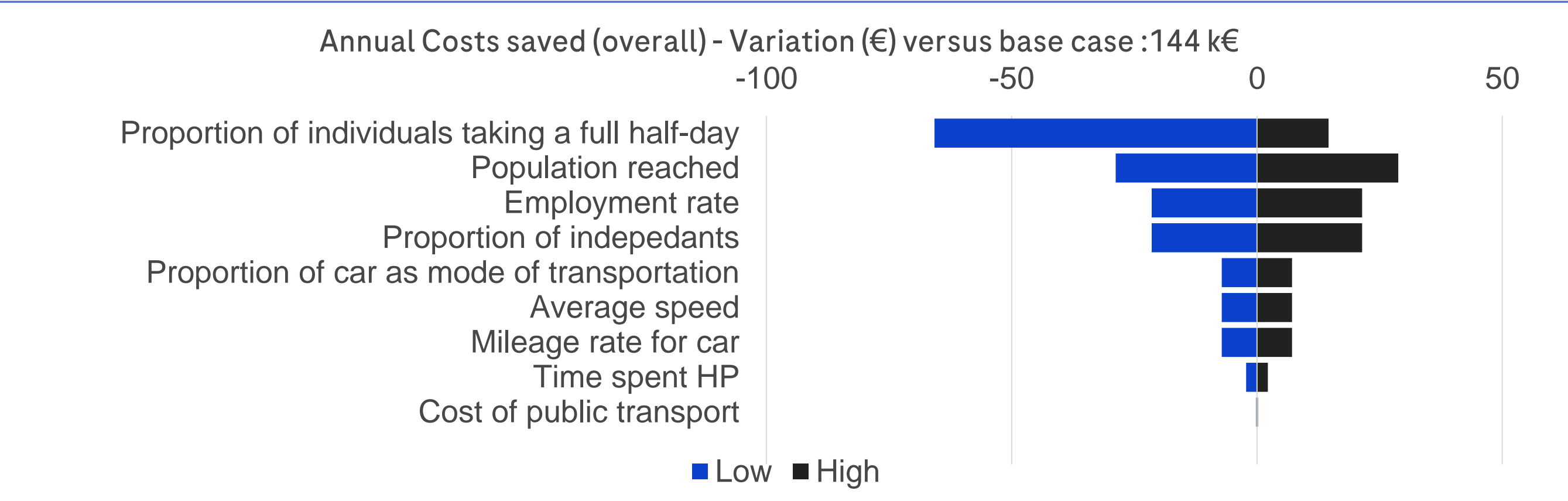


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