

# How can intravitreal aflibercept 8mg impact treatment burden and costs in European patients with diabetic macular edema? From clinical trials to clinical practice

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## Introduction

- Anti-vascular endothelial growth factor (anti-VEGF) has become the standard of care for treating diabetic macular edema (DME)<sup>1</sup>
- The high treatment burden hinders adherence to treatment<sup>2</sup> and has a substantial impact on resource use and treatment costs<sup>3</sup>
- In addition, DME has an impact on costs directly affecting the patient. This includes productivity loss and caregiver costs as ~50% of patients are of working age and around 56% of patients are affected in both eyes, and thus most require caregiver support<sup>4</sup>
- As such, economic burden is lower on those patients who receive fewer anti-VEGF injections<sup>5</sup>
- Newer anti-VEGF agents such as aflibercept (AFL) 8mg<sup>6</sup>, may offer a reduction in overall treatment burden. Nevertheless, real-world effectiveness needs to be further characterized
- **The objective of the analysis was to estimate the potential reduction in treatment burden and costs associated with the use of AFL 8mg in DME patients, in clinical practice**

## Methods

- Real-world injection intervals were derived from a recent analysis on the IRIS Registry and VESTRUM database of patients switching to AFL 8mg<sup>7</sup>
- Prior therapy included other anti-VEGF treatments: AFL 2mg, faricimab, ranibizumab, brolucizumab and bevacizumab
- Treatment burden was evaluated considering the resources used for routine anti-VEGF injection-visits, from payers' and patients' perspectives
- Direct costs included costs of medication and healthcare resource use
- Patient expenses included travel, productivity loss and out-of-pocket costs<sup>5</sup>
- The analysis estimated the potential impact for clinical practice in Germany, UK, France, Italy and Spain

## Results

- Pre-switch patients received on average 9.86 ( $\pm$  4.48) and 9.36 ( $\pm$  5.14) intravitreal injections (IVTs) over 52 weeks of treatment in IRIS and VESTRUM, respectively
- AFL 8mg patients received 6.19 ( $\pm$  6.03) and 5.62 ( $\pm$  3.37) IVTs over 52 weeks of treatment in IRIS and VESTRUM, respectively
- This corresponded to a mean reduction of 3.71 IVTs per patient treated
- The lower number of IVTs could translate in a reduction in direct annual treatment costs in each country: 36-39% (Germany), 24-27% (UK), 39-43% (France), 33-37% (Italy), and 29-33% (Spain) direct cost reduction per patient (Tables 1 and 2)
- In addition, this reduction in IVTs could translate in a reduction in annual costs directly paid by each patient of 37-40%, across all countries examined (Tables 1 and 2)

Tables 1 and 2: Annual direct and indirect costs prior- and post switch to AFL 8mg in Germany, the UK, France, Italy and Spain, estimated using average injection frequencies from the IRIS Registry and VESTRUM Database

	Country	Anti-VEGF treatment	Injection costs*	Treatment administration costs	Total direct treatment costs	Direct cost savings with AFL 8mg	Indirect costs paid by the patient**	Indirect cost savings with AFL 8mg**	Total costs (direct and indirect)	Total cost savings with AFL 8mg
IRIS Registry	Germany	Other anti-VEGF pre-switch	€ 8'278	€ 2'528	€ 10'806	€ 3'892	€ 3'037	€ 1'130	€ 13'843	€ 5'022
		Post-switch to AFL 8mg	€ 5'327	€ 1'587	€ 6'915		€ 1'907		€ 8'821	
	The UK	Other anti-VEGF pre-switch	£7'710	£2'149	£9'860	£2'333	£3'668	£1'365	£13'527	£3'698
		Post-switch to AFL 8mg	£6'178	£1'349	£7'527		£2'303		£9'830	
	France	Other anti-VEGF pre-switch	€ 4'894	€ 1'382	€ 6'276	€ 2'436	€ 1'1586	€ 4'312	€ 17'862	€ 6'748
		Post-switch to AFL 8mg	€ 2'973	€ 867	€ 3'840		€ 7273		€ 11'113	
	Italy	Other anti-VEGF pre-switch	€ 6'625	€ 2'786	€ 9'411	€ 3'081	€ 4'003	€ 1'490	€ 13'414	€ 4'571
		Post-switch to AFL 8mg	€ 4'581	€ 1'749	€ 6'330		€ 2'513		€ 8'843	
	Spain	Other anti-VEGF pre-switch	€ 7'076	€ 2'736	€ 9'811	€ 2'875	€ 3'027	€ 1'127	€ 12'838	€ 4'001
		Post-switch to AFL 8mg	€ 5'219	€ 1'717	€ 6'937		€ 1'900		€ 8'837	

\*Weighted average price of anti-VEGF treatment calculated using list prices for each anti-VEGF treatment per country, and proportion of patients on each treatment prior to switching to AFL 8mg in IRIS as reported elsewhere<sup>8</sup>. In clinical practice, net prices might differ from list prices.  
\*\*Indirect costs cover those paid out of pocket by patients<sup>5</sup>

	Country	Anti-VEGF treatment	Injection costs*	Treatment administration costs	Total direct treatment costs	Direct cost savings with AFL 8mg	Indirect costs paid by the patient**	Indirect cost savings with AFL 8mg**	Total costs (direct and indirect)	Total cost savings with AFL 8mg
VESTRUM Database	Germany	Other anti-VEGF pre-switch	€ 7'935	€ 2'400	€ 10'335	€ 4'057	€ 2'883	€ 1'152	€ 13'218	€ 5'209
		Post-switch to AFL 8mg	€ 4'837	€ 1'441	€ 6'278		€ 1'731		€ 8'009	
	The UK	Other anti-VEGF pre-switch	£7'378	£2'040	£9'418	£2'584	£3'482	£1'391	£12'900	£3'976
		Post-switch to AFL 8mg	£5'809	£1'225	£7'034		£2'091		£9'125	
	France	Other anti-VEGF pre-switch	€ 4'851	€ 1'312	€ 6'163	€ 2'676	€ 10'998	€ 4'395	€ 17'161	€ 7'071
		Post-switch to AFL 8mg	€ 2'699	€ 788	€ 3'487		€ 6'604		€ 10'090	
	Italy	Other anti-VEGF pre-switch	€ 6'440	€ 2'645	€ 9'085	€ 3'338	€ 3'800	€ 1'518	€ 12'885	€ 4'886
		Post-switch to AFL 8mg	€ 4'159	€ 1'588	€ 5'747		€ 2'282		€ 8'029	
	Spain	Other anti-VEGF pre-switch	€ 6'752	€ 2'597	€ 9'349	€ 3'051	€ 2'874	€ 1'148	€ 12'223	€ 4'200
		Post-switch to AFL 8mg	€ 4'739	€ 1'559	€ 6'298		€ 1'725		€ 8'023	

\*Weighted average price of anti-VEGF treatment calculated using list prices for each anti-VEGF treatment per country, and proportion of patients on each treatment prior to switching to AFL 8mg in VESTRUM as reported elsewhere<sup>8</sup>. In clinical practice, net prices might differ from list prices.  
\*\*Indirect costs cover those paid out of pocket by patients<sup>5</sup>

Figure 1: Potential annual treatment cost savings (direct and indirect) post-switch to AFL 8mg, estimated using RWD from the IRIS Registry

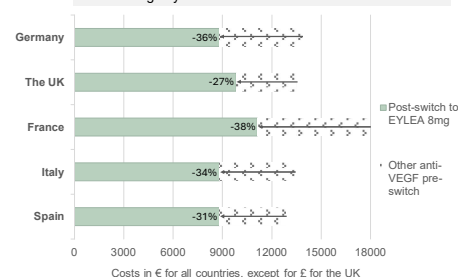
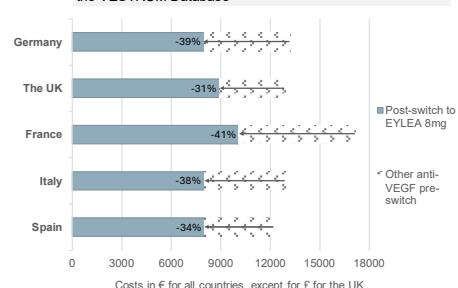


Figure 2: Potential annual treatment cost savings (direct and indirect) post-switch to AFL 8mg, estimated using RWD from the VESTRUM Database



## Conclusion

- This early real-world evidence (RWE) in pre-treated DME patients switching to AFL 8mg suggests decreased treatment burden - from both payers' and patients' perspective
- Switching from other anti-VEGF treatments, such as AFL 2mg and faricimab, to AFL 8mg could result in cost-savings in Germany, the UK, France, Italy and Spain due to a lower number of injections
- Decreased treatment burden associated with fewer injections may also contribute to lower financial burden on patients, due to less traveling and out-of-pocket expenses
- Further indirect costs incurred by caregiver support could be decreased by switching to AFL 8mg<sup>5</sup>
- This analysis was performed using RWE from the US to calculate potential cost savings when switching to AFL 8mg. This analysis should be replicated once RWE from the EU is available

## References

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