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Cost offsets for erenumab responders regarding migraine-related healthcare resource use and productivity loss in Portugal

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Introduction: Migraine prophylaxis is still an area of large unmet medical needs. Although some patients may benefit from current treatment options, poor tolerability and low adherence and persistence call for alternative therapies with improved long-term tolerability and safety profiles. Erenumab is the sole fully human monoclonal antibody indicated for migraine prophylaxis in adults who have at least four monthly migraine days (MMD). We aimed to assess the cost offsets of erenumab 140 mg in responders ($\geq 50\%$ relative MMD reduction versus baseline) with three or more prophylactic treatments failures (TF3+).

Methods: Changes in migraine-related health resource use (HCRU) and productivity loss in responders were estimated using a responder analysis tool¹ based on data from clinical trials with erenumab. The societal perspective was taken for the cost analysis. Unitary costs were extracted from Portuguese official sources and were expressed in 2020 euro.

Results: The estimated change of disease burden in erenumab responders is described in Table 1. Based on these changes, we expect cost offsets of 5.557 € per responder treated with erenumab 140 mg. Accounting for the erenumab acquisition cost (13 administrations/year), annual savings of 879 € per responder is foreseen. The cost offsets driver is productivity loss (Figure 1).

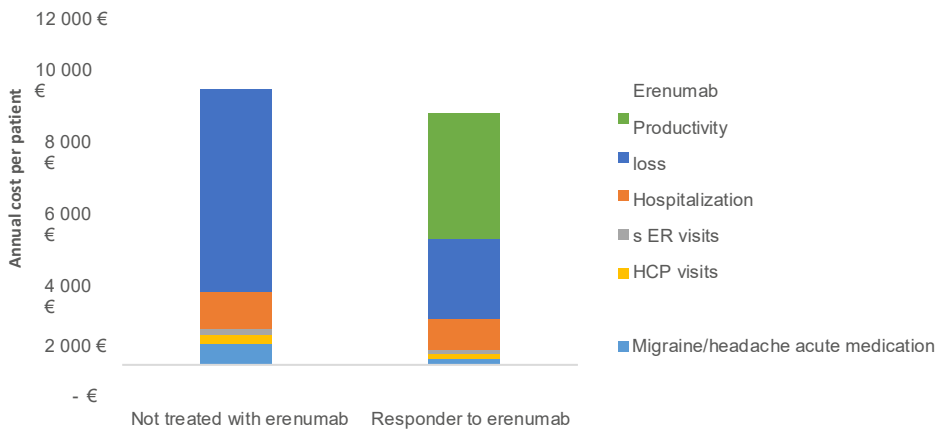
Conclusion: Erenumab 140 mg brings cost-savings to society in responders (patients who stay on treatment in the mid- and long-term) due to reduced HCRU and work productivity gains. The magnitude of cost offsets would become larger if the effect of

erenumab in patients' quality of life have been accounted for in this monetary analysis.

Table 1 - Changes of monthly health resource use and productivity loss in erenumab responders

Health resource use and productivity loss	Before	After	% change
Migraine specific medication (days)/month	8.2	2.3	-68%
Headache medication (days)/month	5.0	2.0	-59%
Hospitalizations/month	0.047	0.040	-16%
Emergency room visits/month	0.108	0.067	-37%
GP visits/month	0.562	0.380	-33%
Nurse visits/month	0.115	0.120	12%
Neurologist visits/month	0.058	0.017	-69%
Absenteeism (hours)/month	18.1	6.5	-60%
Presenteeism (hours)/month	41.3	17.0	-55%

Figure 1 - Estimated annual cost per patient



1. Huels *et al.* Migraine burden before and after erenumab treatment: a responder analysis in difficult-to-treat patients. Poster presented at the ISPOR Europe 2018, November 10-14, 2018, Barcelona, Spain.