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Erenumab is cost-effective for the prevention of episodic and chronic migraine among patients with prior treatment failures in Sweden

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Background

- Migraine is a debilitating neurological disease that affects >10% of the general population across the world and is associated with a significant personal, economic and societal burden¹
- Despite lifestyle modifications and the availability of acute and preventive treatment options, migraine remains inadequately treated in a significant number of patients²
- Erenumab is the only approved fully human monoclonal antibody targeting the calcitonin gene-related peptide (CGRP) receptor for the prevention of migraine in adults with at least 4 monthly migraine days³⁻⁶
- While the therapeutic benefits of erenumab have been well established in clinical trials³⁻⁵, the cost-effectiveness of erenumab needs to be determined
- The aim of this study was to evaluate the cost-effectiveness of erenumab versus best supportive care only for the preventive treatment of migraine in Sweden

1. Collaborators GBDH. *Lancet Neurol.* 2018;17(11):954-76; 2. Hazard E, et al. *Value Health.* 2009;12:55-64; 3. Goadsby PJ, et al. *NEJM.* 2017;377:2123-32; 4. Tepper S, et al. *Lancet Neurol.* 2017;16(6):425-34; 5. Dodick et al. *Cephalalgia.* 2018 May;38(6):1026-1037. 6. EMA 2018 – Erenumab EMA summary of product characteristics. Available at: https://www.ema.europa.eu/documents/product-information/aimovig-epar-product-information_en.pdf. Accessed November 26, 2019.



Model design

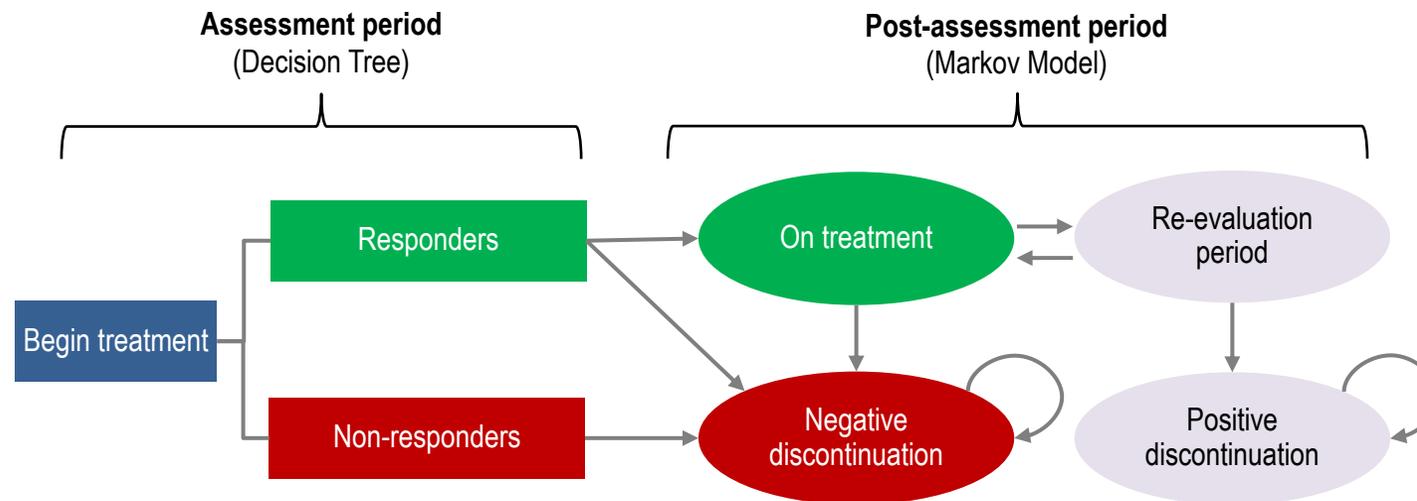
- A hybrid decision-tree plus Markov model was developed to evaluate the cost-effectiveness of erenumab as a migraine treatment compared to placebo (both in conjunction with best supportive care) for patients experiencing at least 4 monthly migraine days (MMDs) who have failed at least two prior preventive treatments
- The model was designed based on inputs from clinical expert consultations, published literature, and previous modelling approaches for preventive treatments of migraine

Model inputs

- Analysis was performed on a combined episodic (25%) and chronic (75%) migraine population from the Swedish societal perspective with a 10-year time horizon.
- Clinical efficacy data were based on results from the four randomized controlled trials of erenumab against placebo (the 295 study, STRIVE, ARISE and LIBERTY trials)
- Utility inputs were derived by mapping Migraine Specific Quality-of-life questionnaire v2.1 scores to EQ-5D. Costs and outcomes were discounted at 3%

Model outputs

- The primary outcomes were costs, migraine days and quality-adjusted life years (QALY). An incremental cost-effectiveness ratio (ICER) was estimated as the cost per QALY gained. The cost per migraine day avoided was also estimated, as well as disaggregated direct and indirect costs



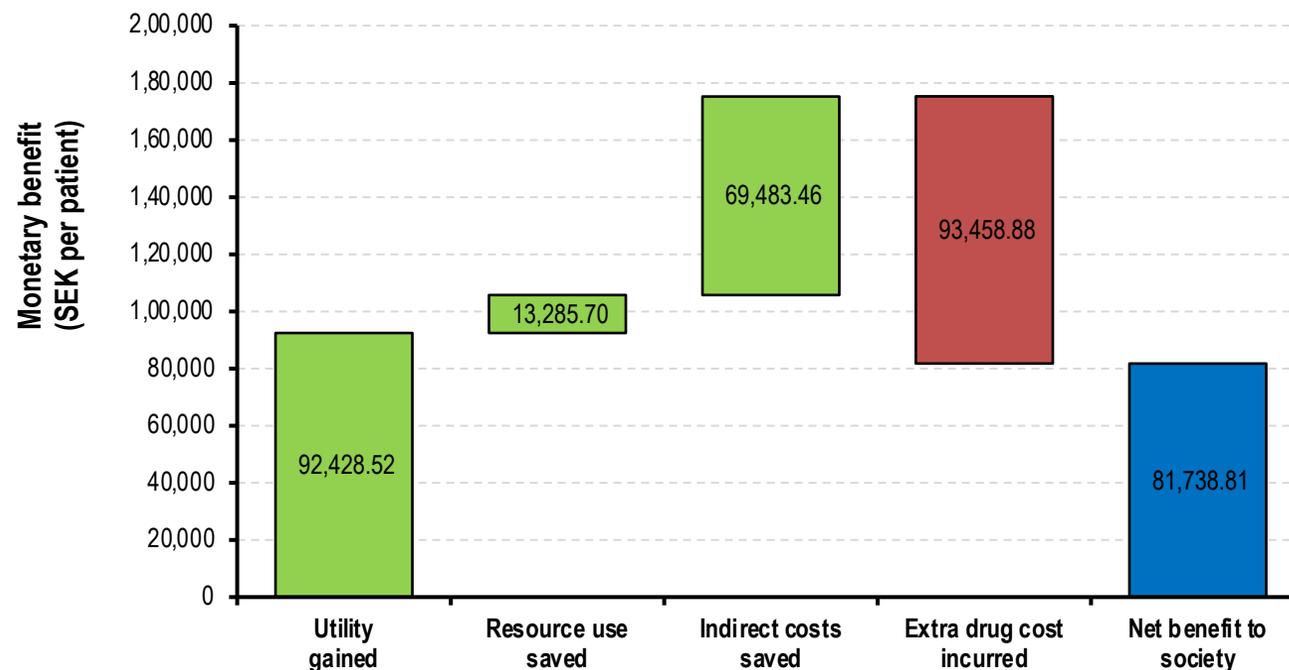


Results and Conclusion

Cost-effectiveness Results:

	Eren 140	Placebo	Incr.	ICER
Costs	730,666	719,977	10,690	
QALYs	5.4853	5.1772	0.3081	34,696
Migraine days	1,399	1,648	-249	43/MD avoided

Value drivers (assuming WTP/QALY = SEK 300k):



Conclusion

- From a Swedish societal perspective, erenumab is cost-effective in migraine patients who have failed two or more prior preventive treatments.