

Budget impact analysis of cenobamate as novel adjunctive treatment for FOS in epilepsy patients inadequately controlled with ≥ 3 anti-seizure medications for the Belgian healthcare payer

EE486

K. Vonck¹, O. Bodart², S. Weckhuysen³, A. Tanghe⁴, B. Callebaut⁴, I. Fau⁵, B. Legros⁶

¹UZ Gent, ²CHU Liège, ³UZ Antwerp, ⁴Hict, ⁵Angelini, ⁶Hôpital Erasme

Context & objective

PREVALENCE

47 thousand people

have FOS epilepsy in Belgium

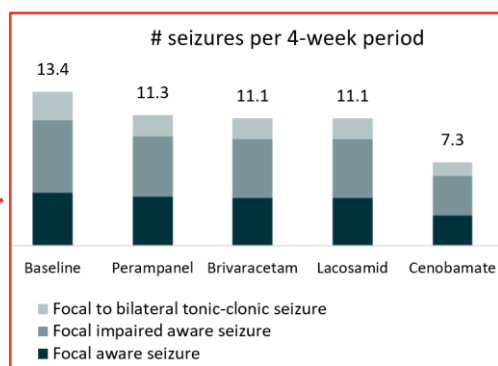


Epilepsy is the most **common** neurological condition worldwide, with over half of the patients experiencing focal onset seizures (FOS)^{1,2}. Cenobamate is a **novel therapy** approved for **adjunctive** treatment of FOS with/without secondary generalization in adult epilepsy patients inadequately controlled despite treatment with ≥ 2 anti-seizure medications (ASMs).

Methodology

A **prevalence-based budget impact model** was developed with a **3-year time horizon**. The model accounts for the **eligible population**, **projected market shares**, **drug acquisition costs and medical costs** [monitoring, treatment of seizures and adverse events (AEs)]. The size of the eligible patient population and Belgian clinical practice were estimated from **literature and expert opinion**². Efficacy, AE rates, treatment schedules/dosing were obtained from publications or SmPCs. Costs were obtained from national databases, literature and expert opinion².

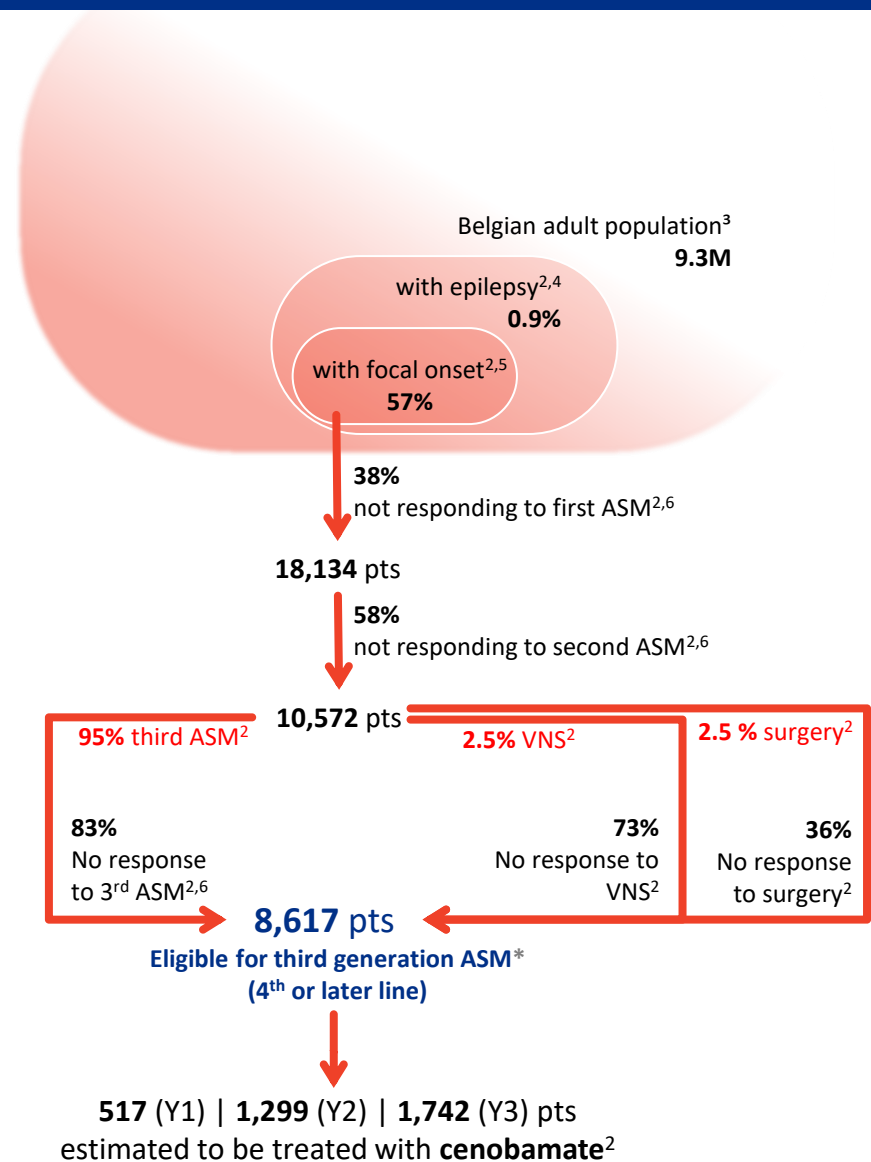
Results



Budget impact			
	Y1	Y2	Y3
Administration costs	€25,715	€39,156	€22,603
Acute Event (seizure) costs	-€2,005,389	-€5,040,545	-€6,757,019
Routine monitoring costs	-€77,124	-€193,851	-€259,864
Adverse Event costs	€87,983	€133,292	€75,633

Budget impact			
	Y1	Y2	Y3
Cenobamate drug cost	€982,635	€2,409,821	€3,160,030
Total Drug Budget	€1,85,075	€4,405,155	€4,472,710
Medical costs	-€1,968,815	-€5,061,949	-€6,918,648
Total health care Budget	-€1,783,739	-€4,656,794	-€6,445,938

- ✓ Although cenobamate adds € 6,552,486 on the drug budget for NIHD, the reduction due to replacement of other ASMs over the 3Y period, yields a total additional impact on the **drug budget of €1,062,940**.
- ✓ The efficacy of cenobamate leads to significant **higher response and seizure reduction**, resulting in a 3Y **saving of -€13,802,954** associated to the treatment of seizures: outpatient visits, ER visits and hospitalizations.
- ✓ Higher response of patients on cenobamate also results in **lower costs for routine monitoring** (-€530,839 in a 3Y period).
- ✓ The model takes into account **an increase of costs** due to treatment of AEs and administration of ASMs (€348,381).
- ✓ The **overall medical costs decrease with -€13,949,412** over 3 years due to the treatment with cenobamate.
- ✓ Sensitivity analyses confirm the **robustness** of the model and associated results.



*conform Belgian reimbursement criteria⁶

Savings generated at medical cost level completely offset the impact of cenobamate on the drug budget, resulting in overall healthcare budget saving of €12,886,471 for NIHD over the first 3 year.

ASM: anti-seizure medications; FOS: focal onset seizures; NIHD: National Institute for Health and Disability Insurance; pts: patients; VNS: vagal nerve stimulation

References: ¹ Neligan et al, Chapter 1 - The incidence and prevalence of epilepsy, Online Accessed 2020 ([Link](#)) ² Hict, Expert opinion report - Clinical practice of focal onset seizures in Belgium, Ghent 2021 ³ StatBel, Bevolkingsvooruitzichten (1992-2070), Online accessed 2021 ([Link](#)) ⁴ Sciensano, Gezondheid en kwaliteit van leven - Samenvatting van de resultaten gezondheidsenquête 2018, 2018 ⁵ Hauser et al, Incidence of epilepsy and unprovoked seizures in Rochester, Minnesota: 1935-1984, *Epilepsia*, vol 34(n4), 1993 ⁶ Schiller et al, Quantifying the response to anti-epileptic drugs - Effect of past treatment history, *Neurology*, vol 70, 2008. ⁶ Boon et al. Recommendations for the treatment of epilepsy in adult and pediatric patients in Belgium: 2020 update, *Acta Neurologica Belgica*, 121, 2021.