

# Epilepsy by the Numbers: Understanding the Unmet Need



## What causes epilepsy?

Epilepsy is a neurological condition characterized by abnormal electrical activity in the brain that leads to spontaneous, recurrent, and unprovoked seizures.<sup>1,2</sup>

## How common is epilepsy?

 **3 million adults**  
in the U.S. live with epilepsy<sup>3</sup>

 **4th most common**  
neurological condition in the U.S., affecting more adults than Parkinson's disease and multiple sclerosis combined<sup>4,5</sup>

Focal onset seizures (FOS) are the most common seizure type, affecting about **60%** of people with epilepsy.<sup>6,7</sup>

Approximately **30%** have generalized epilepsy, of which the majority experience primary generalized tonic clonic seizures (PGTCS).<sup>8</sup>

## Unmet therapeutic needs

**30+** antiseizure medications (ASMs) are approved in the U.S., but most act via a limited and overlapping set of mechanisms of action.<sup>9</sup>

**Up to 50% of epilepsy patients** could potentially benefit from additional treatment options to improve seizure control.<sup>9,12</sup>



**Approximately half** with newly diagnosed FOS are not able to achieve seizure freedom at one year with first-line therapy.<sup>10,11</sup>



**About 1/3** have drug-resistant epilepsy.<sup>9,12</sup>

- Many ASMs require weeks to months of titration to minimize side effects and enhance tolerability, delaying onset of efficacy.<sup>13,14</sup>
- Epilepsy treatment can be further complicated by burdensome drug interactions with other ASMs.<sup>15</sup>

**These challenges highlight the critical need for new and differentiated epilepsy therapies.**

## How does epilepsy impact quality of life?

Beyond the physical toll of seizures, the condition frequently disrupts daily living by fueling social stigma, limiting personal independence, and creating barriers to employment.<sup>16,17,18</sup>

Up to **69%** of people living with epilepsy are unemployed.<sup>17</sup>

People with epilepsy have a **2-3 times higher risk** of depression than people without epilepsy.<sup>19</sup>

To learn more about Xenon Pharmaceuticals' commitment to advancing epilepsy research, visit [xenon-pharma.com](https://xenon-pharma.com) and follow us on [X](#) and [LinkedIn](#).



**References:** 1. Mayo Clinic. Epilepsy: Symptoms & causes. 2025. 2. Fisher RS, et al. ILAE clinical definition of epilepsy. *Epilepsia*. 2014. 3. CDC. *Epilepsy facts & statistics*. 2024. 4. Kobau R, et al. Active epilepsy prevalence in U.S. adults. *Epilepsy Behav*. 2023. 5. Institute of Medicine. *Epilepsy Across the Spectrum*. National Academies Press; 2012. 6. Ighodaro ET, et al. Focal onset seizure. *StatPearls*. 2023. 7. Beghi E. Epidemiology of epilepsy. *Neuroepidemiology*. 2020. 8. Kammerman S, Wasserman L. Seizure disorders: Part 1. Classification and diagnosis. *West J Med*. 2001. 9. Landmark CJ, et al. Pharmacology of antiseizure medications. *Epileptic Disord*. 2023. 10. Barnard S, et al. Treatment outcomes in newly diagnosed focal epilepsy. *AES*. 2024. 11. Chen Z, et al. Long-term outcomes with ASMs. *JAMA Neurol*. 2018. 12. Kwan P, et al. Definition of drug-resistant epilepsy. *Epilepsia*. 2010. 13. Seiden LG, Connor GS. ASM titration considerations. *Epilepsy Behav*. 2022. 14. Fishman J, et al. Patient perceptions of ASM changes. *Epilepsy Behav*. 2017. 15. Chu H, Zhang X, Shi J, Zhou Z, Yang X. Antiseizure medications for idiopathic generalized epilepsies: a systematic review and network meta-analysis. *J Neurol*. 2023. 16. Ioannou P, et al. Burden and unmet need in focal seizures. *Brain Behav*. 2022. 17. Wo MC, et al. Employability in epilepsy: Systematic review. *Epilepsy Res*. 2015. 18. Fisher RS, et al. Patient perspectives on epilepsy. *Epilepsy Res*. 2000. 19. Fiest KM, et al. Depression in epilepsy: Meta-analysis. *Neurology*. 2013.