

Neuroscience Brainstorm: Trends in Innovation and Investment

Executive Summary

From a population health perspective, the need to more effectively treat neurological dysfunction is pressing, as millions of people around the world will develop a treatment-resistant or incurable neurological disease every year. The pharmaceutical industry and Big Tech are leveraging scientific and technological advancements to spur innovation, like the scaling-up of genomic approaches, novel delivery systems that can cross the blood-brain barrier, and new biomarkers to diagnose and treat disease sooner. Across the United States, Europe and Asia, various largescale investments and well-funded initiatives are fueling growth, which was coined this year in Nature as the “neuroscience brainstorm”.

In this paper, we review the market dynamics and drivers of growth and share our perspective on key areas of continued innovation that will further bolster mid-term growth in neurology. Whether you are a biotech seeking investment or a larger player seeking to address portfolio gaps, the neurology market offers a high-risk high-reward opportunity with significant promise of addressing unmet need and improving lives of patients.

Key Takeaways



Market Dynamics: Worldwide sales of neurological drugs are anticipated to grow at 12% CAGR to \$250+ B by 2030



Drivers of Growth: Better understanding of disease pathophysiology and advancements in neuro-technological approaches enable development of novel modalities and delivery systems



Funding Environment: Sustained M&A, partnership, and venture funding interest, with neurology accounting for the second-most active therapeutic area behind oncology



Forward-Looking Insights: Convergence of cutting-edge science and strategic investment heralds a new era, from neurodegeneration today to epilepsy and refractory neuropsychiatry imminently

Market Dynamics

The pharmaceutical market for neurology is substantial and poised for further expansion (see Figure 1). Despite tempered growth following the COVID-19 pandemic, an uptick in regulatory approvals for new classes (e.g., Alzheimer’s disease, rare neurodevelopmental diseases such as Rett syndrome) and indication expansions (e.g., hypersomnia) has paved the way for sales to soar to \$250+ B by 2030. While established segments such as neuroinflammation and neuropsychiatry are anticipated to retain value, future market growth will be driven by emerging therapies in neurodegenerative diseases.

Drivers of Growth

Recent innovation in neurology is transforming a market historically laden with failures:

- 1. Deepening knowledge of neurological diseases** is enabling the identification and validation of new biomarkers to drive earlier diagnosis and segment patients into more homogenous subsets (e.g., Parkinson’s disease)
- 2. Enhanced understanding of neuroinflammation** has led to repurposing of blockbuster drugs for neurology (e.g., GLP-1s and immunomodulators in Alzheimer’s disease)

3. Advancement of cutting-edge technologies

is expanding treatment possibilities, with novel modalities targeting specific genes and proteins (e.g., antisense oligonucleotides, RNA interference), while innovative drug delivery systems are overcoming the blood-brain barrier challenge (e.g., nanoparticles)

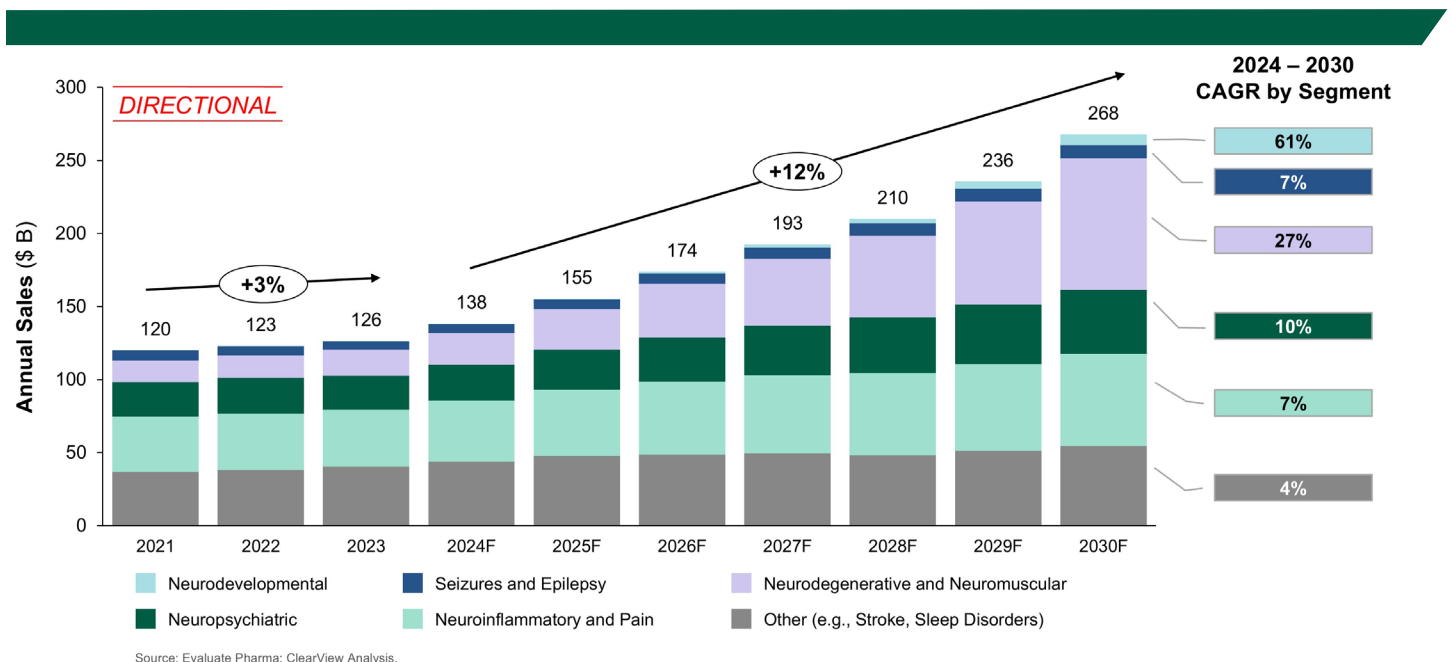
4. Incorporation of digital technology

is improving probability of success and efficiency in clinical development and enhancing patient care, including connected sensors enabling continuous patient monitoring (e.g., real-time data captured by electronic patient-reported outcomes)

Funding Environment

Neurology is experiencing a wave of acquisitions and partnerships (see Figure 2), catalyzed by the challenges inherent to the commercialization of transformative therapies. This is especially pertinent to sizeable indications where effective standard-of-care is lacking (e.g., Alzheimer’s disease). While small biotechs (over 80% of the neurology pipeline) are seeking investment to fund extensive market shaping and commercial infrastructure, mid-to-large-cap players are leveraging strategic alliances as a swift means to close portfolio gaps and establish market footholds.

FIGURE 1 – WORLDWIDE SALES OF NEUROLOGY DRUGS



Indeed, neurology became the second-most active therapeutic area in 2023 behind oncology, capturing 21% of total M&A deal value. Looking ahead, we anticipate a series of high-profile transactions to close by early 2025, including AbbVie’s \$1.4 B acquisition of Aliada Therapeutics with a novel blood-brain barrier-crossing technology and Sarepta’s \$800+ M partnership with Arrowhead Pharmaceuticals in rare genetic diseases of the muscle, CNS, and lungs. Furthermore, average venture funding per round in neurology has remained consistent despite a downturn in total amount raised. As an example of continued interest, PureTech’s Seaport Therapeutics recently secured an oversubscribed \$225 M Series B funding for its clinical-stage neuropsychiatric assets.

- Continued advancements in cutting-edge cell and gene therapies** that target the underlying pathophysiology of neurological diseases, potentially revolutionizing treatment landscapes
- Applications of artificial intelligence and advanced analytic tools**, from drug discovery to personalized diagnosis and clinical decision-making (e.g., machine learning in stroke imaging and brain-computer interface-based rehabilitation)

We anticipate high interest in markets characterized by genericized symptomatic therapies. Continued innovation may enable a paradigm shift in treatment approach, from antisense oligonucleotides targeting seizures and behavioural symptoms in epileptic syndromes, psychedelics with potential as intermittent rather than chronic treatment in refractory populations of neuropsychiatry, and personalized disease modifying approaches in early stages of neurodegenerative disease.

The convergence of cutting-edge science and strategic investment signals an exciting era of growth in neurology, promising transformative patient care and compelling opportunities for forward-looking investors.

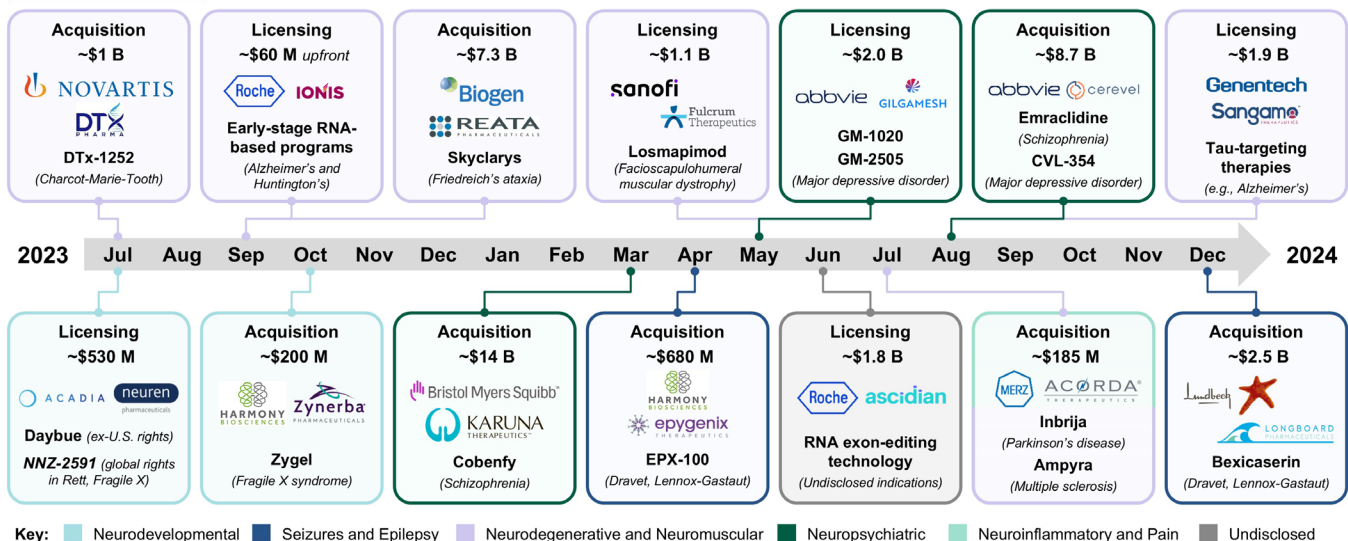
Forward-Looking Insights

In our view, the neurology market is poised for further innovation and investment:

- Identification of new targets focusing on precision medicine**, with treatments tailored to individual genetic profiles and lifestyle factors (e.g., genomic sequencing efforts in epilepsy)
- Sustained attention on neuroinflammatory aspects of neurological diseases** (e.g., Alzheimer’s disease, Parkinson’s disease, multiple sclerosis), addressing the growing needs of an aging global population

FIGURE 2 – RECENT NEUROLOGY TRANSACTIONS

NON-EXHAUSTIVE



Note: Deal dates anchored to deal completion; licensing deal value assumes full milestone payments. Source: GlobalData, ClearView Analysis.

About ClearView Healthcare Partners

Founded in 2007, ClearView Healthcare Partners is a global strategy consulting firm serving the life sciences sector, with offices in Boston, New York, San Francisco, London, and Zurich ready to support clients in complex engagements with local expertise.

ClearView combines international industry knowledge and deep scientific expertise in every major therapeutic area and across modalities with an extensive network of external stakeholders to deliver practical and actionable recommendations. ClearView's projects include cross-functional support at the corporate, franchise, and product levels for pharmaceutical, biotech, medtech and digital, and diagnostics companies, along with investment support across all phases of the transaction cycle for private equity and institutional investors.

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