SYNOPSIS

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Neurology Therapeutics Deal Landscape: A Study of Licensing, Collaboration, and Acquisition Strategies from 2020 to 2026 April

1. Introduction

Neurological disorders remain among the most under-addressed challenges in modern medicine. Conditions such as Alzheimer's disease, Parkinson's disease, multiple sclerosis, epilepsy, stroke, migraine, and various neuromuscular and neuropsychiatric disorders affect hundreds of millions of people globally. The sheer scale of this burden — measured not just in mortality but in lost function, caregiver strain, and long-term economic cost — is difficult to overstate. According to the World Health Organization, neurological disorders are now the leading cause of disability worldwide, with over a billion people living with some form of neurological condition. [1,2]

What is striking, however, is how recently the pharmaceutical industry has re-engaged with this space. For much of the 2010s, many large companies scaled back or exited their neuroscience programmes altogether. The reasoning was understandable: the central nervous system is biologically complex, clinical trial failure rates in this area were among the highest across all therapeutic fields, and the blood-brain barrier presented real pharmacokinetic obstacles. A series of high-profile late-stage failures in Alzheimer's disease research — trials that consumed enormous resources and still yielded nothing — reinforced this retreat. [3]

That picture has now shifted. Advances in human genetics, RNA-based therapeutics, antisense oligonucleotides, and gene therapy have opened new mechanistic windows into conditions that previously seemed beyond reach. The approval of disease-modifying treatments for spinal muscular atrophy, the regulatory acceptance of antisense-based therapy for Huntington's disease, and the eventual approval — albeit controversial — of anti-amyloid antibodies for Alzheimer's disease have each, in different ways, demonstrated that progress is achievable. Neuroinflammation, synaptic signalling, and neuropsychiatric biology are now being pursued by companies that had previously stayed away. [3]

This shift in scientific confidence has had a direct effect on deal-making. Between 2020 and 2025, a wave of acquisitions, licensing arrangements, and research partnerships in neurology has taken shape. The acquisitions of Karuna Therapeutics by Bristol Myers Squibb, Cerevel Therapeutics by AbbVie, Intra-Cellular Therapies by Johnson and Johnson, and the announced acquisition of Avidity Biosciences by Novartis are among the most prominent examples. These are not exploratory bets — they represent substantial financial commitments to commercially advanced neurological assets.[4,5,6,7]

This study proposes to examine this deal landscape systematically. By mapping neurology-related licensing agreements, research collaborations, and selected merger and acquisition activity across the 2020 to 2025 period, it aims to clarify which disease areas are attracting sustained investment, which therapeutic approaches are gaining commercial traction, and what these transactions reveal about how companies are thinking strategically about competitive positioning in neuroscience.

2. Research Question

In what ways have licensing agreements, research collaborations, and selected acquisitions shaped innovation trajectories and competitive strategies within neurology therapeutics between 2020 and 2025?

3. Objectives

The study proposes to address the following objectives:

1. To examine the overall pattern and volume of strategic deals related to neurology therapeutics from 2020 to 2025.
2. To identify the major companies, therapeutic assets, disease indications, and mechanistic categories involved in these transactions.
    — To analyze the relative prevalence of different deal structures — licensing, collaboration, and M&A in the neurology therapeutics space.
3. To determine whether companies are primarily seeking early-stage innovation or comparatively derisked late-stage assets when entering into deals.
4. To assess how these transactions reflect broader competitive strategy, pipeline expansion, and anticipated market direction in neurology therapeutics.
5. Hypothesis Not Applicable. This is a descriptive, observational, retrospective study based entirely on secondary data. It does not test interventional effects or propose causal relationships.
6. Material and Methods

Study Design: This is a retrospective, descriptive, and analytical study using secondary data from publicly available sources. The design is appropriate because the primary unit of analysis — a disclosed strategic transaction — is fully observable and documented at the time of announcement, making it suitable for systematic retrospective review.

Setting: The study focuses on the global biopharmaceutical market, specifically neurology-related therapeutic innovations and strategic transactions disclosed between January 2020 and December 2025.

Study Population: The study population comprises all publicly disclosed strategic transactions involving neurology-related therapeutic assets that meet the predefined eligibility criteria.

Inclusion Criteria:

- Transactions announced between 1 January 2020 and 31 December 2025
- Licensing, collaboration, co-development, co-commercialisation, and selected M&A transactions
- Deals directly involving neurology therapeutic assets or neuroscience-focused drug development programmes
- Transactions reported in publicly accessible and independently verifiable sources
  Exclusion Criteria
- Deals limited to medical devices, surgical procedures, or digital lifestyle platforms without a direct pharmacological component; financing events — such as IPOs, secondary offerings, or venture rounds — that do not involve a clearly identifiable therapeutic asset or strategic objective
- Duplicate or amended announcements of the same underlying transaction

- Transactions for which publicly available information is insufficient to permit meaningful classification or analysis

Study Tools

The study will draw on the following resources and analytical tools:

- Microsoft Excel for structured database creation, organization, and descriptive analysis
- Company press releases and investor presentation materials
- Annual reports and regulatory filings, where publicly available
- Reputable industry publications, database services, and market research reports in the
- pharmaceutical sector
- Peer-reviewed scientific and clinical publications for disease background and therapeutic context

Duration of Study

The study is expected to be completed within approximately 8 to 12 weeks. The exact timeline will depend on the complexity of data collection, the volume of eligible transactions identified, and the depth of analysis required for each deal category.

Sample Size: The sample will comprise all eligible publicly disclosed transactions satisfying the inclusion criteria within the defined study period. No minimum sample size has been predetermined; the study aims for total enumeration of qualifying deals rather than a probabilistic subset.

Sampling Technique: A purposive, total-enumeration approach will be used, ensuring that every eligible transaction within the scope of the study is captured and included.

Data Collection Procedure: Relevant transactions will be identified through structured secondary research across the sources listed above. Each candidate deal will be evaluated against the inclusion and exclusion criteria before entry into a master database. At minimum, the following variables will be recorded for each transaction: date of announcement, names of participating organizations, deal type or structure, name and description of the asset or programme, therapeutic mechanism, stage of clinical development at the time of the deal, any publicly disclosed financial terms, stated strategic rationale, and the source reference. The compiled database will be reviewed for completeness, de-duplicated, and prepared for analysis.

Operational Definitions

The following definitions will guide consistent classification throughout the study:

- Licensing deal: a contractual arrangement in which one party grants another the rights to develop, manufacture, and/or commercialize a therapeutic asset in exchange for defined financial consideration.
- Collaboration deal: a structured arrangement between two or more organizations for the joint conduct of research, development, or commercialization activities.
- Selected M&A: acquisitions in which a neurology-related therapeutic asset or pipeline constitutes a primary or material strategic rationale for the transaction.

- Neurology therapeutics: pharmacological or biologic treatments developed for the treatment, management, or modification of neurological diseases, encompassing both central and peripheral nervous system conditions.

Data Analysis Plan

The collected data will be analyzed using descriptive and interpretive methods suited to a secondary, mixed qualitative-quantitative dataset. Annual deal trends will be charted to identify periods of increased or reduced activity. Deal-type distributions will be examined to understand structural preferences across the market. Company participation — both as licensors or acquirers and as licensees or sellers — will be mapped. The analysis will also consider the stage of development at which deals are signed, the disease indications attracting the most transactional interest, and, where financial terms have been disclosed, the value structures associated with different deal types. Findings will be presented through tables, charts, and narrative commentary to support a coherent interpretation of strategic patterns across the neurology therapeutics deal landscape.

6. Ethical Considerations

This study relies entirely on secondary information obtained from publicly available sources. It does not involve primary data collection from human participants, patients, healthcare providers, or any confidential corporate information. No identifiable personal data will be accessed or processed at any stage. Given this scope, the ethical risk associated with the study is minimal. Throughout the research, accuracy in data reporting, transparency in methodology, and proper citation of all sources will be maintained as fundamental standards of academic integrity.

7. Implications of Research

The findings of this study are expected to offer a clearer, evidence-based picture of how strategic transactions are shaping the direction of neurology drug development. For academic researchers and students, the study may serve as a useful reference point for understanding how external innovation — accessed through licensing, partnerships, and acquisitions — has become central to how pharmaceutical companies build and sustain competitive neuroscience pipelines. For industry professionals and analysts, the pattern analysis may provide useful context for interpreting current deal-making trends and anticipating future areas of strategic focus in neurology. More broadly, given the considerable unmet need that persists across neurological conditions, a clearer understanding of how commercial strategy and therapeutic innovation are interacting in this space may carry value for those involved in health policy, research prioritisation, and patient advocacy.

8. References

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