NIH-Supported Amyotrophic Lateral Sclerosis Research

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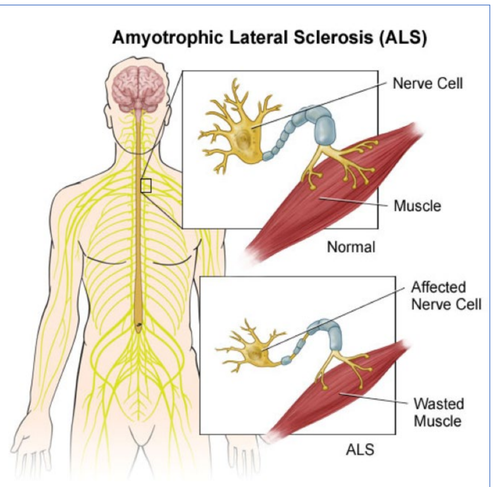
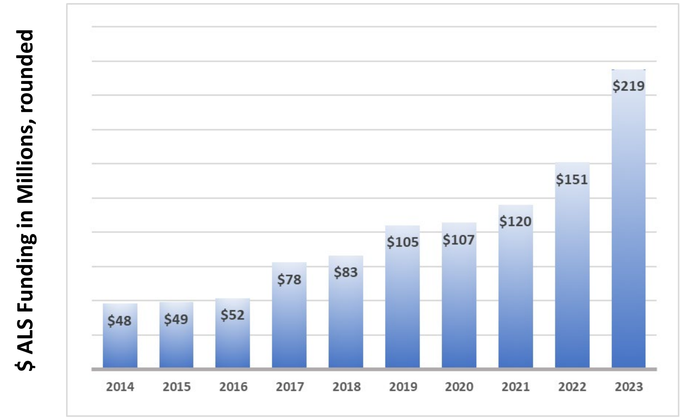
Amyotrophic Lateral Sclerosis (ALS) – at a Glance

- ALS is a neurodegenerative disorder that typically occurs in mid-life, causing weakness and wasting of most skeletal muscles including the diaphragm, as well as cognitive and behavioral changes in 35-45% of cases
- According to the National ALS Registry, approximately 30,000 people in the U.S. are living with ALS, and between 5,000 and 6,000 new cases are diagnosed every year
- About 15% of ALS cases have a family history
- FDA-approved, disease-modifying drugs for ALS include several formulations of riluzole and edaravone for all forms of ALS, as well as tofersen for familial ALS associated with mutations in the *SOD1* gene; these drugs may have beneficial effects on the disease course and/or survival, but no treatments are known that stop or reverse ALS



NIH Funding of ALS Research per Fiscal Year

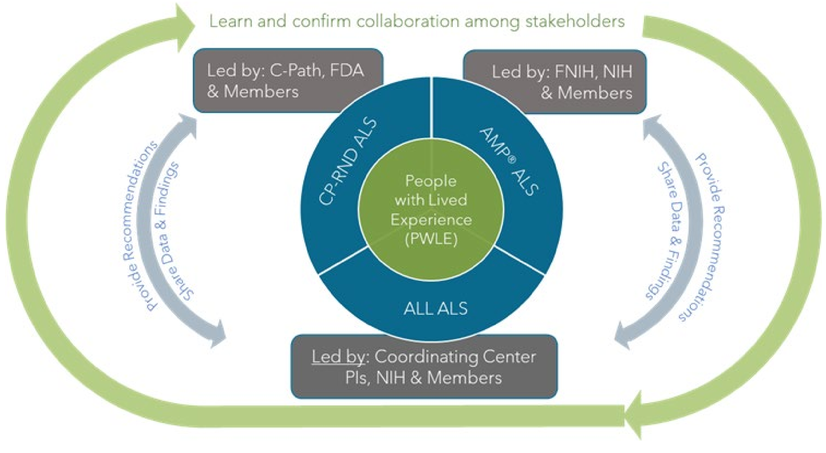


NIH Implementation of the Accelerating Access to Critical Therapies for ALS Act: ACT for ALS (signed into law in December 2021)

Section 2: Grants for scientific research utilizing data from **expanded access to investigational drugs for people living with ALS who are not otherwise eligible** for clinical trials in ALS.

- **Three active studies:** Pridopidine, CNM-Au8, TREG/Th2 Cell Therapy (RAPA-501), cumulatively enrolling 340 participants.

Section 3: Establish a **Public Private Partnership for Rare Neurodegenerative Diseases between the NIH, FDA, and other eligible partners**.



Key AMP® ALS Deliverables

- Large harmonized, longitudinal ALS clinical dataset comprising all stages of ALS, including pre-symptomatic in familial ALS
- New biofluid-based and digital biomarkers to aid in early diagnosis, monitor disease progression, as well as response to treatment
- Comprehensive multimodal molecular analyses of longitudinal biofluid samples and post-mortem tissue
- New patient-informed Clinical Outcome Assessments (COAs)

Access for ALL in ALS (ALL ALS) Clinical Research Consortium

- Create a best-in-class, widely accessible longitudinal natural history and biomarker study with diverse enrollment
- Develop disseminated study methodology
- Share data via the ALS Knowledge Portal and biosamples through the BioSEND repository
- Characterize ALS, identify biomarkers, and accelerate ALS drug development
- Aims to enroll 2,000 participants across geographical regions, race/ethnicity, SES, education, and ALS subtype
- 35 clinical sites led by two clinical centers: Barrow Neurological Institute (West) and Massachusetts General Hospital (East)

Living with ALS: An NIH-commissioned Report from the National Academy of Sciences, Engineering, and Medicine (NASEM)

Recommended actions to make ALS a livable disease within a decade:

- Expand multi-disciplinary care and clinical trial networks to reach underserved individuals
- Prioritize research that improves quality of life
- Build comprehensive ALS registry and add ALS to National Notifiable Diseases Surveillance System
- Insurance coverage of genetic testing for all people living with ALS and their families
- Accelerate research focused on at-risk populations through increased collaboration of research funders and drug developers.