



ASSESS ALL ALS: A longitudinal, multi-modal natural history study to characterize ALS disease progression using on-site and remote cohorts

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BACKGROUND & OBJECTIVE

- ALS is a heterogeneous disease with variable clinical presentations and progression.
- Longitudinal, multimodal data—including clinical, digital, and biospecimen-based measures—is critical to better characterize disease trajectories, identify biomarkers, and support therapeutic development.
- ASSESS ALL ALS, a study protocol within the NIH-funded ALL ALS clinical research consortium (NCT06578195), is designed to:
 - Generate deeply phenotyped data from a geographically and demographically varied US ALS population.
 - Advance decentralized research models that broaden access and reduce participant burden.
- Framework for collaborations between government, industry, academia and non-profit organizations following open science principles.

STUDY DESIGN

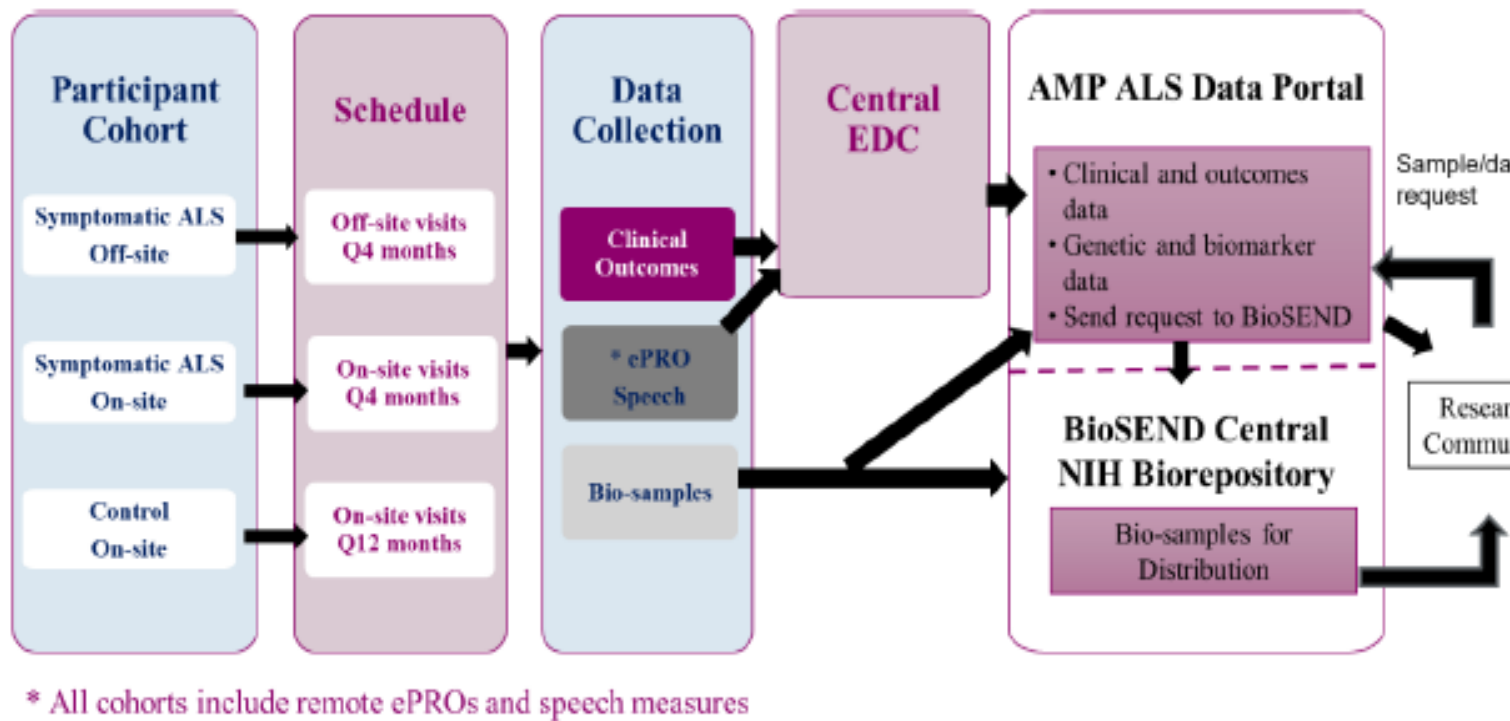


Figure 1: ASSESS Study Design
Study cohort, Schedule, and Data Management

Prospective, longitudinal, observational study with a hybrid decentralized model¹.

- Enrollment goal: ~2,000 participants across 36 U.S. sites + remote, 32 sites currently active.
 - ~650 remote symptomatic ALS participants
 - ~650 on-site symptomatic ALS participants
 - ~450 on-site control participants
- Follow-up: In-clinic or remote visits every 3–4 months for up to 2 years or annually for control cohort.
- Data & biospecimens:
 - Clinical outcomes, digital measures, and blood/optional CSF
 - Samples stored at NIH BioSEND Biorepository
 - Data shared via ALS Knowledge Portal

METHODS

Eligibility
Adults with confirmed ALS | Healthy adults as controls | Key exclusions: comorbidities affecting assessments

Recruitment
Digital/Social media, advocacy partnerships, community outreach, website

Procedures
Onsite: PFT, HHD, Biospecimen
Remote: Telehealth, Speech, ePRO, DIGITIZE

Assessments
ALSFRS-R | Vital signs | HHD | PFT | ECAS | Speech ePROs | DIGITIZE.

Biospecimen
Blood (DNA, RNA, Serum, Plasma, PBMCs) | Saliva
Optional CSF.

Oversight
MGJ sIRB, ALL ALS Steering Committee, Standardized Training, Central Quality Monitoring

Unique aspects about ASSESS study

- Minimally important Difference (MID)
 - Participants asked a set of questionnaires related to their global impression of clinical change
 - Related to ALSFRS-R and Speech
- Collaboration with other natural history studies to link data across studies
- Collaboration with other initiatives
 - NIH NeuroBioBank – linking tissue collection with ALL ALS data
 - CDC's ALS National Registry

Figure 2: Overview of ASSESS Study Methods

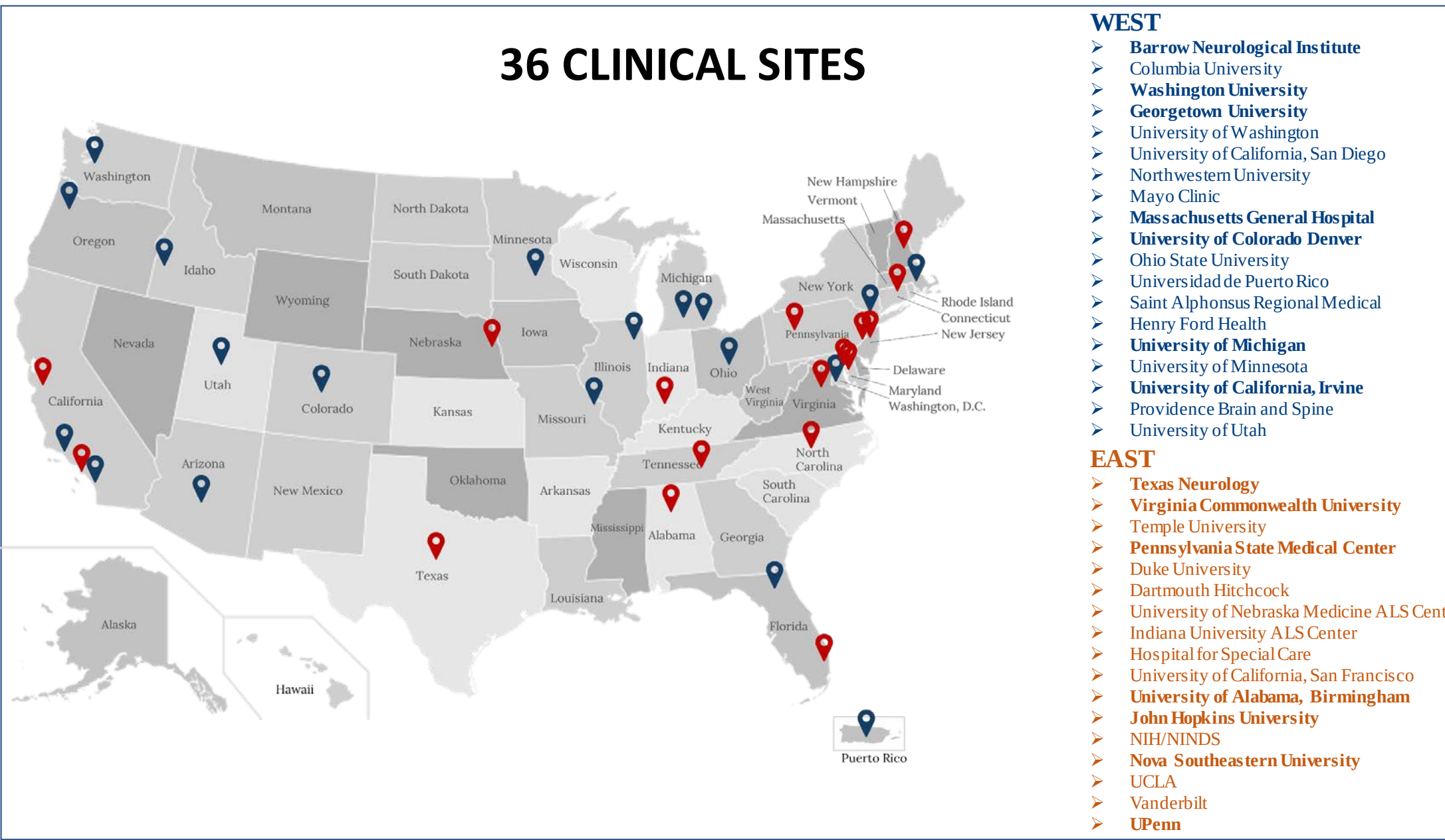
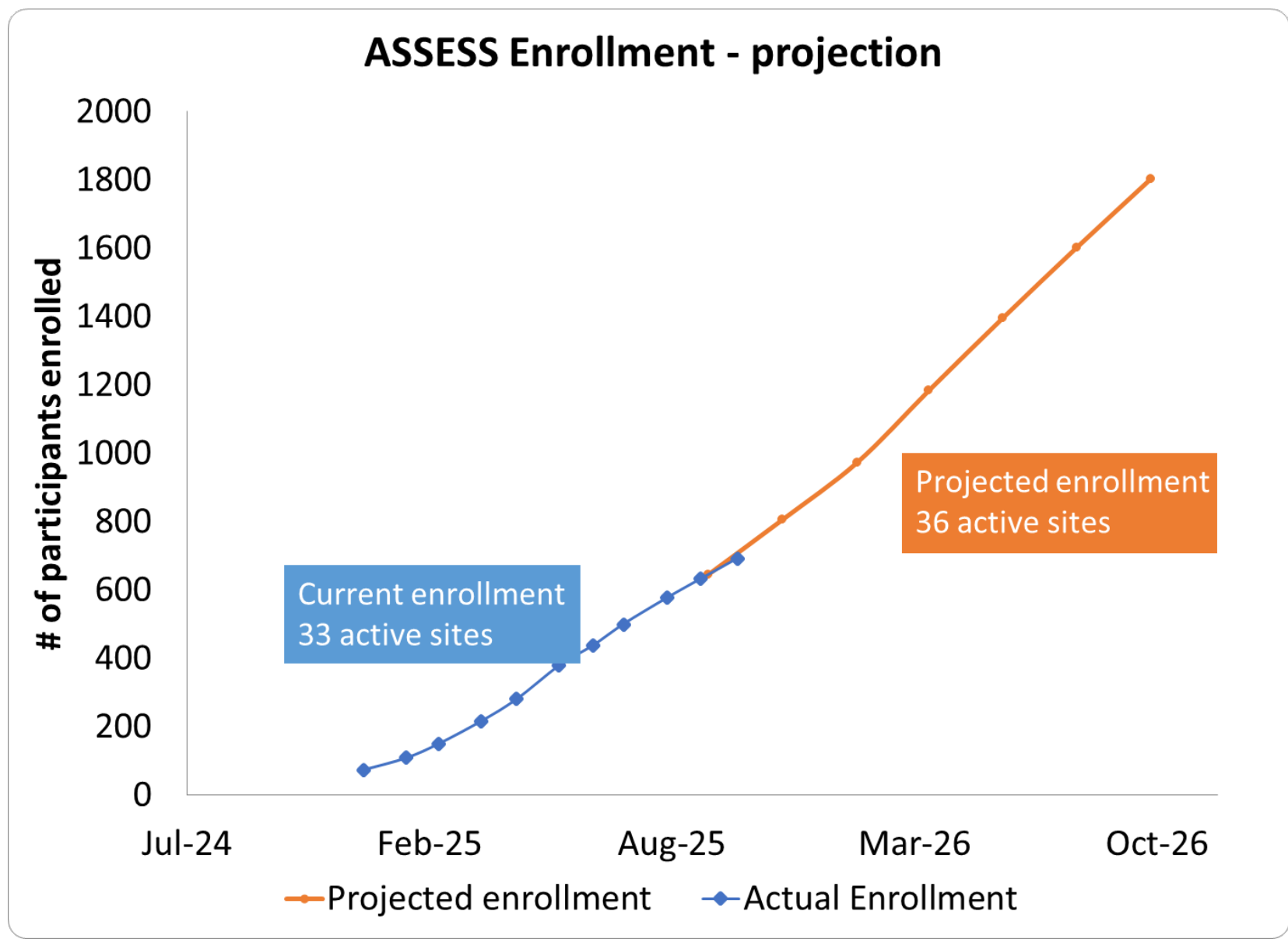


Figure 3: Site Map
Location of all 36 clinical sites within the US.

RESULTS



Total Enrollment	725
Symptomatic ALS On-Site	297
Symptomatic ALS Remote	246
Control	182

Figure 4: ASSESS enrollment

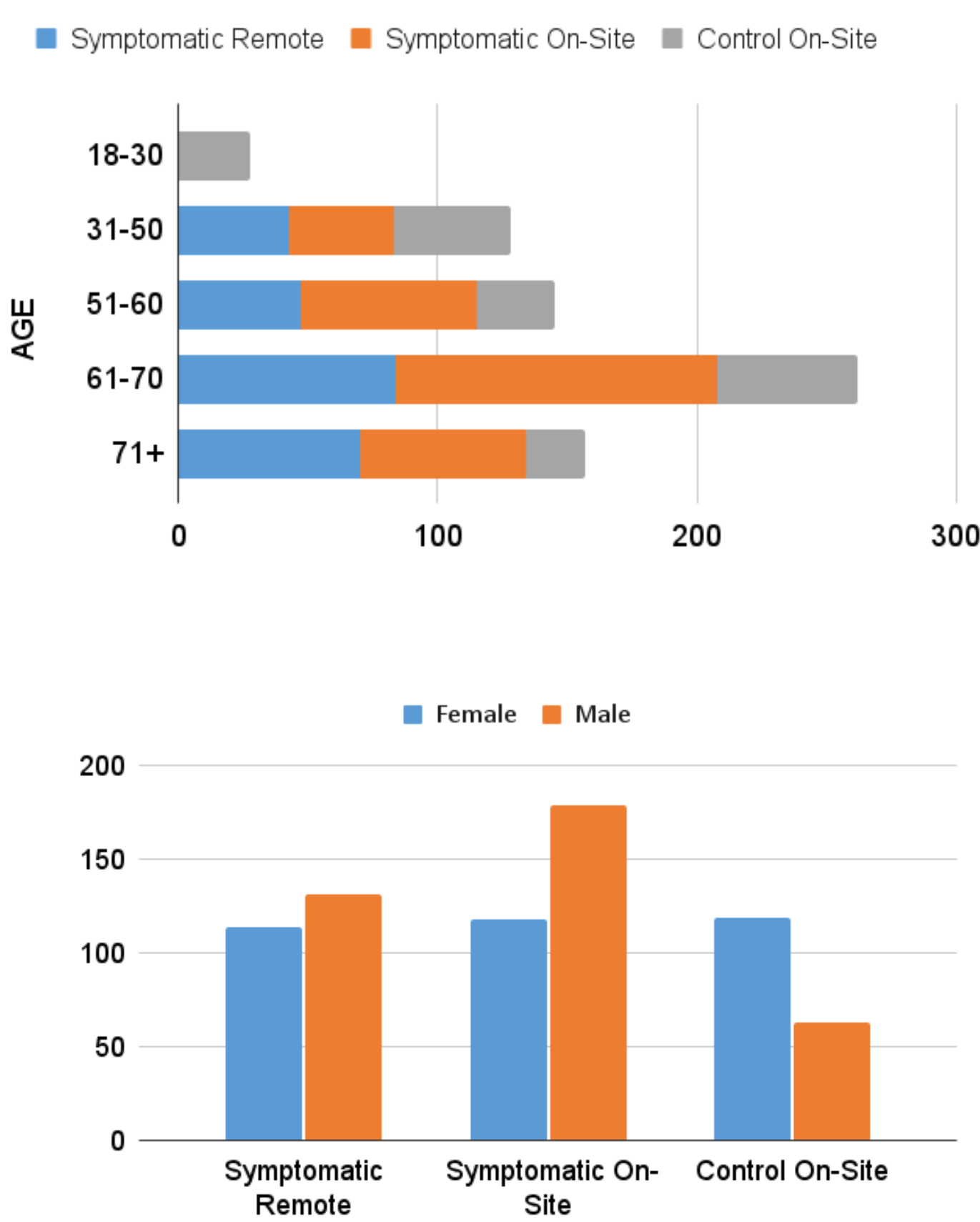


Figure 5: Demographics Age and Sex

Study Task Categories	Metric Value
Veteran Enrollment Count	87% of ALS Symptomatic participants completed questionnaires about military history 9% of participants served in military
CSF Collection enrolled	99 Symptomatic participants 27 Control Participants
Participant Geographic Reach	Enrolled in 47 states and Puerto Rico
ePRO Completion	~5000 total surveys completed
Speech Completion	~ 2300 speech sessions completed

Table 1: ASSESS Key Milestone Achievement

DISCUSSION

- ASSESS ALL ALS demonstrates that a hybrid decentralized model is feasible and effective for large-scale ALS natural history studies, reducing participant burden and broadening access through both in-clinic and remote participation.
- Integration of clinical, digital, and biospecimen measures enables comprehensive disease characterization and supports biomarker discovery, with real-time data capture and centralized storage shared via NIH BioSEND and the AMP ALS Knowledge Portal.
- Early enrollment milestones (>600 ASSESS participants and >950 total ALL ALS participants) demonstrate strong feasibility and lay the foundation for scaling to 2,000 participants nationwide.
- The DIGITIZE assessment extends this framework by incorporating wearable wrist and ankle devices to capture objective movement-based digital endpoints. Coupled with surveys, usability feedback, and observed exercises, DIGITIZE provides novel tools for validating digital biomarkers and aligning them with established clinical measure.
- Innovative outreach strategies, including community-based engagement and digital platforms, enhance recruitment and ensure a demographically diverse participant population.

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