

Background

- Chronic traumatic encephalopathy (CTE) is a neurodegenerative disease associated with repetitive head impacts (RHI) from contact sports and military service
- CTE can currently only be diagnosed after death due to a lack of validated biomarkers
- Prior biomarker studies are limited by small sample sizes, invasive methods, and lack of neuropathological confirmation
- There is a critical need for scalable, accessible biomarkers to detect and differentiate CTE from Alzheimer’s disease and related dementias

Objective

To describe the recruitment strategy, infrastructure, and early enrollment results of BANK CTE, a national biorepository designed to support the development and validation of blood-based biomarkers to detect CTE.

Methods

Study Overview (Figure 1)

- NIH-funded in 2023 (NINDS/NIA)
- National, remote observational cohort
- Develop and validate blood-based biomarkers for CTE

Specific Aims

- Examine clinical utility of plasma biomarkers in CTE
- Conduct plasma-to-autopsy analyses in CTE and AD
- Test RHI exposure and plasma biomarker associations

Participants

- N = 1,000 adults (≥40 years): 400 former football players; 200 other contact sport athletes; 200 Military Veterans; 200 controls (non-RHI)

Recruitment

- Website: www.BANKCTE.org (Figure 3)
- Email outreach
- Targeted regional and national paid advertising campaigns

Study Procedures

- Brain donation pledge
- Online surveys
- One-time blood draw (local Quest Diagnostics lab)
- \$100 gift card upon completion

Infrastructure

- Enrollment & data capture: Brain Health Registry
- Biospecimen storage: BioSEND (Indiana University)
- Neuropathology: BU CTE Center

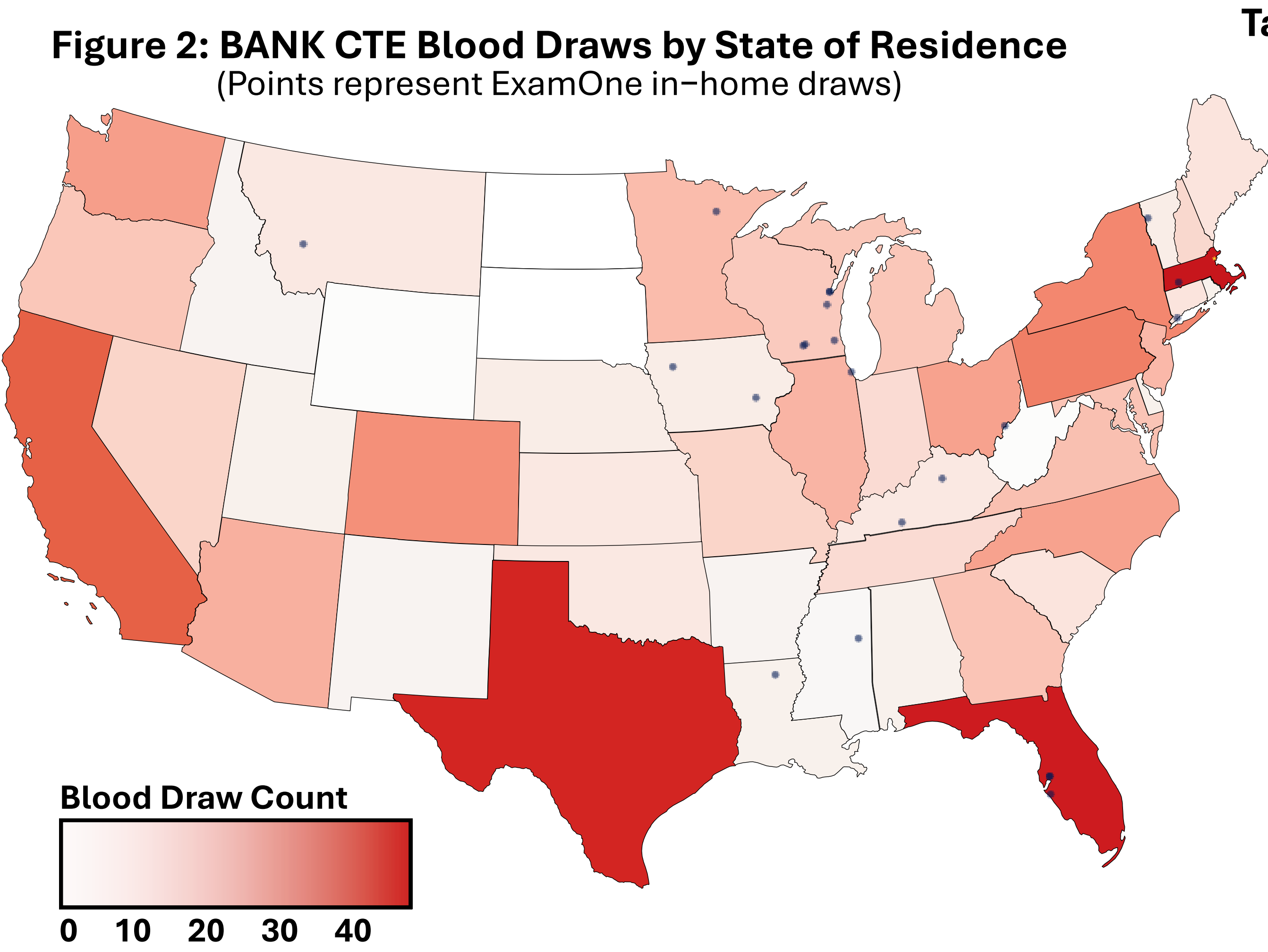
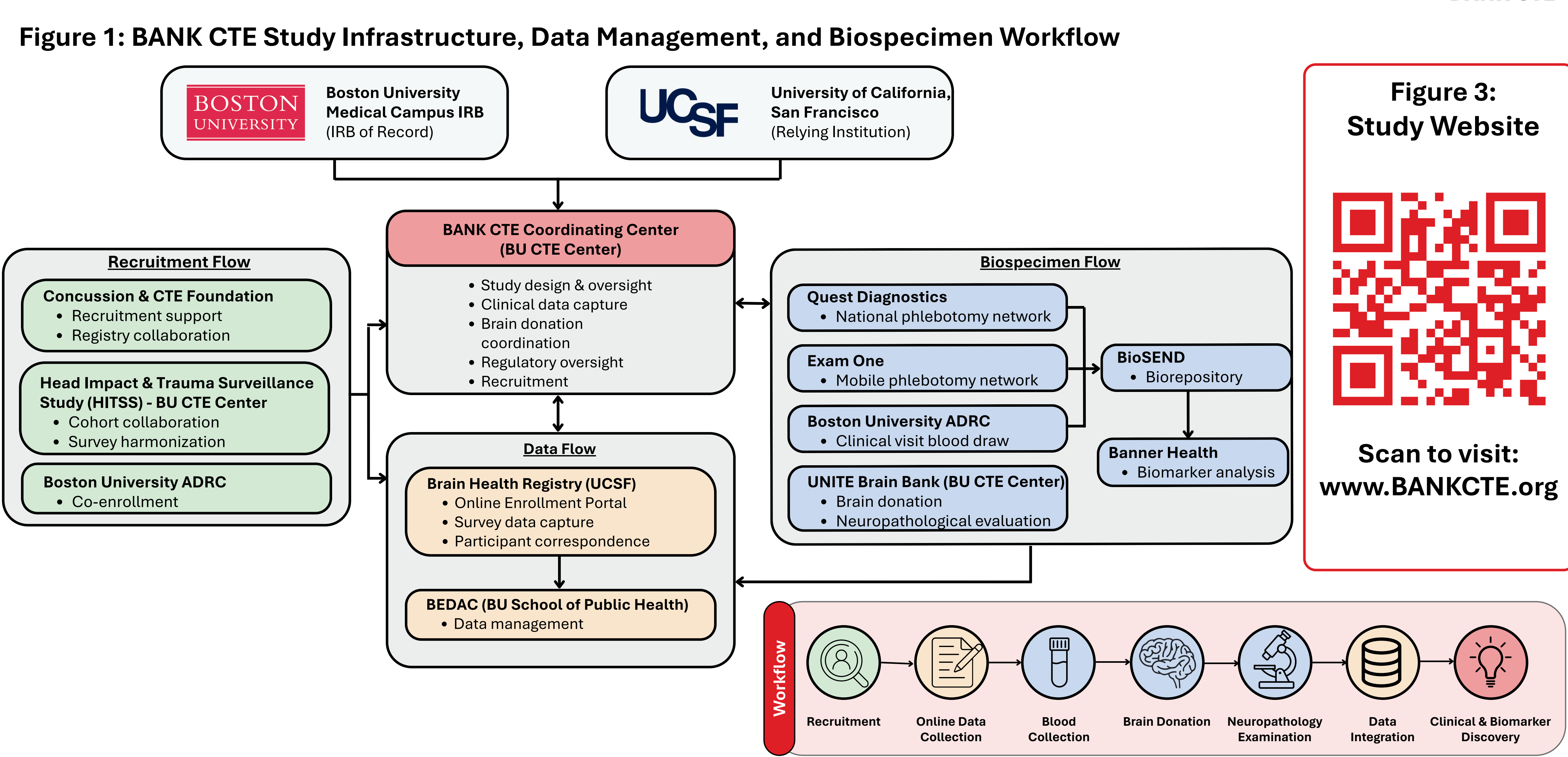


Table 1: Recruitment & Study Completion by Exposure Type
(as of June 9, 2026)

RHI Exposure Type	Enrolled, n	Completed, n	Target, n	% Completed of Target
Total	1225	631	1000	63.10%
Football-related RHI (Males)	244	176	400	44.00%
Non-football RHI	257	151	200	75.50%
Females	113	67	120	55.83%
Males	144	84		
No RHI (Controls)	277	201	200	100.50%
Females	180	133		
Males	97	68		
Military	148	96	200	48.00%
Females	17	8		
Males	131	88		
Undetermined*	299	7		

* Individuals who have not yet completed RHI questionnaires
Note: Estimated median age (calculated using age-category midpoints) was approximately 55 years across football, non-football RHI (men and women combined), military, and control groups, with standard deviations of approximately 9-11 years.

Results

As of June 9, 2026:

- 1,225 participants have enrolled**
- 703 completed blood collection**
- 631 completing all study procedures**
- 10 brain donations obtained**

Participants represent diverse RHI exposure groups (Table 1), with samples collected across most US states (Figure 2). Samples are currently undergoing NULISA and GWAS analyses, with planned data analyses of plasma-clinical correlations.

Conclusions

BANK CTE establishes a national framework for plasma-to-autopsy research, enabling remote biospecimen collection and expanding CTE biomarker research beyond football-centric samples.