FEATURED JH AITC GRANT YEAR 1 Awardee: BALANCE T

Falls are the leading cause of injury-related death among adults 65 and older. The incidence of falling has increased over the last 10 years, with one in four older adults falling each year in the U.S.; most people fall while turning or walking. The good news is that balance can be improved with training, just as the muscular system can become stronger through exercise. Balance improves the most when exercises are designed for users’ unique needs, which is why the Balance T safely enables custom balance training for standing, turning, and walking tasks. The Balance T device is custom-fit to each user for their height, shoulder width, and desired degree of difficulty via handlebar tilt. The goal for this AITC pilot is to develop, test, and validate the use of the Balance T to improve balance skills and reduce the risk of falls for older adults at home and in the community. This is to be accomplished with assistance from the Technology Core to develop instrumentation for the Balance T, allowing the pilot to track compliance with and motion of the Balance T and the body. While many factors influence the risk of falling, balance-specific exercise may offer a significant contribution to reduce that overall risk.

DATA INTEGRATION AND QUALITY CORE:

The AITC will generate substantial aging- and Alzheimer’s-related data through its studies. Since AI has fundamental data dependencies, establishing a pre-competitive data commons across the consortium seemed an obvious component. The vision remains that AITC projects can benefit from larger sample sizes of closely related data across projects to support validation, benchmarking, and deeper analytics. The original vision was that this would be a “bottom-up” process, identifying domain-related data across projects as candidates for submission. However, as a detailed review of project scope proceeded, the heterogeneity of AITC projects became significantly apparent. Now, the informatics and data teams from AITC coordinating sites are working to propose a “top-down” subset of common data features to be requested from future projects, which may involve an aging-relevant survey instrument or limited medical history. Johns Hopkins has established a closed data enclave to function as a shared data commons for the AITC program, intended for limited cross-project data analytics. Permanent data archiving will take place on the NIA-sponsored National Archive of Computerized Data on Aging (NACDA).