

ENHANCE-SVD

Early Intervention for Brain Health And Mobility in Cerebral Small Vessel Disease through INtegrated Primary Care

ABSTRACT

Cerebral small vessel disease (CSVD) is extremely common in older adults, driving mobility impairments, cognitive decline, and neuropsychiatric manifestations. It underlies half of dementia cases, a quarter of all strokes, and 85% of spontaneous intracerebral hemorrhages. Yet, no effective treatment exists, and despite established guidelines, vascular risk factors such as blood pressure remain inadequately managed in half of patients. Mobility disorders further contribute to CSVD progression by driving falls, dementia, and depression, but no personalized home-based mobility interventions are offered.

To tackle this pressing challenge, we propose ENHANCE-CSVD: an innovative, primary care-based platform that integrates wearable gait and sleep sensors, remote blood pressure monitoring, digital cognitive assessment, and a cutting-edge e-health interface. Our goal is to deliver timely and cost-effective interventions to reducing reliance on specialized tertiary centers. By piloting ENHANCE-CSVD in both early and advanced CSVD populations, we aim to evaluate feasibility, effectiveness, and scalability, while informing public health policy through cost-effectiveness analyses.

A multidisciplinary team will use real-life longitudinal data to streamline diagnosis, monitor progress, and adapt management plans. Using remote digital platform, we will deliver remote personalized solutions and early intervention for modifiable risk factor control, home-based cognitive and motor rehabilitation, minimizing clinic visits and expanding access to personalized care and rehabilitation for patients with CSVD. Project aligns with European Academy of Neurology and WHO strategies for preserving and improving brain health, offering a patient-centered, cost-effective and scalable approach. ENHANCE-CSVD seeks to transform primary care delivery, empower patients with CSVD, and bridge the gap between cutting-edge clinical care and everyday primary care at the patients living environment.

KEYWORDS

- Brain Health
- Hypertension
- Physical Activity
- Cognitive Decline
- Dementia
- Gait Disorders
- Stroke

DURATION

36 months

PARTNERS

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