

# Monitoring speech and language biomarkers in ADRD



## About [ki:elements]

[ki:elements](#) is a digital health company dedicated to developing speech-based biomarkers for assessing and monitoring various neurological and psychiatric conditions. Its non-invasive, cost-effective speech analysis tools aim to provide valuable insights into symptoms across a range of pathologies.



## The opportunity

- ki:elements is developing innovative digital tools to assess and monitor speech and language biomarkers in Alzheimer's disease and related dementias (ADRD).
- To accomplish this, ki:elements is looking to build equitable, meaningful, and scalable measures that are non-invasive and can be seamlessly integrated into both clinical trials and everyday patient care.



## The challenge

- Early interventions for ADRD patients are lacking when cognitive decline is solely monitored and managed in clinical settings.
- To improve patient outcomes, cognitive decline must be detected and managed directly in patients' homes.
- This work is not only pivotal for advancing research in neurodegenerative diseases but also for equipping healthcare professionals with better tools that enhance personalized care.

“After years of developing automated methods to analyze speech and language markers in Alzheimer's disease, it's encouraging to see how crucial expressive communication is to both patients and caregivers. This insight will drive our research efforts forward, motivating us to align the definition of speech-based measurements and their validation processes using DiMe's resources, to create solutions that truly matter in the field of patient care.”

—Dr Alexandra König | Chief Clinical Research Officer, ki: elements





### The resources

- Collaborating with DiMe to build the core measures of ADRD resources has provided ki:elements with comprehensive frameworks and guidelines for the development and validation of its speech-based biomarkers, ensuring they are truly meaningful to patients.
- These resources supported ki:elements to refine measurement processes, aligning them with real patients' needs and regulatory standards, allowing for digital speech biomarkers that are robust, reliable, and clinically impactful.



### The impact

- ✓ The standardization of meaningful digital biomarkers for ADRD has been most impactful to ki:elements work.
- ✓ Specifically, resources that provide validation frameworks and best practices for digital measurements have empowered the integration of ki:elements solutions into clinical trials and real-world patient care, knowing that they capture meaningful changes and adhere to the highest standards necessary to make a substantial and lasting impact in the field.