# AI-powered digital therapy assistant to monitor and treat cognitive impairment in older adults over the phone

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MassAITC AD/ADRD Focus Pilot Core

## The Gap in Care for Cognitive Impairment

Cognitive impairment affects 32% of adults over 65, impacting approximately 250 million people globally[1,2]. Cognitive rehabilitation is an effective behavioral intervention for dementia to preserve independence, delay institutional care and reduce caregiver burden[3]. However, access to rehabilitation is currently limited by the availability of skilled providers, which disproportionately affects underserved and rural settings.

Alzheimer's Disease
Parkinson's Disease
Traumatic Brain Injury
Stroke
Other Dementias
Epilepsy
Sleep Disorders

## 1 in 3
**Adults over 65 have a diagnosable cognitive impairment**

## Transforming Care through AI and the Telephone

Access to practical and personalized support is a critical component to helping older adults with cognitive impairment to remain independent in daily life. Moneta's AI-powered program offers a scalable model for therapists to deliver cognitive rehabilitation using a digital therapy assistant, reaching individuals at home over the basic telephone.

References & Notes:
[1] Manley et al., JAMA Neurology, 2022;79(12):1242–1249.
[2] Leaving No One Behind In An Ageing World: World Social Report, United Nations, 2023.
[3] Kudlicka et al., Cognitive rehabilitation for people with mild to moderate dementia, Cochrane Database of Systematic Reviews, 2023.
[4] Compared to therapy outcomes data in the National Outcomes Measurement System of the American Speech-Language-Hearing Association for ages 50–89, cognitive communication disorder, outpatient setting, accessed January 17, 2025.
[5] Functional communication measure (FCM) for cognitive function assessed by the treating speech language pathologist.
[6] Quality of Life in Neurological Disorders (Neuro QoL).

## Automated Therapy Delivery System



**Patient** — **Voice Interface** — **AI-Powered Digital Therapy Assistant** ↔ **Web Portal** — **Therapist**

**Library of Audio Cognitive Activities**

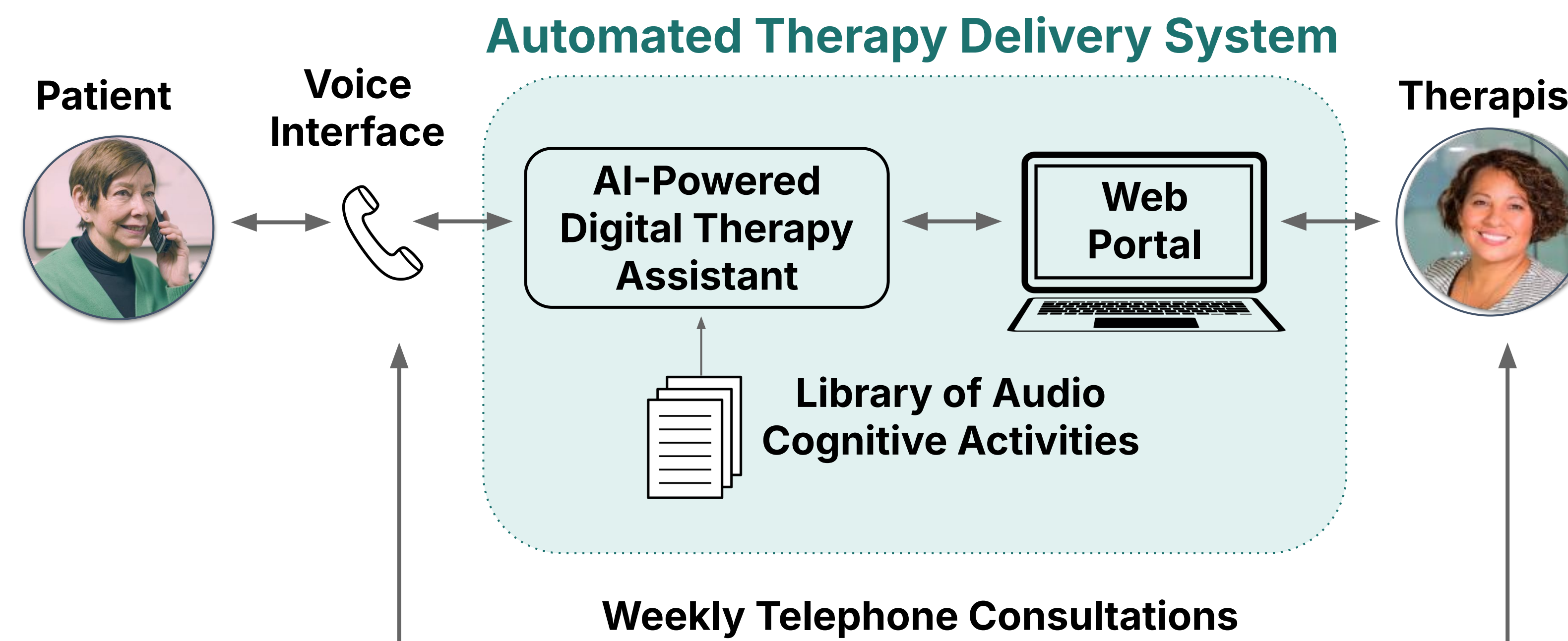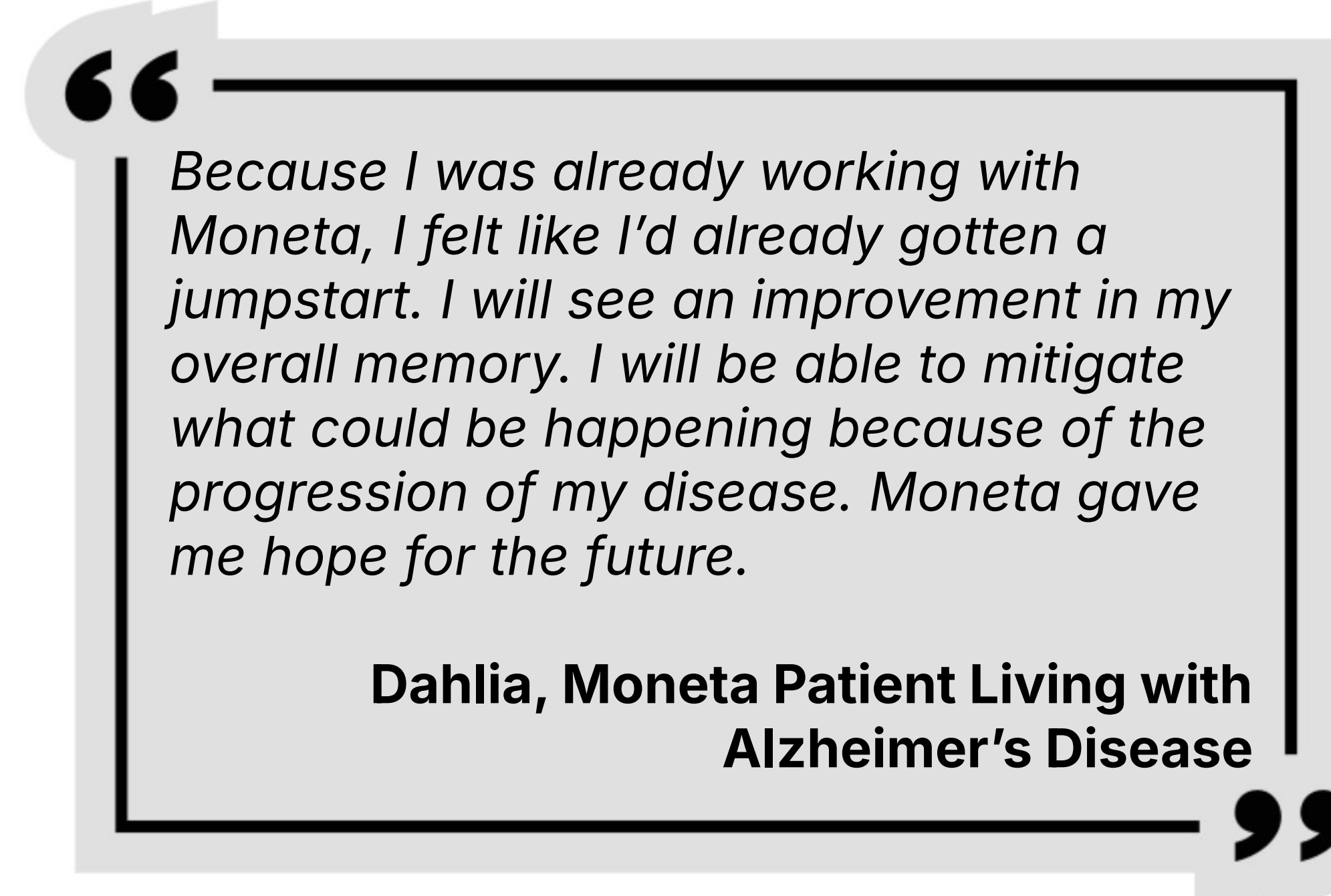**Weekly Telephone Consultations**

*Figure: Overview of Moneta's automated therapy delivery system. Patients speak with a therapist and interact with an AI-powered digital therapy assistant weekly as part of their cognitive rehabilitation therapy program. Licensed speech therapists program remotely monitor patient sessions with the digital therapy assistant to assess progress and adapt the program over time.*

## AI Development for Automated Therapy Delivery

The MassAITC a2 pilot project will result in AI algorithms to classify patient responses and speech biomarkers collected during automated sessions with Moneta's digital therapy assistant. The usability and scalability of these algorithms will be evaluated and optimized with 30 older adults living with cognitive impairment to achieving predictive accuracy of >80%. The project will improve the efficiency of therapists using the platform to reach more patients in need.

> Because I was already working with Moneta, I felt like I'd already gotten a jumpstart. I will see an improvement in my overall memory. I will be able to mitigate what could be happening because of the progression of my disease. Moneta gave me hope for the future.
>
> **Dahlia, Moneta Patient Living with Alzheimer's Disease**

*Hear more from Moneta's patients in a short video!*

## Moneta's Real World Clinical Results

### Cognitive Function
↑ **18%**

*Patient cognitive function significantly improved on average by 18% (p<0.001), compared to 13% for traditional outpatient therapy[4,5].*

### Quality of Life
↑ **11%**

*Patient reported quality of life also significantly improved on average by 11% (p<0.001)[6].*

### Retention
**85%**

*85% of patients who started the Moneta program complete it, reflecting a high level of patient satisfaction.*

### AI Engagement
**58 min**

*Moneta's patients engage with the digital therapy assistant for an average of 58 min per week, representing ~60% of therapy delivery.*

*Quality outcomes were analyzed for 75 patients who completed Moneta's program under Medicare (average age 73 ± 10, average MoCA score 20 ± 5; 59% had MCI, 33% had dementia, 8% had another diagnosis).*