

Telehealth and Cognitive Assessment



What actually works when you can't refer.

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Financial Relationships

- **Founder and CEO, MedFlow**
 - Healthcare workflow automation company. I am the founder and hold equity.
- **Co-Founder, Frontier Psychiatry (handed off 2025)**
 - Telehealth psychiatry group. I retain minority equity, no operational role.
- I am an advisor for HumanSync, Mindeo Brain Fitness, Droxi AI, SuperSenses

No off-label use will be discussed. Mention of any specific product is for educational illustration only.

By the end of this session, you will be able to:

- 1 Identify three structural barriers that keep most patients with cognitive concerns from getting a timely workup, and explain why telehealth is uniquely suited to solve them.
- 2 Compare in-person, video-based, and computerized cognitive assessment tools, including evidence on validity, equivalence, and where each one fits in primary care.
- 3 Conduct a structured virtual cognitive workup, including history-taking with a care partner, behavioral observation, and remote testing.
- 4 Apply a practical workflow for staging dementia, screening for reversible mimics, and initiating a cognitive care plan from a telehealth visit.
- 5 Recognize the limits of telehealth-based assessment and identify which patients still need in-person evaluation or specialist referral.

PART 1

The problem isn't diagnosis.

It's access.

What the access gap actually looks like

7.2M

Americans age 65+ living with
Alzheimer's dementia in 2025

Alzheimer's Association, 2025

~22%

of US adults 65+ have MCI; the
vast majority undiagnosed

Manly et al., JAMA Neurol 2022

3.5 yr

average time from symptom onset
to dementia diagnosis (meta-
analysis)

Kusoro et al., Int J Geriatr Psych 2025

Most patients aren't undiagnosed because we lack tests. They're undiagnosed because they can't access them.

Why specialty referral isn't the answer

In Washington state, the wait for a neuropsychology evaluation is routinely 6 to 12+ months. Behavioral neurology and neuropsychiatry waits are similar. There aren't enough specialists, and there never will be.

THE OLD MODEL

- PCP suspects something
- Refer to neurology / neuropsych
- Patient waits 6 to 12 months
- Patient cancels or no-shows
- PCP gets the chart back, late
- Family gives up

THE NEW MODEL

- PCP runs a structured workup
- Computerized testing in clinic or at home
- Telehealth visit with care partner present
- Diagnosis and care plan in 4 to 6 weeks
- Specialist consult for the unclear cases only
- **Family gets clarity, fast**

Dementia diagnosis is no longer a specialist-driven decision. The PCP is best positioned to make it.

PART 2

Telehealth as a clinical tool,
not a workaround.

What telehealth gives you that an office visit can't

The home environment

You see the kitchen, the medication piles, the unopened mail, the family dynamic. This is diagnostic data you cannot get in a clinic exam room.

The care partner who actually shows up

Adult children and spouses are far more likely to attend a video visit than drive to the office. Collateral history is the most important part of a dementia workup.

Repeatability without burden

Cognitive change is a longitudinal observation. A 20-minute video check-in at 3 and 6 months is feasible. A repeat in-person visit usually isn't.

Behavioral observation in real time

Difficulty navigating the video platform, getting the camera positioned, finding the link in the email. These are functional assessments most clinicians ignore.

What we built and what we learned

Frontier Psychiatry, rural Montana, 2020 to 2025:

5,000+

telehealth visits per month at
scale

75

clinicians and staff

84%

patient satisfaction across the
program

0

VC dollars spent during the
bootstrap years

What we learned: telehealth doesn't replace the clinical relationship. It removes the geography. Patients in the most isolated parts of Montana got specialist-level psychiatric and cognitive care for the first time in their lives, and the diagnostic accuracy was at least as good as in-clinic care for the conditions we treated.

PART 3

Cognitive assessment tools,
ranked by what they actually do.

What you can do remotely, and how good it is

Tool	Remote use	Strengths	Limitations
MoCA / MMSE	Validated by video (T-MoCA, vMoCA)	Familiar; brief; reimbursable	Floor effects; ceiling effects; provider time
T-MoCA (telephone)	Yes, by phone	No camera or device needed	Drops visuospatial items; less sensitive
Mini-Cog	Yes, by video	Three minutes; great screen	Screen only, not a workup
Computerized batteries (e.g., BrainCheck, Cognivue, Cognigram)	Yes, in office or at home	Standardized; staff-administered; reimbursable under 96132/96146	Requires device and connectivity; cost
Neuropsychological testing (full battery)	Partially; mostly hybrid	Gold standard for unclear cases	Long waits; rarely needed for typical dementia

PCPs can confidently use computerized testing as a primary tool. Neuropsych is for the unclear cases.

Computerized testing isn't experimental

Multiple validation studies, including work I led at BrainCheck, show that tablet-based batteries:

- Detect MCI and dementia with sensitivity and specificity comparable to MoCA in primary care populations.
- Can be administered by a medical assistant in 10 to 15 minutes, freeing the clinician.
- Reduce variability in scoring and interpretation, since the algorithm is the same every time.
- Are reimbursable under existing CPT codes (96132, 96146) when used appropriately.
- Can be performed at home before a visit, so the clinician walks in with results in hand.

Key references: Ye et al., JMIR Aging 2022. Huynh et al., Frontiers in Psychology 2024.

Two technologies that will reshape your workflow

Plasma p-tau217

Blood-based biomarker for Alzheimer's pathology

- Several FDA-cleared assays now available.
- Sensitivity and specificity for amyloid pathology rivals CSF testing.
- Replaces the need for lumbar puncture or amyloid PET in most workups.
- **What it does NOT do: tell you whether the patient has dementia. Pathology and clinical disease are not the same.**

Voice and speech biomarkers

Acoustic and linguistic features as digital biomarkers

- Speech changes precede clinical diagnosis by years.
- Detectable in pause patterns, semantic fluency, prosody, and syntactic complexity.
- My team's work, including the Framingham cohort study, has shown signal in early MCI.
- *Status: still research-grade. Not yet a clinical product. But the trajectory is clear.*

Citations: Palmqvist et al., JAMA 2024 and Nat Med 2025 (p-tau217). Thomas et al., JAD 2020; Tracy et al., JBI 2020 (voice).

PART 4

A virtual workup you can use
on Monday morning.

Five steps from concern to care plan

1

Take a structured history

Onset, course, and pattern of decline. Always include a care partner. Watch for red flags: rapid decline, hallucinations, REM sleep behavior, falls.

2

Rule out the mimics

B12, TSH, CMP, depression screen (PHQ-9), sleep history. Medication review with focus on anticholinergics and benzodiazepines. Hearing.

3

Get objective cognitive data

Computerized battery in office or at home, OR a video-based MoCA, OR T-MoCA by phone. Use whatever fits the patient. Imperfect data beats no data.

4

Stage and characterize

Is this MCI or dementia (functional impairment)? What's the dominant cognitive domain affected? You don't need a specific subtype to start care.

5

Deliver the diagnosis and a care plan

Set aside time. Bring the family in. Use a structured care plan (CPT 99483 if appropriate). This is the highest-value visit you'll do.

When you need to bring them in (or refer)

Telehealth is a tool, not a hammer. These situations call for in-person evaluation:

Atypical or rapid course

Decline over weeks to months, prominent psychiatric features, or focal neurologic findings. Rule out structural, autoimmune, or prion etiologies.

Movement findings on screen

If you see tremor, bradykinesia, dystonia, or gait concern on video, you need a hands-on neuro exam.

Suspected delirium

Acute or fluctuating attention deficits are not dementia. Find and fix the underlying cause.

Patient or care partner not engaged

If you can't get a reliable history through video, you're working blind. Ask them to come in.

Patient doesn't have someone with them

A telehealth dementia workup without a care partner is rarely diagnostic. Reschedule with a family member present.

PART 5

A case.

De-identified.

Margaret, 74. Retired teacher. Lives in eastern WA.

Referral: PCP requests a virtual neuropsychiatry consult. The patient lives 2.5 hours from the nearest specialist; her daughter, who lives in Spokane, asked for help.

Chief concern: Daughter reports Margaret has been more forgetful for 18 months. Missed two property tax deadlines. Got lost driving home from a familiar grocery store last winter. Margaret says she's fine.

PMH: Hypertension, hyperlipidemia, mild OSA on CPAP (uses inconsistently), depression treated with sertraline 100mg.

Meds: Lisinopril, atorvastatin, sertraline, oxybutynin (started by urology 8 months ago), occasional zolpidem, multivitamin.

PCP exam 6 months ago: MoCA 24/30 (lost points on delayed recall and trails). PHQ-9 was 9. Labs unremarkable.

What I noticed before we even started testing

She joined late

It took 11 minutes to connect. The daughter eventually called and walked her through the link. Margaret blamed 'this stupid computer.'

Her kitchen was visible

Two pill organizers on the counter, both filled inconsistently. A stack of unopened mail at least three months deep.

She deflected

When asked about specific events the daughter described, she said 'oh, that wasn't a big deal' or changed the subject. Classic confabulation.

Her affect was off

Some psychomotor slowing. Not flat. Not depressed-presenting. Just a little disengaged in a way that didn't fit a retired teacher.

The daughter was the historian

I directed most of the early questions to the daughter, with Margaret's permission. This is standard. The patient's self-report is one data point, not the data point.

What I asked the PCP to do, and why

WHAT WE ORDERED

- Computerized cognitive battery at home before next visit
- Repeat labs: B12, TSH, CBC, CMP, vitamin D
- Updated PHQ-9 and GAD-7
- Sleep study readout (review existing OSA data)
- MRI brain without contrast
- Driving evaluation referral (DMV-affiliated OT)
- Plasma p-tau217 (now available, will help if positive)

WHAT WE CHANGED IMMEDIATELY

- Stopped oxybutynin (anticholinergic in an aging brain)
- Stopped zolpidem
- Reinforced CPAP adherence
- Asked daughter to help with pill organizer
- Set up a 6-week follow-up
- **Started conversation about driving**

Notice: every step here is something a PCP can do. None of it required a specialist.

Results and discussion

Computerized testing: Mild impairment in delayed recall, trails, and processing speed. Pattern consistent with amnestic MCI to early dementia.

Labs: All within normal limits.

MRI: Mild generalized atrophy with hippocampal predominance. No acute findings.

Plasma p-tau₂₁₇: Elevated, consistent with Alzheimer's pathology.

Functional: Daughter confirms ongoing decline in instrumental ADLs (finances, medication management, navigation). She has crossed into dementia, not just MCI.

Discussion topics: *How would you have approached this differently? Where would the workup have stalled in your clinic? What's your next move on the driving question?*

Five things, that's it

- 1 The dementia care bottleneck is access, not knowledge. You already know more than you think you do.
- 2 Telehealth gives you tools an office visit can't: the home, the family, and the longitudinal view.
- 3 Computerized cognitive testing is validated, reimbursable, and ready for primary care use today.
- 4 The five-step workflow (history, mimics, objective testing, staging, care plan) works in person, by video, or hybrid.
- 5 When telehealth isn't enough, you'll know. Atypical course, motor findings, suspected delirium, no care partner present.



Thank you.

Questions, pushback, hard cases.

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Citations

- Alzheimer's Association. 2025 Alzheimer's disease facts and figures. *Alzheimers Dement.* 2025;21(4):e14455.
- Manly JJ, Jones RN, Langa KM, et al. Estimating the prevalence of dementia and mild cognitive impairment in the US. *JAMA Neurol.* 2022;79(12):1242–1249.
- Palmqvist S, Tideman P, Mattsson-Carlsson N, et al. Blood biomarkers to detect Alzheimer disease in primary and secondary care. *JAMA.* 2024;332(15):1245–1257.
- Palmqvist S, Warmenhoven N, Cullen NC, et al. Plasma phospho-tau217 for Alzheimer's disease diagnosis using a fully automated platform. *Nat Med.* 2025;31:XXX–XXX.
- Livingston G, Huntley J, Sommerlad A, et al. Dementia prevention, intervention, and care: 2024 report of the Lancet Commission. *Lancet.* 2024;403(10430):572–628.
- Ye S, Sun K, Huynh D, et al. A computerized cognitive test battery for detection of dementia and mild cognitive impairment. *JMIR Aging.* 2022;5(2):e36825.
- Huynh D, Sun K, Hosseini Ghomi R, Huang B. Comparing psychometric characteristics of a computerized cognitive test (BrainCheck Assess) against the Montreal Cognitive Assessment. *Front Psychol.* 2024;15:1295678.
- Tracy JM, Özkanca Y, Atkins DC, Hosseini Ghomi R. Investigating voice as a biomarker: Deep phenotyping methods for early detection of Parkinson's disease. *J Biomed Inform.* 2020;104:103362.
- Thomas JA, Burkhardt HA, Chaudhry S, Hosseini Ghomi R, et al. Assessing the utility of language and voice biomarkers to predict cognitive impairment in the Framingham Heart Study cognitive aging cohort. *J Alzheimers Dis.* 2020;76(3):905–922.