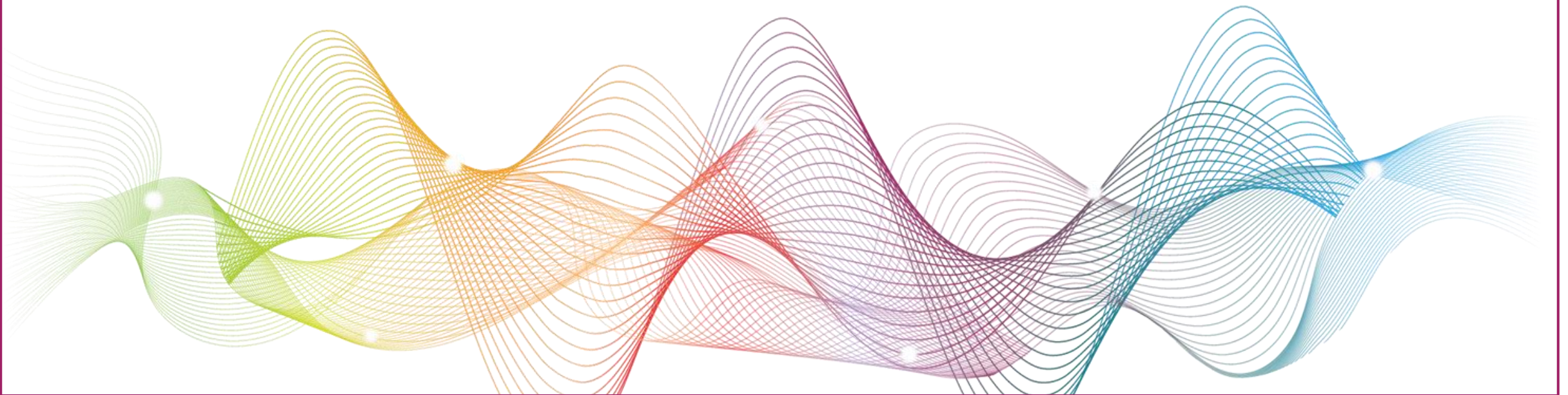


# Grey Matters

## Precision Brain Health Centers

We are **the** Dr. Dale Bredesen Clinic

The first comprehensive clinical program for persons with cognitive decline.



# Proven Experience & Leadership

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EXPERT IN ALZHEIMER'S DISEASE &  
COGNITIVE HEALTH



**Dr. Dale Bredesen, MD**  
Chief Scientific Officer & Founder

Renowned neurologist & Alzheimer's disease  
researcher  
Best-selling author

Dale Bredesen, MD is internationally recognized for his research and expertise in the mechanisms of neurodegenerative diseases such as Alzheimer's. He graduated from the California Institute of Technology, earned his M.D. from Duke University Medical Center, and served his residency at UC San Francisco before joining Nobel Laureate Stanley Prusiner's Institute for Neurodegenerative Diseases at UCSF as an NIH post-doctoral fellow. He founded the Buck Institute for Research on Aging in 1998 where he serves as President and CEO. He is the New York Times best seller author of popular books on Alzheimer's on Amazon.

PROVEN ENTREPRENEUR &  
HEALTHCARE LEADER



**Deb Geihlsler**  
Chief Executive Officer & Founder

Grey Matters Total Brain & Body Health is the first primary care clinic in the nation that focuses solely on managing cognitive health and preventing cognitive decline by combining Dr. Dale Bredesen's protocols with a primary care approach.

Previously Deb co-founded Activate Healthcare to bend the curve in healthcare by providing free, accessible primary care to patients, funded by employers and health plans. With Activate, employers typically experienced 20%+ annual health plan savings and patients experienced better health outcomes. Population health risk statistics typically improved significantly for smoking, obesity, high blood pressure, diabetes and for other chronic diseases. Angel investors earned over 20x their investment over a 10-year investment horizon when Activate was sold in 2018 for 2.6x revenue. Prior to founding Activate Healthcare, Deb was CEO & President of Harvard Vanguard Medical Group in Boston and CEO of Advocate Medical Group in Chicago.

# Outline



- + What is Brain Fitness and why does it matter?
- + What exactly does the brain do?
- + What is Dementia and how does it happen?
- + Who is Dr. Dale Bredeesen?
- + What is the Bredeesen Protocol?
- + What is the Amyloid Precursor Protein and why does it matter?
- + What are the many causes of Dementia?
- + What can we do to prevent and even reverse Dementia?

# The Difference



Traditional Medicine vs Functional Medicine

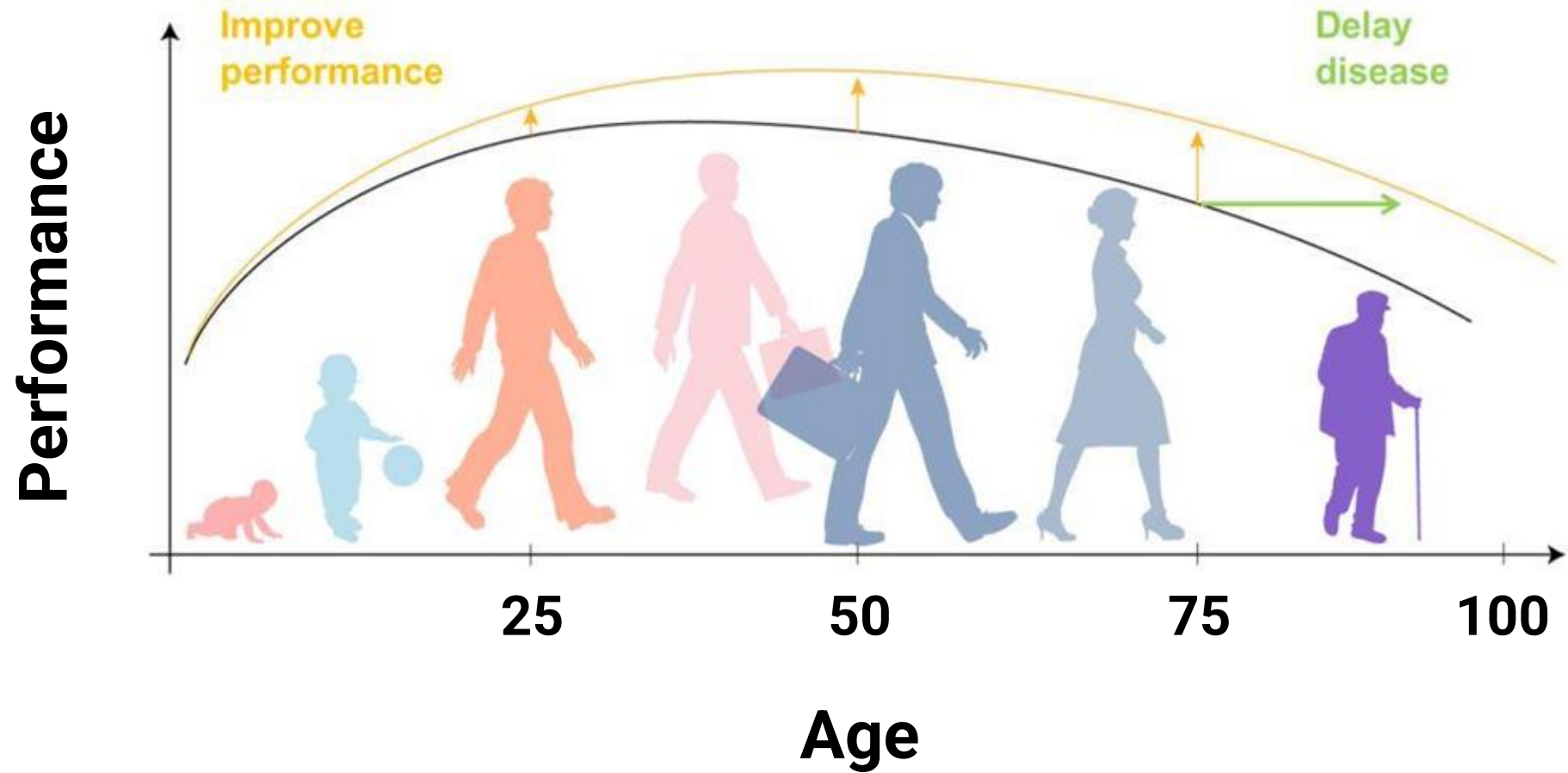
What is missing.....

Understanding the Uniqueness of the Whole Person

Patients are seeking more and better answers to their health

Total care management – Shouldn't Brain Health be part of your typical age specific screening

# Why Brain Fitness Matters



# The Human Brain - Alzheimer's Association



## **Cerebrum**

Thinking, planning  
Remembering,  
speech



## **Cerebellum**

Balance,  
coordination



## **Brain Stem**

Automatic functions  
Digestion, breathing



# Dementia



A chronic or persistent disorder of the mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning.

Dementia is a general term for loss of memory and other mental abilities severe enough to interfere with daily life. It is caused by physical changes in the brain. Alzheimer's is the most common type of dementia, but there are many kinds.

# Common forms of Dementia



- + Alzheimer's Dementia
- + Vascular Dementia
- + Lewy Body Dementia
- + Frontotemporal Dementia
- + Parkinson's Dementia
- + Mixed Dementia



# Mixed Dementia - Memory and Aging Project Study

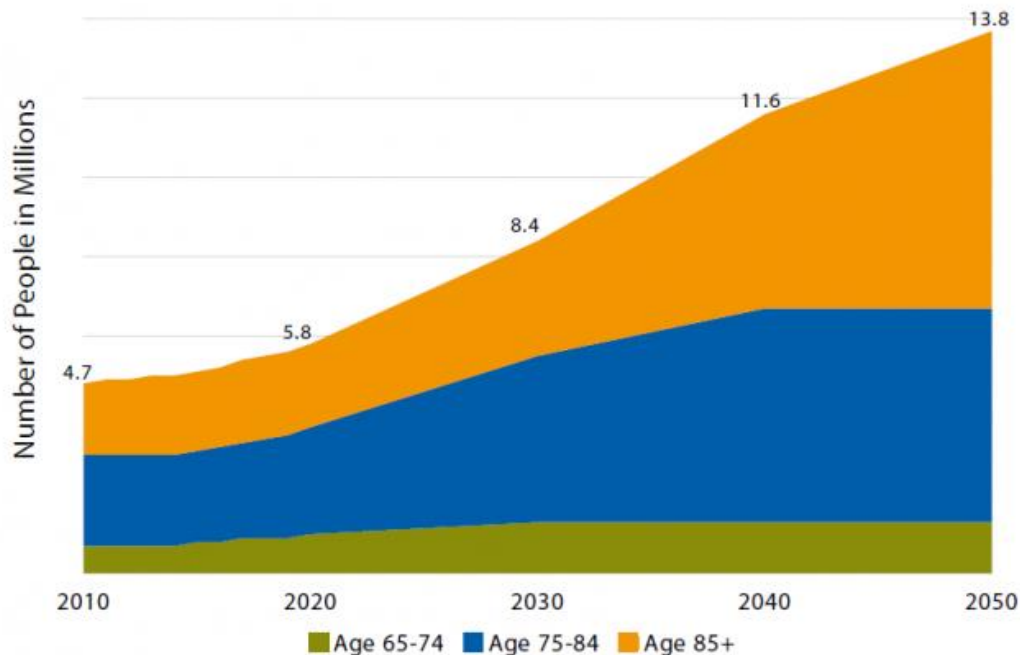


## Long-term cognitive assessments followed by eventual brain autopsy:

- + 94% of participants who were diagnosed with dementia were diagnosed with Alzheimer's. The autopsies of those diagnosed with Alzheimer's showed that 54% had coexisting pathology.
- + The most common coexisting abnormality was previously undetected blood clots or other evidence of vascular disease.
- + Lewy bodies were the second most common coexisting abnormality.

# Alzheimer's Prevalence - U.S.

Projected Number of People Aged 65 or Older With Alzheimer's Disease, by Age Group, United States, 2010–2050



Source: Created from data in Hebert LE, Weuve J, Scherr PA, Evans DA. Alzheimer disease in the United States (2010–2050) estimated using the 2010 Census. *Neurology*. 2013;80(19):1778–1783.

- + Growing rapidly as population ages - CDC estimates 13.8 million by 2050.

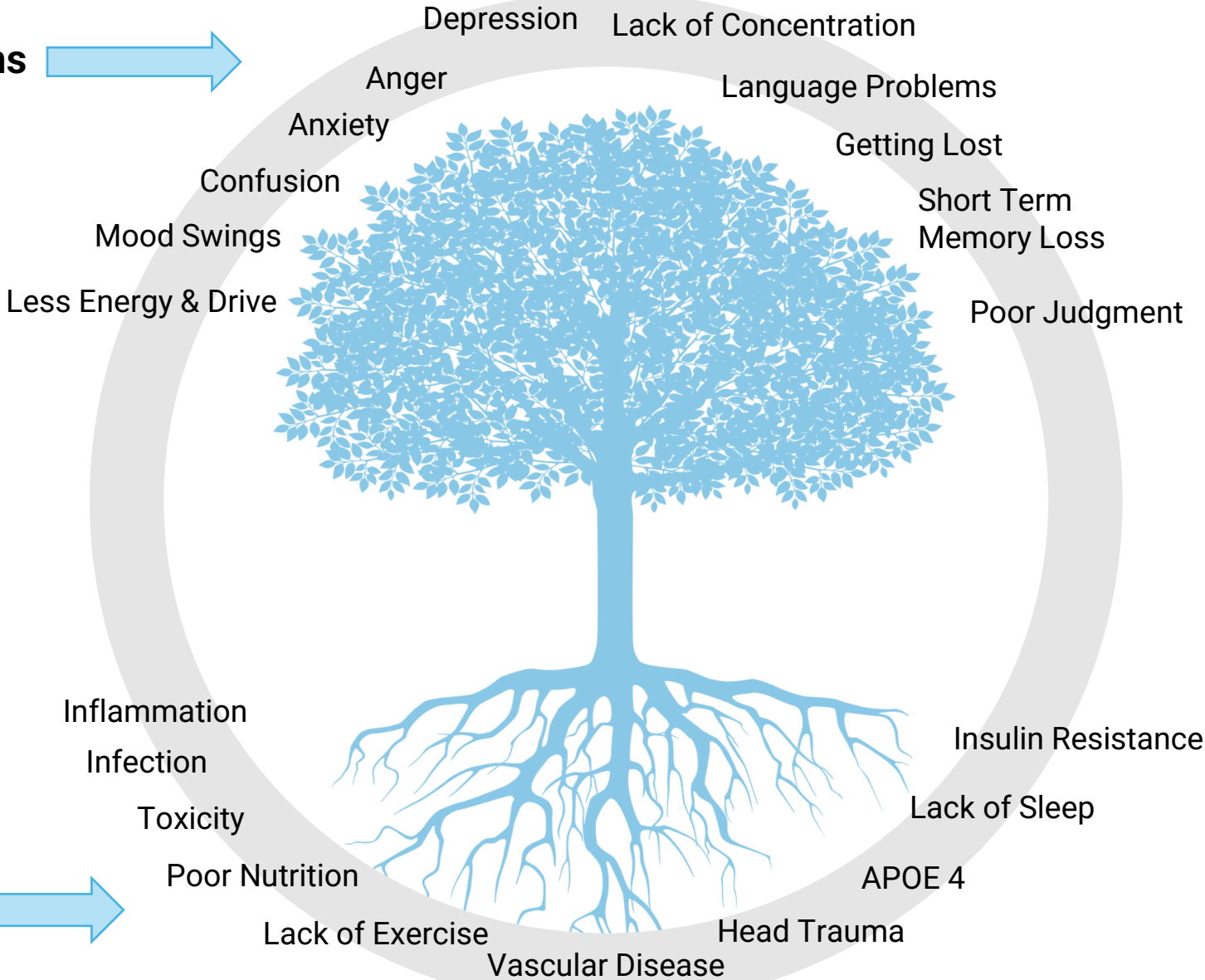
# Solution: Grey Matters focuses on the Root Causes

Grey Matters focuses on the root causes of cognitive decline. Our tests and screenings identify why a patient is at risk of, or currently is, experiencing cognitive decline. Our Care Plans address those issues.

Root Causes



Symptoms



# Drugs for Alzheimer's Disease



Thus far unfruitful.

Removing the Amyloid Plaques doesn't help  
and in many cases makes the patient worse.

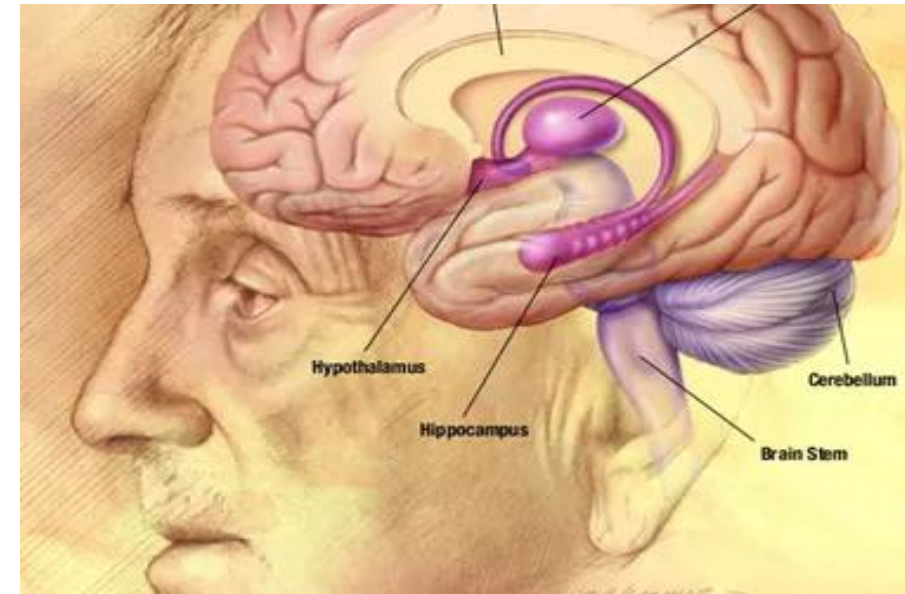
# Vitamin E, Antioxidants vs. Saturated / Trans Fats





# Exercise your Body for your Brain

The antidepressant effect of running is associated with increased hippocampal cell proliferation.



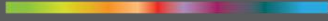


# Brain Power - Use It or Lose It

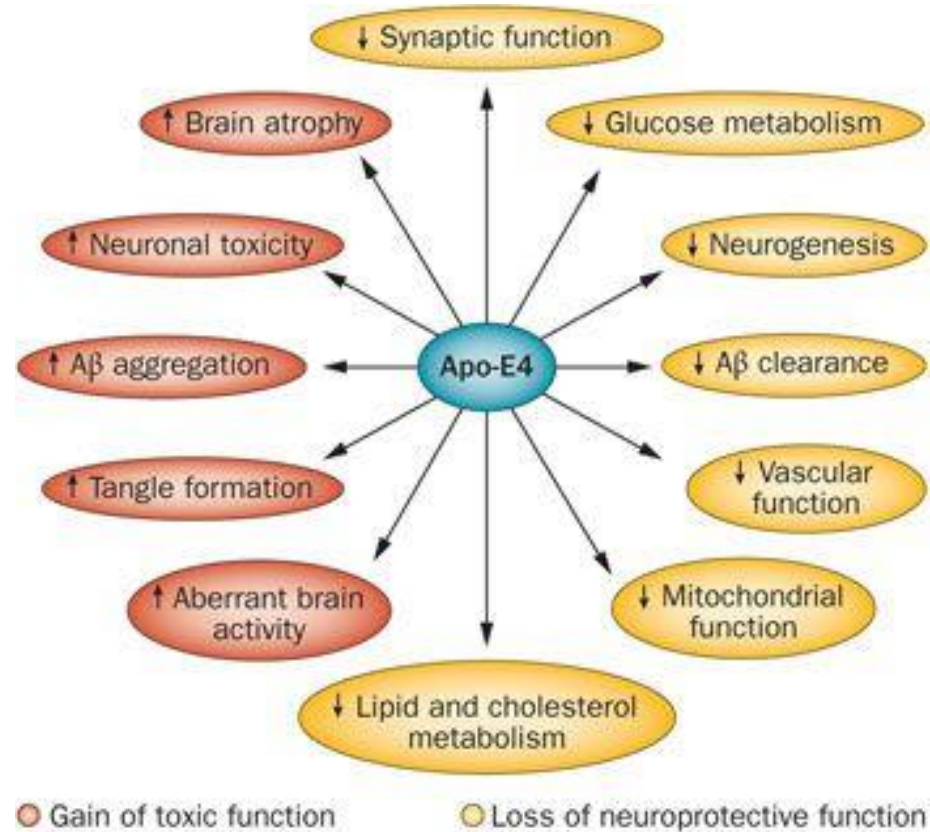


- + Brain HQ
- + Dual-task Training

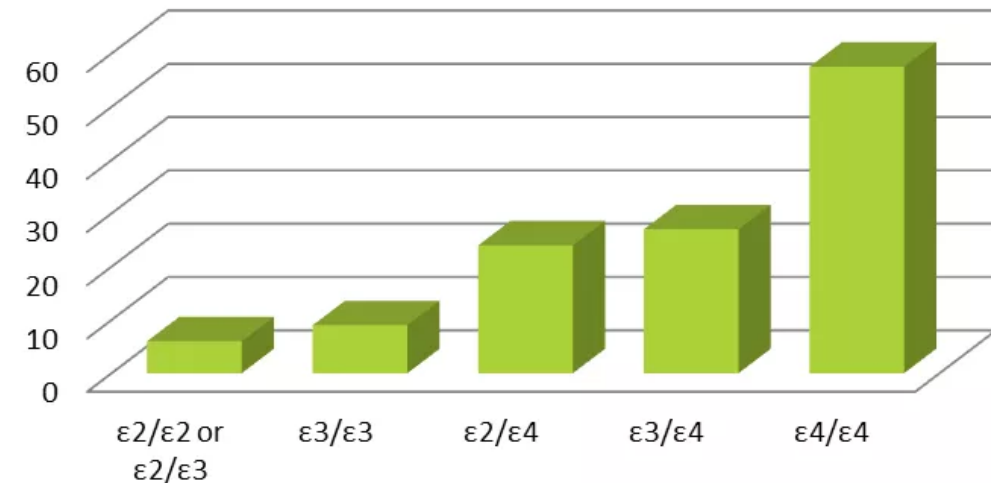
# Sleep



# ApoE Gene and Alzheimer's Disease



**Approximate Lifetime Risk (%) of Alzheimer's Disease Based on ApoE Genotype\***

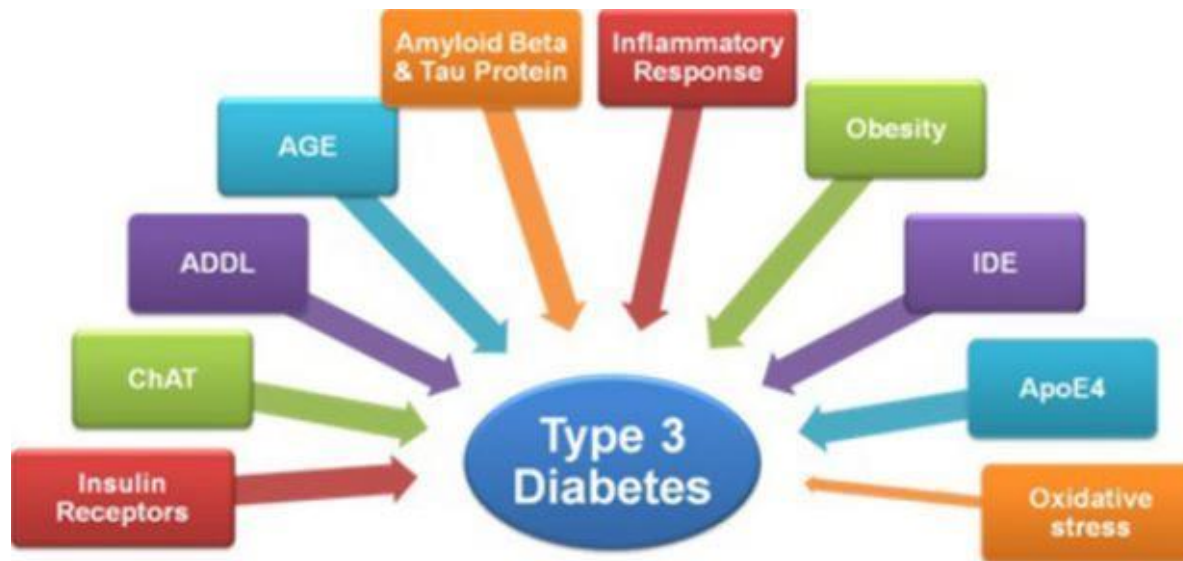




# Inflammatory, Trophic, and Toxic Substances



# Alzheimer's Disease - Type 3 Diabetes?

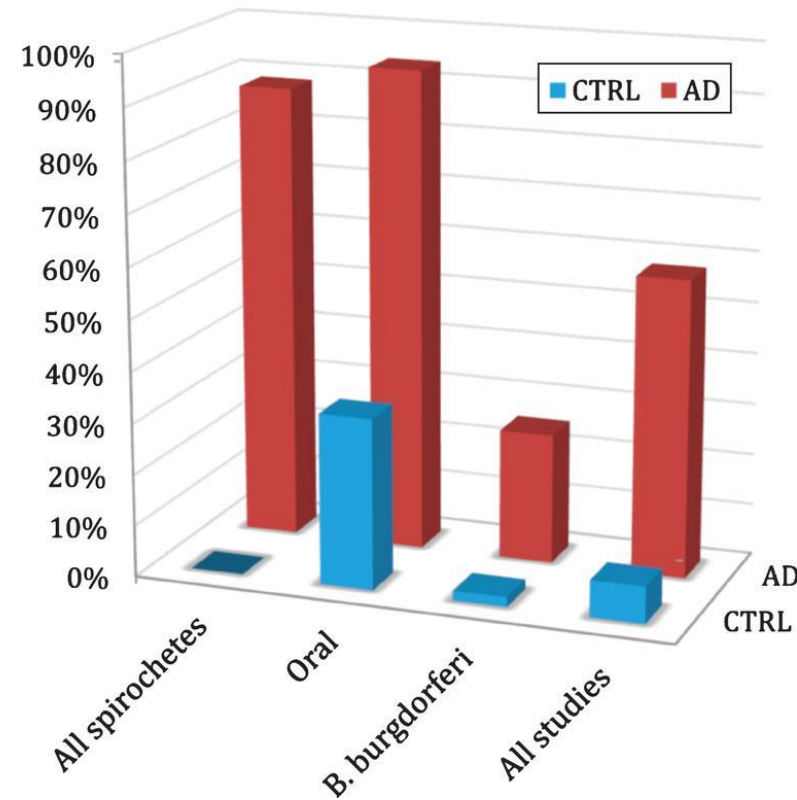


80% of people with Alzheimer's have insulin resistance or type 2 diabetes



# Infections and Alzheimer's Disease

- + Herpes Virus
- + Lyme Disease
- + Oral Bacteria
- + H. Pylori





# Mold Toxin and Alzheimer's Disease

## Inhalational Alzheimer's & Mold Illness



# Patient Receives



Patients receive-

- Advanced diagnostic tests to identify risk factors
- Unique, comprehensive care plan
- Ongoing support from experts

Identifying and treating risk factors not only improves brain health, but it also reduces chances of other chronic illnesses and promotes an overall healthier lifestyle.

# Treatment Plan Options

## Therapeutic System 1.0

Goal	Approach	Rationale and References
Optimize diet: minimize simple CHO, minimize inflammation.	Patients given choice of several low glycemic, low inflammatory, low grain diets.	Minimize inflammation, minimize insulin resistance.
Enhance autophagy, ketogenesis	Fast 12 hr each night, including 3 hr prior to bedtime.	Reduce insulin levels, reduce Aβ.
Reduce stress	Personalized—yoga or meditation or music, etc.	Reduction of cortisol, CRF, stress axis.
Optimize sleep	8 hr sleep per night; melatonin 0.5mg po qhs; Trp 500mg po 3x/wk if awakening. Exclude sleep apnea.	[36]
Exercise	30-60' per day, 4-6 days/wk	[37, 38]
Brain stimulation	Posit or related	[39]
Homocysteine <7	Me-B12, MTHF, P5P; TMG if necessary	[40]
Serum B12 >500	Me-B12	[41]
CRP <1.0; A/G >1.5	Anti-inflammatory diet; curcumin; DHA/EPA; optimize hygiene	Critical role of inflammation in AD
Fasting insulin <7; HgbA1c <5.5	Diet as above	Type II diabetes-AD relationship
Hormone balance	Optimize fT3, fT4, E2, T, progesterone, pregnenolone, cortisol	[5, 42]
GI health	Repair if needed; prebiotics and probiotics	Avoid inflammation, autoimmunity
Reduction of A-beta	Curcumin, Ashwagandha	43-45
Cognitive enhancement	Bacopa monniera, MgT	[46, 47]
25OH-D3 = 50-100ng/ml	Vitamins D3, K2	[48]
Increase NGF	H. erinaceus or ALCAR	[49, 50]
Provide synaptic structural components	Citicoline, DHA	[51].
Optimize antioxidants	Mixed tocopherols and tocotrienols, Se, blueberries, NAC, ascorbate, α-lipoic acid	[52]
Optimize Zn:fCu ratio	Depends on values obtained	[53]
Ensure nocturnal oxygenation	Exclude or treat sleep apnea	[54]
Optimize mitochondrial function	CoQ or ubiquinol, α-lipoic acid, PQQ, NAC, ALCAR, Se, Zn, resveratrol, ascorbate, thiamine	[55]
Increase focus	Pantothenic acid	Acetylcholine synthesis requirement
Increase SirT1 function	Resveratrol	[32]
Exclude heavy metal toxicity	Evaluate Hg, Pb, Cd; chelate if indicated	CNS effects of heavy metals
MCT effects	Coconut oil or Axona	[56]

CHO, carbohydrates; Hg, mercury; Pb, lead; Cd, cadmium; MCT, medium chain triglycerides; PQQ, polyquinoline quinone; NAC, N-acetyl cysteine; CoQ, coenzyme Q; ALCAR, acetyl-L-carnitine; DHA, docosahexaenoic acid; MgT, magnesium threonate; fT3, free triiodothyronine; fT4, free thyroxine; E2, estradiol; T, testosterone; Me-B12, methylcobalamin; MTHF, methyltetrahydrofolate; P5P, pyridoxal-5-phosphate; TMG, trimethylglycine; Trp, tryptophan

# Patient Progress



We track patient progress through the MoCA assessment which looks at a patient's cognitive functions. MoCA Scores range from 1-30

Patient 1: 24/30 -> 26/30 in 4 months

Patient 2: 26/30 -> 27/30 in 14 months

Patient 3: 27/30 -> 30/30 in 4 months

Patient 4: 25/30 -> 28/30 in 7 months

Patient 5: 23/30 -> 28/30 in 12 months

Patient 6: 25/30 -> 28/30 in 4 months

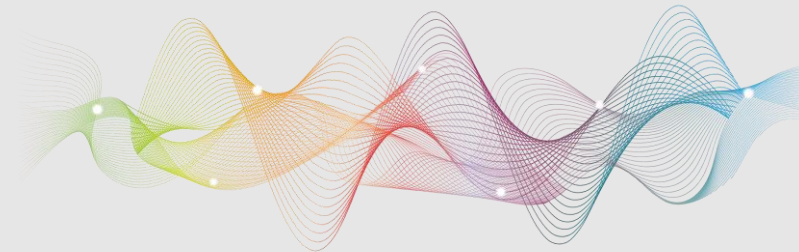
# Medicare GUIDE Model Program for Dementia!

**Grey Matters is one of only 97 providers nationally** selected as the initial Established Programs for the new Medicare GUIDE Model.

Effective July 1, 2024, under the GUIDE Model, Grey Matters receives a monthly management fee for providing assessments, care planning, care management, caregiver support and wrap-around service navigation to Medicare Part B beneficiaries diagnosed with dementia symptoms.

Grey Matters is the only GUIDE Model provider in Sarasota and one of three in Jacksonville. There is no recognized clinical dementia provider in the U.S.

**Opportunity to Become the Standard of Care and Recognized Brand.**





# What does GUIDE Model provide?

If you qualify, your **Grey Matters Care Navigator** will help you receive:

- Assessments and care plans
- 24/7 access to a team member or help line
- Meals and transportations through local organizations
- Caregiver respite services
- Training on caring for loved ones living with dementia

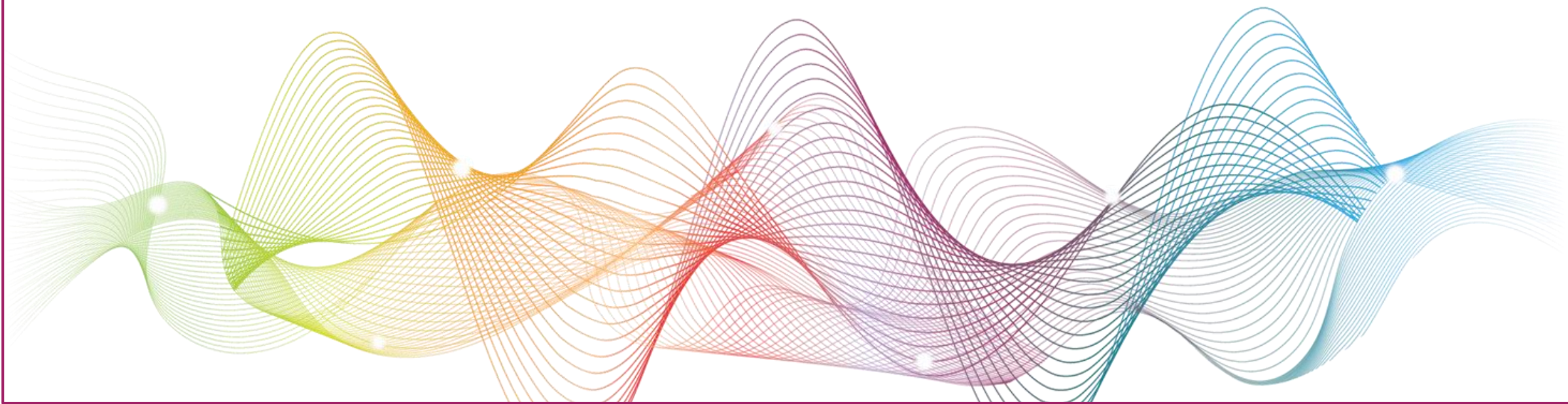


# Options for Cognitive Decline



- 1) Do nothing–
  - Research shows that 50% of individuals who do nothing for cognitive decline will have some sort of dementia diagnosis by the time they turn 80
- 2) Rely on pharmaceuticals–
  - May provide symptomatic relief for some, but has limited long-term benefits
  - Has been found to slow decline, instead of prevent/reverse it
  - Clinical trials have high dropout rate due to adverse side effects– up to 50% of participants in some studies stopped taking medication
- 3) Bredesen Protocol–
  - Studies show that implementing the Bredesen Protocol can improve cognitive abilities in up to 84% of patients

# Thank You!



# Grey Matters

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