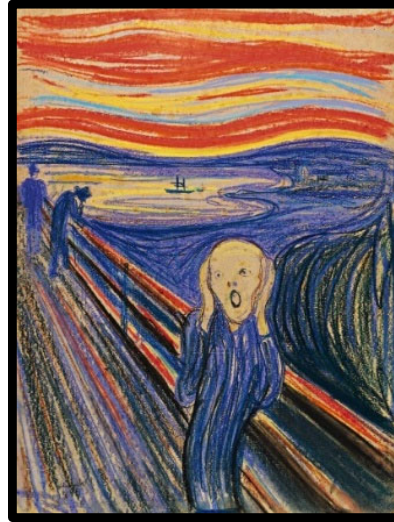


Brain Health and Dementia Risk Reduction

*PROPOSED DSP GOAL 6
TO ADDRESS BRAIN
HEALTH AND
MODIFIABLE RISK
FACTORS FOR DEMENTIA*



*The Scream,
Edvard Munch*

Paul F. Aravich, Ph.D.

Professor of Pathology/Anatomy, Geriatrics & PM&R

Eastern Virginia Medical School

aravicpf@evms.edu

Virginia Dementia Capable Summit 2023 May 10, Richmond

For details: See DARS recording

Shout Outs

Thelma Bland



<https://www.facebook.com/seniorconnectionscaaa>

Richard Lindsay



<https://vcoa.chp.vcu.edu/about-us/advisory/richard-w-lindsay-md.html>

“Social change agents and leaders for the greater good of the community.”
Flexner

Edward Ansello



<https://southernregiontoday.org/society.org/grits-edward-ansello.html>

Constance Google



<https://www.linkedin.com/in/constance-coogle-433b3712/>

“The Universe Between Our Ears”

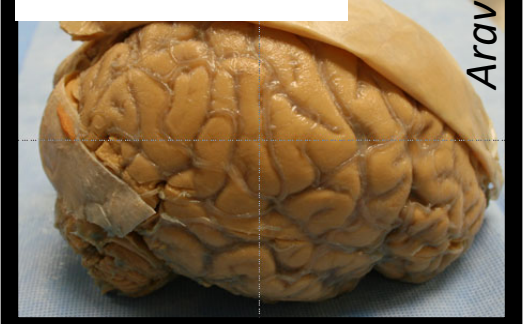
Brain: The Last Great Frontier of Science*

Behavioral Neuroscience:
The Last Frontier of the Last Frontier of Science

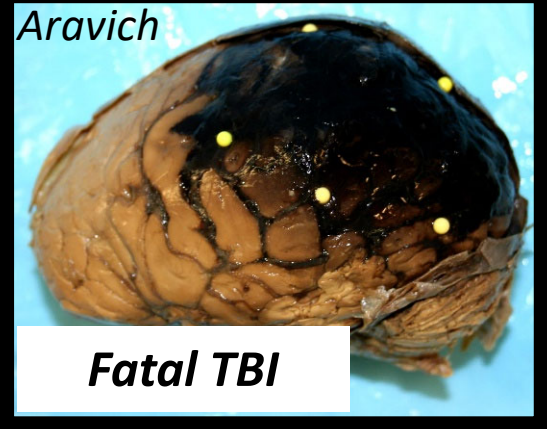
**Andromeda Galaxy (M31): 2.6 M light years
~15 Billion- Billion miles away.
Visible by unaided eye**

*See Aravich, TEDx on the You Tube Channel
<https://www.youtube.com/watch?v=-SfJsqnMRVc> on

Alzheimer's



Aravich



Fatal TBI

Hubble Telescope
<http://pics-about-space.com/hubble-andromeda-galaxy-pictures?p=1>

Types of brain “injuries”

- Congenital, e.g.: autism, cerebral palsy
- Acquired, e.g.: stroke, traumatic brain injury (TBI)
- Degenerative, e.g.:
 - Dementia, AKA Major Neurocognitive Disorder (MND):
 - Parkinson’s disease
 - Huntington’s disease
 - Amyotrophic lateral sclerosis (ALS)
 - Multiple sclerosis (MS)
- Substance use disorders (SUDs)
- Serious mental illness (SMIs)

Prevention:
Congenital BI,
Acquired BI, SUDs,
SMIs: All dementia
risk factors

Brain Health Dementia Risk Reduction

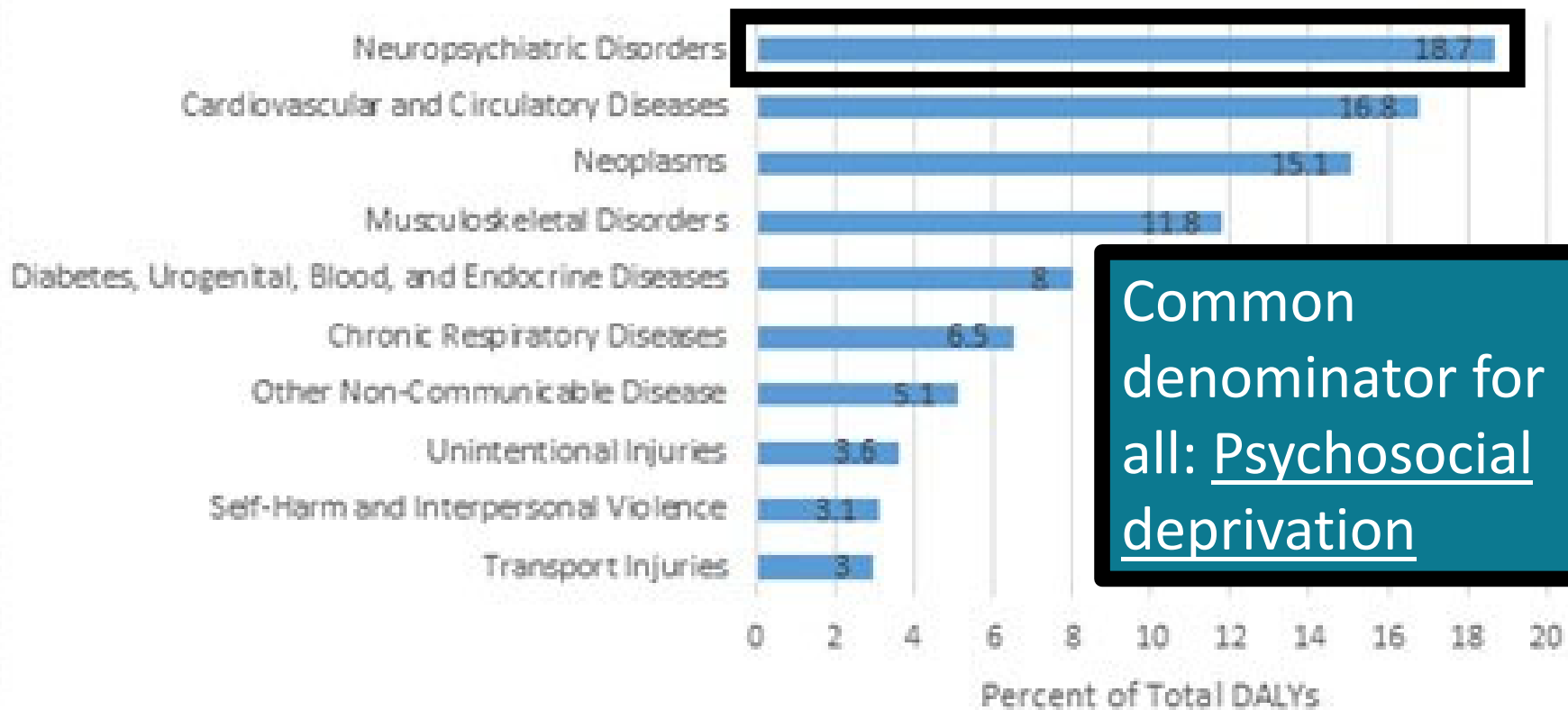
Outline/Learning Objectives. Describe:

- Disabilities: The UN's largest minority group
- Successful Aging: A brain thing
- Normal and abnormal cognitive changes with aging
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- System changes for risk reduction

UN. World's largest minority population: Persons with disabilities

- Most prevalent: Neuro & Psychiatric disorders

Top 10 Leading Disease Categories Contributing to United States Disability Adjusted Life Years (DALYs) - 2010



<https://www.americanbraincoalition.org/page/PPPHelpPatients>

Promote: Cultural humility:

“Ableism”

Life-long mind set of self-reflection

See Psych Hub video https://www.youtube.com/watch?v=c_wOnJJEfxE

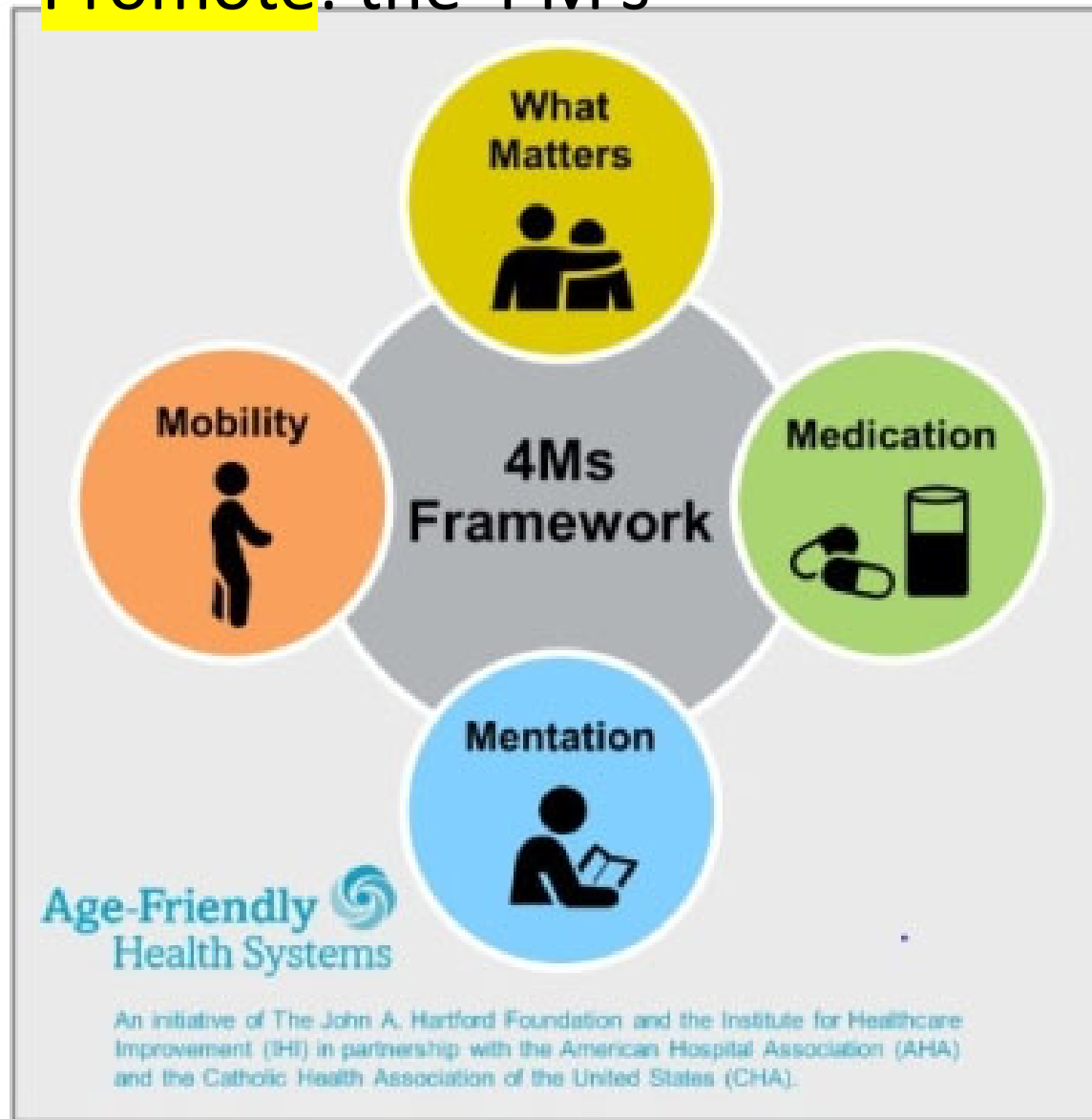


<https://www.gsa.gov/blog/2021/11/19/celebrating-diversity-by-honoring-the-lived-experience-of-employees>

What Does It Mean to Be Age-Friendly?

“Age Friendly.” Also:
“Disability Friendly”

Promote: the 4 M's



For related work, this graphic may be used in its entirety without requesting permission.
Graphic files and guidance at [ihf.org/AgeFriendly](https://www.ihf.org/AgeFriendly)

What Matters

Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication

If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation

Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

Mobility

Ensure that older adults move safely every day in order to maintain function and do What Matters.

<https://www.ihf.org/communities/blogs/using-the-age-friendly-4ms-to-better-advocate-for-older-adults-and-geriatric-care>

Promote: Dementia Friendly America.
Also “Disability Friendly America”

<https://www.dfamerica.org/>



Dementia
Friendly
America®

See DARS
George
Worthington

“A dementia friendly community is a village, town, city or county that is informed, safe and respectful of individuals with the disease, their families and caregivers and provides supportive options that foster quality of life.”

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Promote:

Successful aging as a brain thing

- More than avoidance disease/disability
- Successful aging is defined as:
 - High physical function
 - High cognitive function
 - Engaged in social/productive activities

Rowe/Kahn Gerontologist 1997 37:433-440

Fay Gillis Wells

female aviator

with Amelia Earhart in 1929

- Key to successful aging?
 - Pursue “the completely unexpected opportunities that come along in life.”
 - “Be happy, have fun”
- “Happy landings, and beautiful trees”

10/29/02 email to Paul Aravich



Photo

Age: 90

Died: 94

Co-Founder of the International Forest of Friendship to honor aviation's greats; near the birthplace of Amelia Earhart <http://www.ninety-nines.org/FOF3.html>

Prevent: Fear of aging

- Aging is the passage of time
 - Normal, developmental changes over time
 - Infancy, childhood, puberty, adult, older adult etc.
- Senescence is a programed ↓ in fitness
- Eventually leading to death
Williams. *Q Rev Biol* 74(4):405-415, 1999. Merck Manual of Geriatrics 2006
 - Due to, e.g.: oxidative stress, inflammation, apoptosis
- We fear senescence not aging
- Aging is Not a disease *though Silicon Valley is trying to cure*

<http://longevityalliance.org/?q=how-silicon-valley-trying-cure-ageing>

Monaco & Silveira. *Aging is not senescence... Clinics (Sao Paulo)*. 2009

May;64(5):451-7. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2694250/> And

<http://jcb.rupress.org/content/early/2017/11/06/jcb.201708092>

Promote:

The “Senescence Buffer Zone”

4. Goal of Successful Aging: Strengthen the buffer zone (“moat”). Stop the Visigoth senescence attack

5. “Brain fitness:” Nutrition, physical/cognitive exercise, social engagement, social determinants of health

1. Roman Castle
(brain etc.)

Protective buffer (like a moat)

3. Buffer zone: protects against the “Visigoths,” but shrinks w/ aging

Senescence pathology



2. “Visigoth” senescence attack: e.g. oxidative stress, inflammation, excitotoxicity

Rattan. *Aging Dis.* 2014 Jun 1;5(3):196-202

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4037311/#!po=9.37500>

Castle http://www.exploring-castles.com/medieval_castle_layout.html#.U8Z2AoVSn3w

Visigoths <http://visigoth-project.wikispaces.com/Visigoth+Warriors>

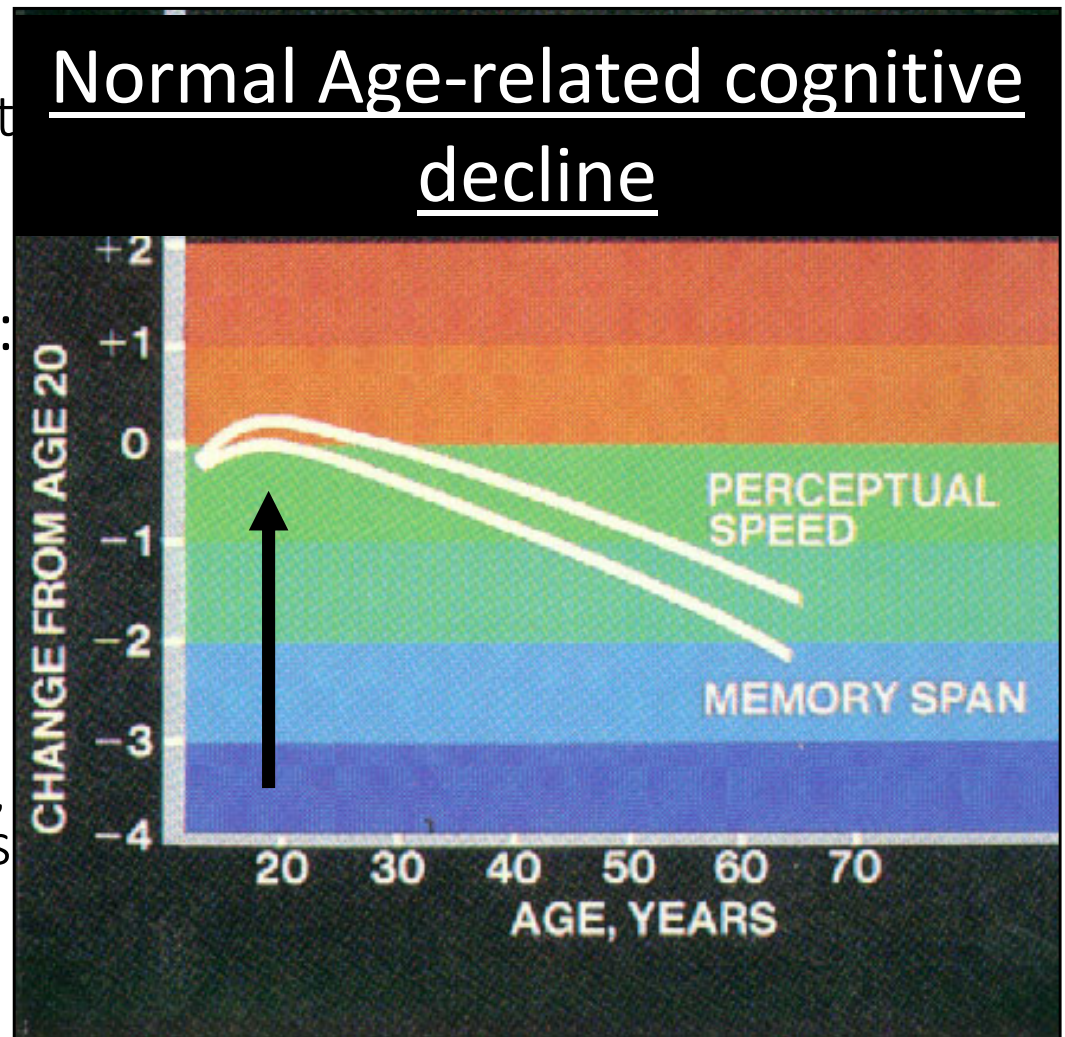
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Fact. Age-Related Cognitive Decline: Normal. Mild Cognitive Impairment: Not

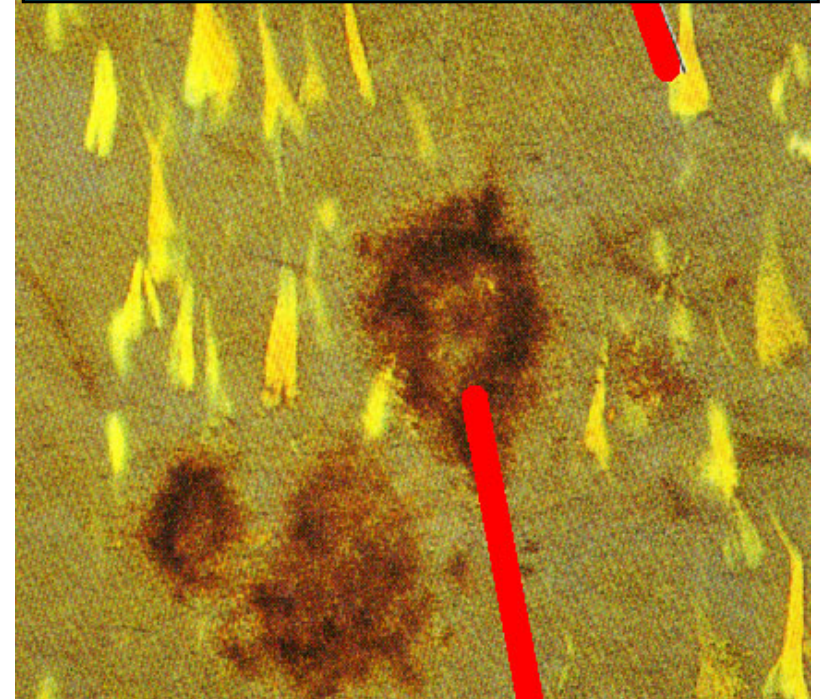
- FYI: accelerated w/
 - APOE4 cholesterol transport protein allele
 - an Alzheimer's risk factor
- Mild Cognitive Impairment:
AKA Mild Neurocognitive disorder
 - Worse than age-related
 - "Brain Fog"
 - Noticeable but does not affect daily living
 - Many causes, e.g., diabetes, depression, and early stages of dementia



Fact. Amyloid Plaques & Neurofibrillary Tangles: Normal feature of brain aging *in, e.g., hippocampal formation*

Excess numbers in, e.g., precuneus of Alzheimer's disease

Tangles: microtubules w/ hyperphosphorylated tau protein



Amyloid plaques: extra-cellular debris w/, e.g., amyloid-beta protein

All Cause Dementia: Dx Criteria

NINCDS-ADRDA criteria

- Everyday activities impaired
 - e.g., social activities, work, managing money, cook/shop
- Cognitive/Behav Impairment: ≥ 2 of following 5 domains
 - Recent memory *note memory does Not have to be affected*
 - Language *speaking; reading; writing*
 - Judgment/reasoning *place an iron in refrigerator*
 - Visuospatial function *driving problems; clock draw*
 - Personality/behavior changes *apathy, withdrawal, agitation*
- Impairments have declined from previous levels
- Not due to delirium *temporary & sudden (hrs/days) confusion/fluctuation of awareness b/c of infections, drugs, etc.*
- Not due to mental illnesses like depression
- Not due to other causes like thyroid etc.

Dx Probable Alzheimer's

1. Meets general criteria for all-cause dementia
2. Rule out other causes of cognitive impairment, e.g.
 - Thyroid problems
 - Vitamin B12 deficiency
 - Lesions/tumors/bleeds/ via standard MRI ¹ including vascular cause
3. Gradual onset and Slow progression
4. Deficits in 3 specific domains:
 - recent memory, visuospatial, judgement/reasoning; and
5. At least 1 other domain
e.g., language *like naming (anomia), reading (alexia;)* or personality

McKhann et al., 2011 https://www.alz.org/documents_custom/Diagnostic_Recommendations_Alz_proof.pdf

<http://www.ncbi.nlm.nih.gov/pubmed/21729419>

Am Psychiatric Assoc DSM-5 Diagnosis

- Major Neurocognitive Disorder = Dementia
- Major impairment in 1 of six (not 5) neurocognitive domains:
 - Memory/Learning
 - Language
 - Executive function/judgement
 - Attention
 - Perceptual-Motor
 - Social Cognition
- Like ADRD
 - Impaired everyday activities
 - Progressively declines
 - Not due to other disorders (thyroid, depression etc.)
- Mild Neurocognitive Disorder= Mild Cognitive Impairment
 - Modest impairment in one or more domains

Dementia types: Reversible *if diagnosed/treated/cured*

- Drug induced polypharmacy: PRIMARY REVERSIBLE CAUSE
- Vitamin B12 deficiency
 - FYI. Chronic antacids, Pernicious anemia, Gastric bypass surgery, metformin for diabetes, lot of other meds, strict vegans w/o B12 supplements, etc.
- Malnutrition, e.g.,
 - Protein-Energy Malnutrition starvation/cancer/other diseases
 - Thiamine (B1) deficiency due to alcohol causing Korsakoff's dementia
- Thyroid related
- Infections (e.g., meningitis, untreated syphilis)
- Liver/kidney failure
- Heavy metals like lead, mercury
- Normal pressure hydrocephalus

Many irreversible dementias, e.g.

Note: most dementias are mixed

AD Association. Please use full name: "Alzheimer's and Related Disorders Association"

Type	Distinguishing Features
Alzheimer's Most: Late Onset Less: Early Onset	Recent memory, visuospatial, judgement & at least one other domain Recent memory, visuospatial, judgement & at least one other domain
Vascular Most: Small vessel Less: Large vessel	Judgement (memory may be spared). Insight often preserved Judgement (memory may be spared). Insight often preserved
With Lewy Bodies (LB) Most: Dementia w/ LB Less: Parkinson's Dem	Fluctuating cognition w/in a yr of Parkinson's symptoms. Hallucinations Dementia occurs several years after onset of Parkinson's disease
Frontotemporal Most: Behav Variant 1 ^o Progress. Aphasia	Changes in personality/behavior Memory ~intact Initial/significant language impairment. Behav & Memory ~intact
Chronic Traumatic?	Memory. Impulse control. Depression. Parkinson's features

Importance of preventative strategies for each

Irreversible dementia features, e.g.

Type	Typical Age	Main Gender	Misfolded Protein	Onset
Alzheimer's Most: Late Onset Less: Early Onset	65+ <65	Women Equal	A-beta, Tau A-beta, Tau	Gradual Gradual
Vascular Most: Small vessel Less: Large vessel	65+ 65+	Men Men	X X	Gradual Rapid
With Lewy Bodies (LB) Most: Dementia w/ LB Less: Parkinson's Dem	65+ 65+	Men Men	α -Synuclein α -Synuclein	~Rapid Gradual
Frontotemporal Most: Behav Variant 1 ^o Progress. Aphasia	<65 <65	Equal Equal	Tau, TDP-43 Tau, TDP-43	~Rapid ~Rapid
Chronic Traumatic?	?	?	Tau, TDP-43	Gradual

Protein Misfolding Hypothesis:
Characterizes Several dementias

Fact. There are multiple Stages of Late-Onset Alzheimer's Disease (AD)

modified from NIA 2011Fa

Preclinical.
Decades. No
symptoms

Mild Cog.
Impairment
due to AD

Mild
Alzheimer's
Disease

Moderate
Alzheimer's
Disease

Severe
Alzheimer's
Disease

Importance of
prevention

Early Stage
Alzheimer's*

**Not the less common "Early Onset AD," which is clearly genetically transmitted and occurs in persons <65*

Alzheimer's
disease



The "rusty truck" analogy

Many Alzheimer's Theories.

Not mutually exclusive. Chicken vs egg?

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5676979/> <https://www.nature.com/articles/s41392-019-0063-8>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3962811/> <https://www.brightfocus.org/alzheimers/article/history-alzheimers-disease>

1. Occom's Razor: tend towards simplest solution?

2. Chicken & the Egg problem?

1. Acetylcholinergic 1970's
2. Calcium signaling hypothesis 1980's
3. Amyloid-beta cascade hypothesis (plaques), 1990's-present
4. Tau hypothesis (tangles)
5. Neuron reserve hypothesis
6. Several Energetic/Metabolic hypotheses:
Mitochondrial. Brain "Type-3 diabetes." Neuroenergetics
7. Neuroinflammation hypothesis
8. Oxidative stress hypothesis
9. Neurovascular: "cardioprotective is Alzheimer's protective"
10. Epigenetic hypothesis multiple "hits" across the lifetime
11. Life style hypothesis

Prevention: Seeds of Dementia Planted by adverse events *in utero*/childhood?



e.g. *Origins of Alzheimer's Across the Life Course (ORACLE) study, Lamballais et al. Eur J Epidemiol. 2021; 36(1): 117–127.*

1st geriatricians: obstetricians

Advertisement, 1998 Kellogg Co., Time Magazine 1998 151(15), p. 23

Prevalence of all Dementias (USA)

	<u>Percent</u>
• 65+ Dementia	10 ¹
• 65+ MCI	22 ¹ (mild cognitive impairment)
• 70-74 yo:	3 ²
• 85-89 yo:	22 ²
• <u>90+ yo:</u>	<u>33</u> ²
• <u>Nursing homes</u>	<u>49</u> ³ (36% short-stay, <100 days; 58% long-stay)

1Manly et al. JAMA Neurology. 2022 Dec 1;79(12):1242-1249

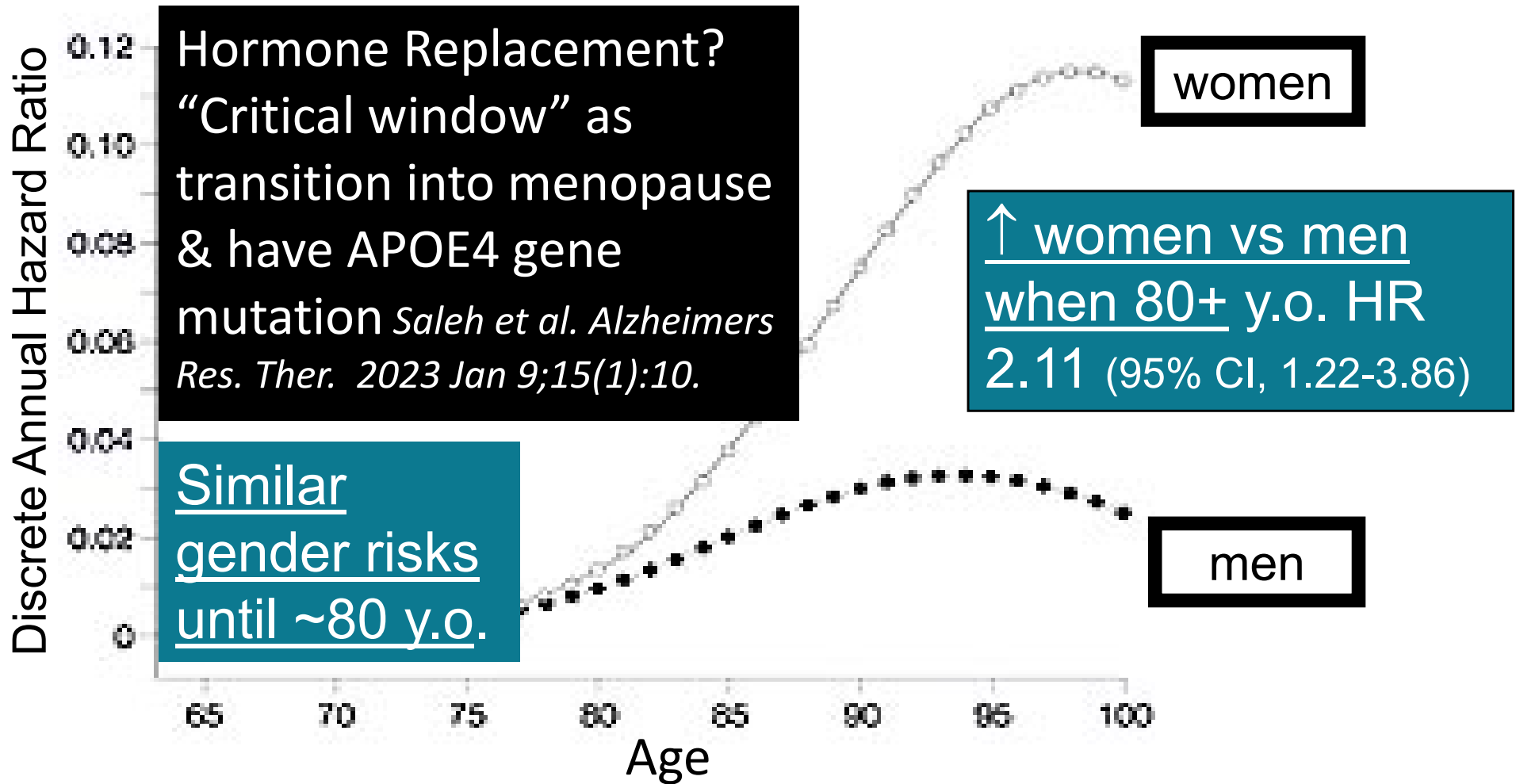
2Alz Disease Facts and Figures 2023

3Population Reference Bureau Fact Sheet: US Dementia Trends

Alzheimer's: A woman's health issue

women & men with ≥ 13 years education & no ApoE4.

APOE4 is a CHL transport protein allele linked to increased AD and heart disease risk



Older view: More women AD b/c live longer?
Emerging view: a woman's health issue

Alzheimer's: a Minority Health issue

- 2x's worse rate in Black Americans
- 1.5x's worse rate in Hispanics
- Major outreach initiative of Alzheimer's Association
 - Promote disparity awareness
 - Promote Clinical trial enrollment
 - Promote intergenerational community ambassadors

Black Americans and Alzheimer's

<https://www.alz.org/help-support/resources/black-americans-and-alzheimers>

Hispanic Americans and Alzheimer's

<https://www.alz.org/help-support/resources/hispanics-and-alzheimers>

Addressing Diversity in Alzheimer's Clinical Trials

https://aaic.alz.org/releases_2021/clinical-trial-diversity.asp

Alzheimer's Association and Thurgood Marshall College Fund <https://www.tmcf.org/events-media/tmcf-in-the-media/alzheimers-association-and-thurgood-marshall-college-fund-announce-new-collaboration-to-develop-advocates-and-champions-in-alzheimers-fight/>

Figure 1

Social Determinants of Health

Prevent: Adverse Social Determinants

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education		Stress	
Support	Walkability				
	Zip code / geography				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

<https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>

Promote: Medicaid expansion



CardinalCare

Virginia Medicaid

- ↑ Enrollments, including “CCC+” “medical home”
- ↑ Provider reimbursements
- ↑ Home health
- ↑ Housing vouchers
- ↑ PACE (Program of All Inclusive Care)

Prevent Silos: Asset Mapping, Champions, Coalitions

“If you want to go fast, go alone. If you want to go far, go together” *African proverb*

e.g. The American Brain Coalition



NAMI

Depression/Bipolar
Support Alliance

Parkinson's Fdn
TBI Action Alliance

Society for
Neuroscience etc.

<https://www.americanbraincoalition.org/page/NonProfitMembers>

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12 Modifiable Dementia Risk Factors:

↓ Global burden by 40%. *Lancet Commission, 2020*

Problem

- Poor Nutrition
- Physical Inactivity
- Less Education
- Low Social Contact
- Depression WHO #1 disabling cond.
- Traumatic brain injury
- Hearing impairment
- Hypertension, Diabetes
- Air pollution, Smoking, Excess Alcohol

Intervention (if possible)

- MIND diet Mediterranean + DASH diet
- Physical exercise, even if just a little
- Cognitive exercise
- “The human brain is a social brain”
- Depression diagnosis/treatment
- #1 Environmental cause? Falls
- Better hearing assessments
- Prevention/Management

[https://www.thelancet.com/article/S0140-6736\(20\)30367-6/fulltext](https://www.thelancet.com/article/S0140-6736(20)30367-6/fulltext)

Add: COVID-19 Aravich

COVID-19 vaccination

MIND Diet (Mediterranean-DASH Intervention for Neurodegenerative Delay)

Morris et al. Alzheimers Dement. 2015 Sep;11(9):1015-22. Liu et al. Contemp Clin Trials. 2021 Mar;102:106270.

- Elements of Mediterranean plus DASH diets
- Differences from Mediterranean and DASH diets:
 - Emphasis on green leafy vegetables (spinach etc.)
 - No fruit increase except Increased berry intake
- Also data suggesting overall benefits in Parkinson's disease
Metcalfe-Roach et al. Mov Disord. 2021 Apr;36(4):977-984

MIND Diet: selected elements

Appendix 1. User Friendly Shortcut MIND Diet. Paul F. Aravich, PhD, Eastern Virginia Medical. School		
Schedule	Food (While not part of the MIND Diet: Drink a couple liters of water/day)	~1 Serving Size
Every day	Extra-Virgin Olive Oil as the primary cooking oil	
Every day	Whole Grains, 3 servings/day (e.g., whole grain cereal, oatmeal, quinoa, brown rice, wild rice, whole grain bread)	Size of a closed fist
Every day	Green Leafy Vegetables 1 serving/day (e.g., spinach, kale, collard/turnup/mustard greens, endive, arugula)	Size of a closed fist
Every day	Other Vegetables 1 serving/day (e.g., colored vegetables like carrots, tomatoes/sauce, peppers, eggplant, cauliflower; broccoli, asparagus, mushrooms, squash, onions)	Size of a closed fist
Most Days	Berries, 2 servings in a day (e.g., blueberry, strawberry, raspberry, blackberry)	Handful
Most Days	Nuts, 2 servings in a day (e.g., unsalted almonds, pecans, walnuts, cashews, peanuts)	Handful
Most Days	Poultry (not fried) (e.g., boneless/skinless breasts/thighs) or Vegan protein sources for all days	Chicken/Turkey: Palm of you hand
Every other day	Beans/Legumes, 1 serving in a day (e.g., from a can or dry: black beans, chickpeas, pinto beans, black-eyed peas, kidney beans, split peas)	Size of the front of your fist after cooked
At least once/wk	Fish (not fried). Includes canned tuna and canned salmon	Palm of hand

Also designed for weight loss. If weight loss is not desired, portion sizes can increase

Promote: Cognitive exercise

- More than cross words puzzles and computer training
- Other ways:
 - Work with homeless
 - Laugh: Exercises a large part of brain
 - Therapeutic/Recreational Arts, Music and Dance
 - Lobby General Assembly/Capitol Hill
 - Become a master gardener
 - Play chess
 - Play with your dog
 - Take a walk in the woods

Prevent: Social isolation

Heart disease

Anxiety

High blood pressure

Dementia

Depression

Diabetes

Premature Death

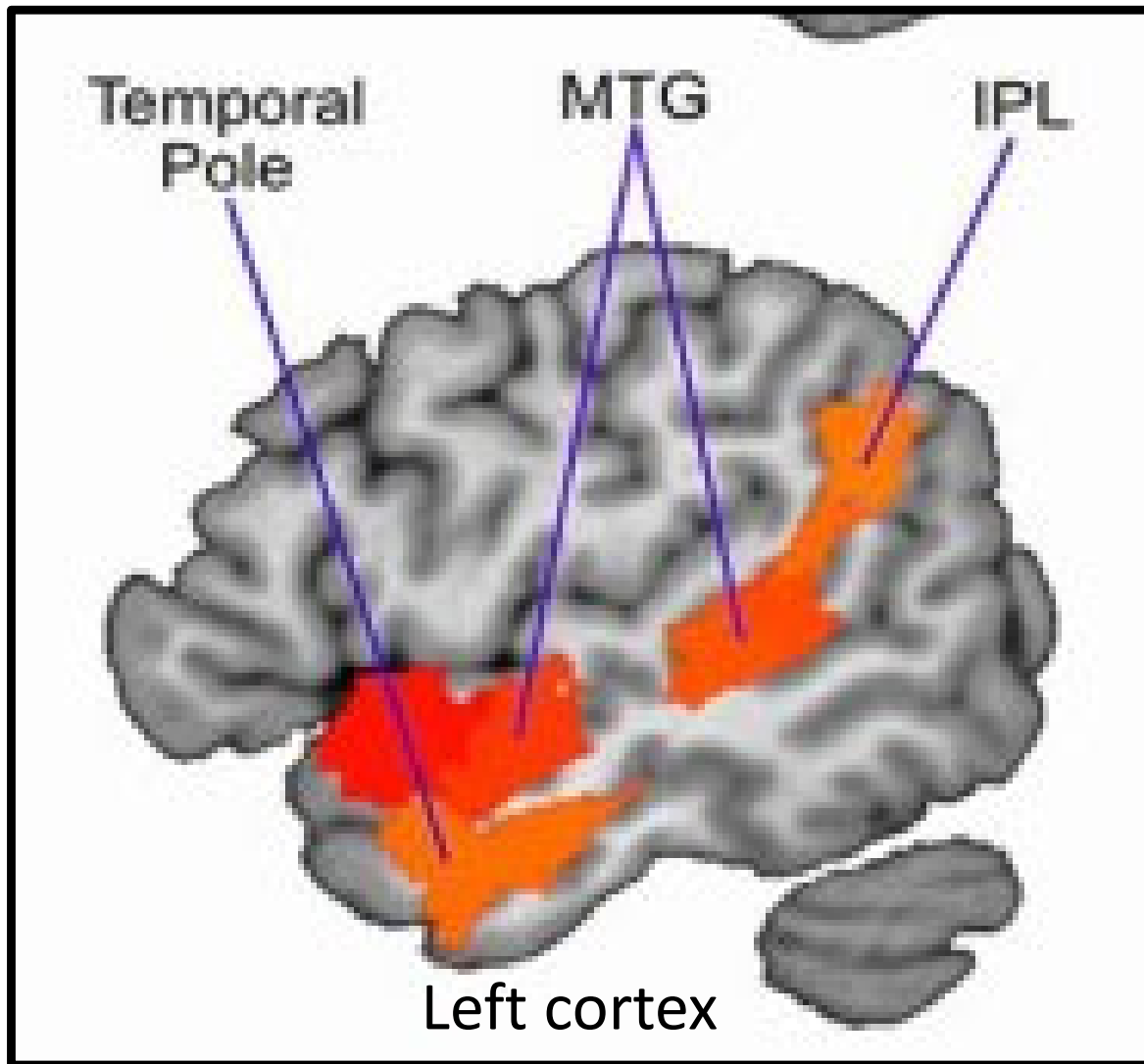
The Need for Social Connection

<https://www.hhs.gov/surgeongeneral/priorities/connection/index.html>

Neuroscientists say:

“The Human Brain is a Social Brain”

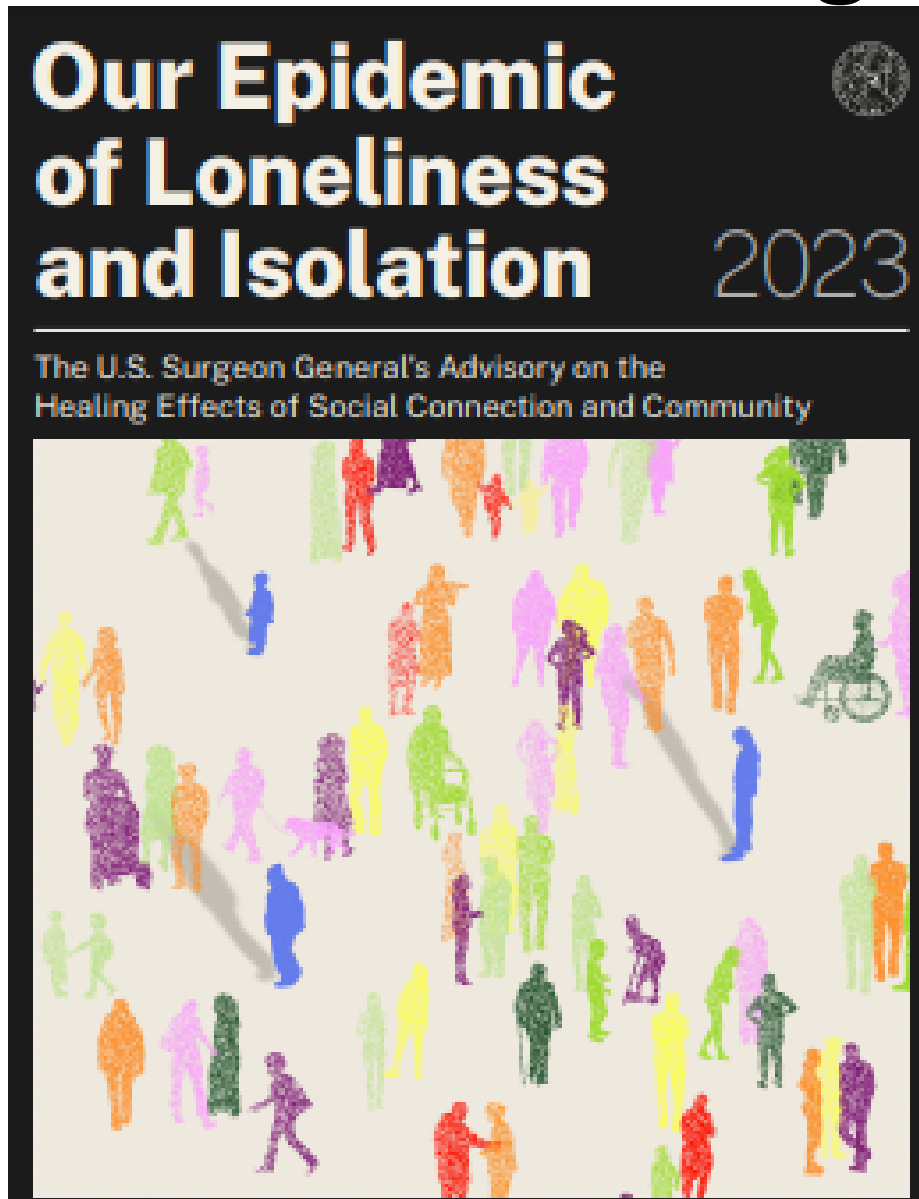
Social isolation causes a brain disorder



MRI structural data from a brain bank (UK Biobank) that has matched environmental and lifestyle data. Image: Pooled left-sided MRI structural variations between the hippocampal formation and the cortical “default network.” Marked areas are associated with the lack of social support (relative to “social support”). Not shown: Hippocampal formation structural variations due to the lack of social support.

Fig. 4. Zajner et al. *Soc Cogn Affect Neurosci.* 2022 Sep 1;17(9):802-818

National Strategy to Advance Social Connection. Surgeon General 5/23



<https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf>

Assess Social Isolation/Loneliness

- Social Status part, Uniformed Assessment Instrument (UAI)
https://www.dss.virginia.gov/files/division/licensing/alf/intro_page/current_providers/manuals/uai_users_manual.pdf
- Other assessments:
 - Revised UCLA Loneliness Scale. De Jong Gierveld loneliness scale. Lubben Social Network Scale. Berkman Social Network Index.
<https://hqlo.biomedcentral.com/articles/10.1186/s12955-022-01946-6#:~:text=Commonly%20used%20measures%20of%20loneliness,Social%20Network%20Index%20%5B15%5D.>



Ways to “Stay Connected”

**STAY
CONNECTED**

to Combat Loneliness
and Social Isolation

<https://www.nia.nih.gov/ctctoolkit>

Promote: Multiple lifestyle changes.

The FINGER study

Ngandu et al. A 2 year multidomain intervention of diet, exercise, cognitive training, social engagement and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): a randomised controlled trial. *Lancet*. 2015 Jun 6;385(9984):2255-63

- RCT: N=1260; 60-77 yo, sedentary, and @ risk for dementia (≥ 6 out of 15 on the “Cardiovascular Risk Factors, Aging & Dementia Scale” CAIDE)
- 4 Behavioral Lifestyle Domains manipulated simultaneously (*Along with cardiovascular monitoring. Control group: General health advice*)
 - Nutrition: Similar to US Dietary Guidelines
 - Physical Exercise w/ physiotherapists & gym, e.g.:
 - Mostly aerobic (e.g., 30 min moderate activity several days/wk)
 - Some strength training (e.g., 2 days/wk focused on major muscle groups); & Balance
 - Cognitive exercise (w/a psychologist on aging; and online computer training)
 - Social stimulation: multiple group meetings
- Results: ~25% better cognitive scores vs controls. Proof of Concept
- Benefits occurred across various sociodemographic and cardiovascular risk factor conditions.

Rosenberg et al. *Alzheimers Dement*. 2018 Mar;14(3):263-270.

Current US RCT: POINTER study

(Protect Brain Health Through Lifestyle Intervention to Reduce Risk)

- \$20M grant from the Alzheimers and Related Disorders Association (AKA Alzheimer's Association).
- Subjects: aged 60-79 at risk for cognitive decline.
- Like the FINGER study:
 - nutrition, physical exercise (mostly aerobic), cognitive exercise (in person and online) and social engagement (multiple group meetings) with cardiovascular risk factors monitored.
- Unlike the original FINGER study:
 - Diet: MIND Diet
 - Online computer training: uses a platform called BrainHQ.
 - Participation requires proximity to the different study sites, none of which are in Virginia..

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Risk Reduction: Nursing home crisis.

Immediate action needed.

The National Imperative to Improve Nursing Home Quality: Honoring Our Commitment to Residents, Families, and Staff. National Academies. April 2022. <https://www.nationalacademies.org/our-work/the-quality-of-care-in-nursing-homes>

Risk Reduction: ↓ Excess pharmacological restraints for challenging behaviors.

Non-Rx “...more efficacious than pharmacologic interventions for reducing aggression and agitation in adults with dementia.” *Watt et al. Ann Intern Med. 2019 Nov 5;171(9):633-642.*

“Compassionate Crisis Care” for Nursing-Home Challenging Behaviors during Pandemics & Disasters.



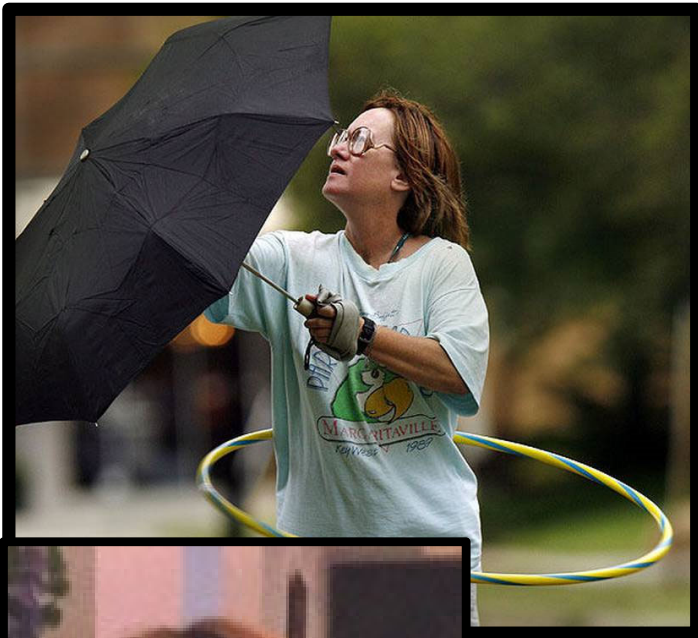
“HIGH TOUCH”

“LOW TECH”

- CDC-funded video series for certified-nursing assistants (CNAs) and outside “Strike Teams” posted on the Eastern Virginia Medical School YouTube site.*
- Stresses behavioral management/crisis intervention techniques for challenging behaviors vs Rx restraints.
 - The first video is focused on CNAs.
 - The second: on the Virginia Medical Reserve Corps.
 - A total of five videos will be posted by July 31, 2024.
- And: Stresses CNA mental wellness

*Google: EVMS Compassionate Crisis Care

Risk Reduction: Crisis Intervention Team (CIT) Training



https://www.pilotonline.com/news/crime/article_7d8641b0-942c-5895-a130-131267249791.html

“Pamela Brown, the Hula Hoop Lady of Granby Street, was being held in jail this morning after being charged during the weekend with making excessive noise and assault, police said.”

See incident and suffering at

<https://www.youtube.com/watch?v=Rk5anLtRpcw>



<https://www.tributearchive.com/obituaries/2016871/Marylin-T-Copeland>

Marylin Copeland. “As President of the Norfolk Chapter of the National Alliance on Mental Illness...[and Co-Chair, of the Mayor’s Commission for Person with Disabilities], Marylin was the unrelenting, but diplomatic, advocate for a Crisis Intervention Team Program...”

Challenging Behaviors

Virginia Dementia Services (VDS)

Work Group. DBHDS, 12/7/21

<https://rga.lis.virginia.gov/Published/2021/RD801/PDF>

Work Group Chair: Dr. Suzanne Mayo, Dir. Community Integration, DBHDS

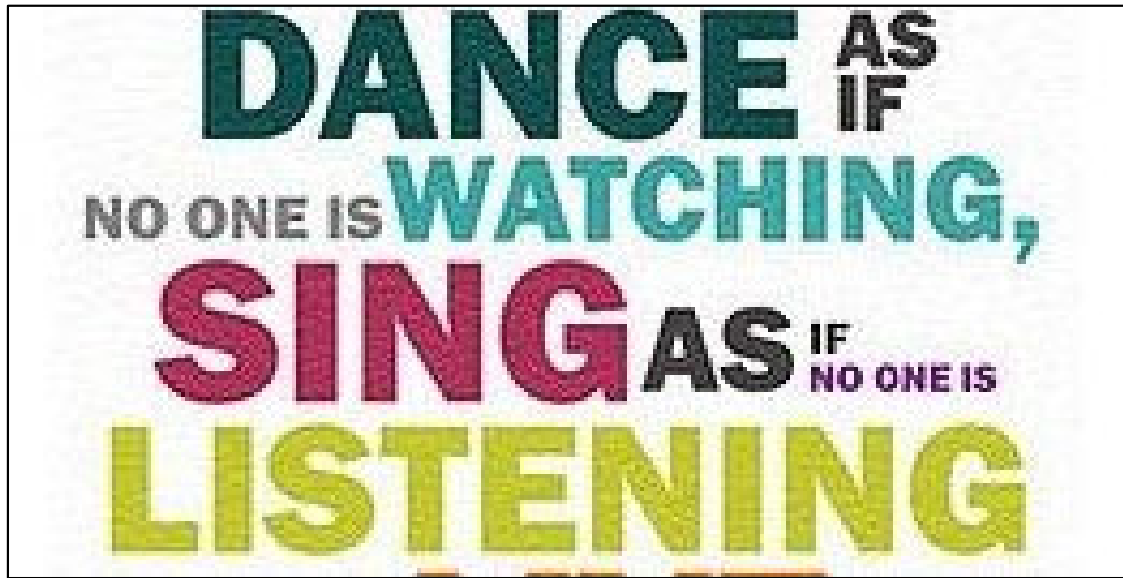
- State psychiatric facilities: Not suited to Tx challenging behaviors due to, e.g., the dementias
 - Less effective than specialized Tx facilities
 - More costly

Prevention:

The dementia “rusty trucks”



Caregivers/recipients



<https://www.pinterest.co.uk/pin/171559067026042568/>

Brain Health Dementia Risk Reduction

Outline/Learning Objectives. Describe:

- Disabilities: The UN's largest minority group
- Successful Aging: A brain thing
- Normal and abnormal cognitive changes with aging
- Modifiable dementia risk factors
- System changes for risk reduction