Age-Friendly Health Systems 4M Training For Healthcare Practitioners

Module 3: Mentation and Medication

Presenters:
Isabel Rovira, MPH
Raymond Ownby, MD, PhD, MBA
Todd James, MD

UHP
Urban Health Partnerships

Dr. Kiran C. Patel College of Osteopathic Medicine
NOVA SOUTHEASTERN UNIVERSITY
NSU Florida

South Florida Geriatric Workforce Enhancement Program

Age-Friendly Health Systems
4M Training For Healthcare Practitioners

Series Objectives

By the end of the training, participants will be able to:

1. Understand the need for Age-Friendly Health Systems (AFHS)
2. Communicate the AFHS 4'M model
3. Identify your scope, role, and opportunities to practice the 4Ms in the healthcare setting

Schedule

Age-Friendly Health Systems
4M Training For Healthcare Practitioners

Module 1: Introduction to Age-Friendly Health Systems
- *Thursday, June 3, 2021 • 10:00 am EST*

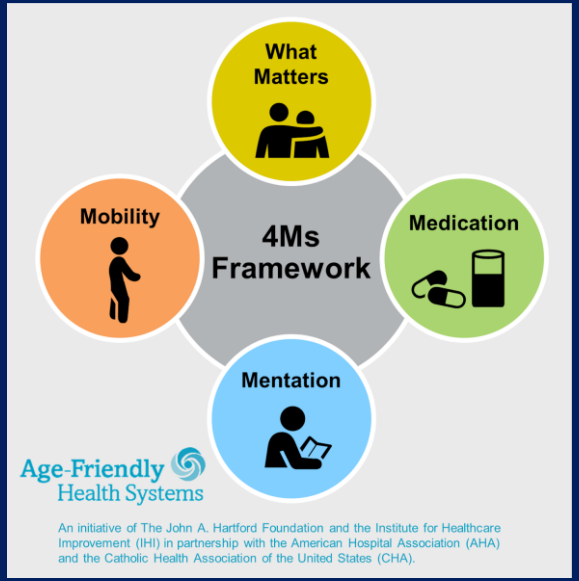
Module 2: Deep Dives – What Matters Most & Mobility
- *Thursday, June 10, 2021 • 10:00 am EST*

Module 3: Deep Dives – Mentation & Medication
- *Thursday, June 17, 2021 • 10:00 am EST*

Module 4: Putting it All Together
- *Thursday, June 24, 2021 • 10:00 am EST*

Module 3 : Mentation and Medication

June 17th, 2021



Agenda

Age-Friendly Health Systems 4M
Training For Healthcare Practitioners

Module 3:
Mentation and Medication

Welcome & Introduction
Isabel Rovira, MPH

Mentation
Raymond Ownby, MD, PhD, MBA

Medication
Todd James, MD

Q & A

Mentation

Raymond Ownby, MD, PhD, MBA

Professor and Chair, Department of Psychiatry and Behavioral Medicine,
Professor, Public Health and Biomedical Informatics Programs
Nova Southeastern University

Dr. Kiran C. Patel College of Osteopathic Medicine
NOVA SOUTHEASTERN UNIVERSITY
NSU Florida

South Florida Geriatric Workforce Education Program

Dementia Prevention and Brain Health: Mentation

Ray Ownby, MD, PhD

4M Training for Healthcare Practitioners

June 17, 2021

Dr. Kiran C. Patel College of Osteopathic Medicine
NOVA SOUTHEASTERN UNIVERSITY
NSU Florida

South Florida Geriatric Workforce Education Program

Disclosures

- Grant support:
  - National Institute on Aging
  - National Institute on Minority Health and Health Disparities
- Stock ownership
  - Enalan Communications, Inc.

Learning Objectives

- After this presentation, participants will be able to:
  - List sources of evidence that cognitive decline may be preventable
  - List three modifiable lifestyle factors related to improved brain health
  - State two strategies for encouraging behavior change for brain health.

01

Introduction

Why “brain health?”

02

Question

Can dementia be prevented?

03

Analysis

Modifiable lifestyle factors

04

Conclusion

Recommendations

Why brain health?

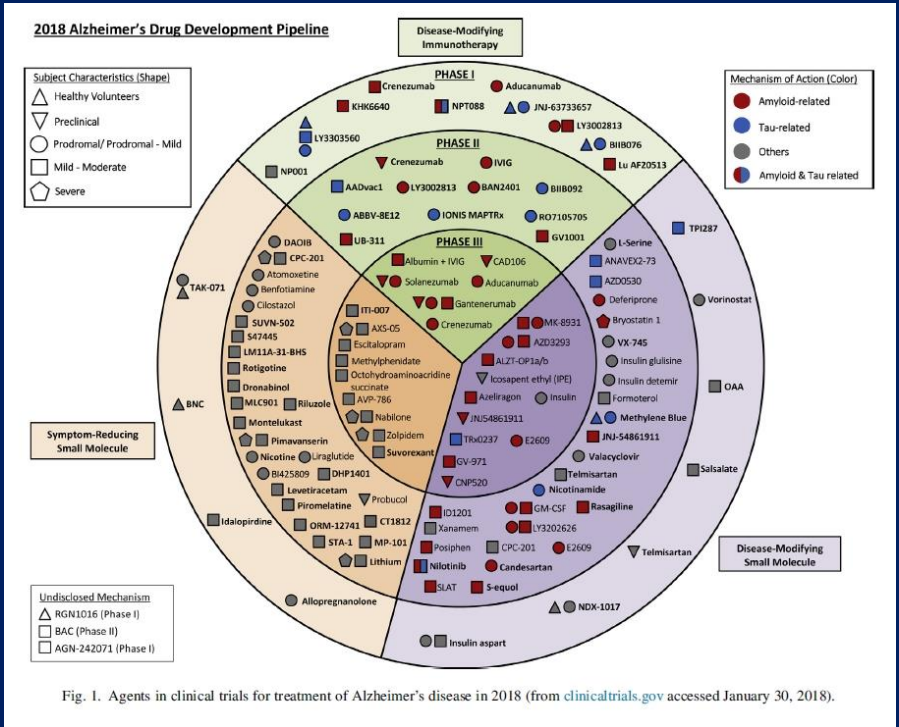
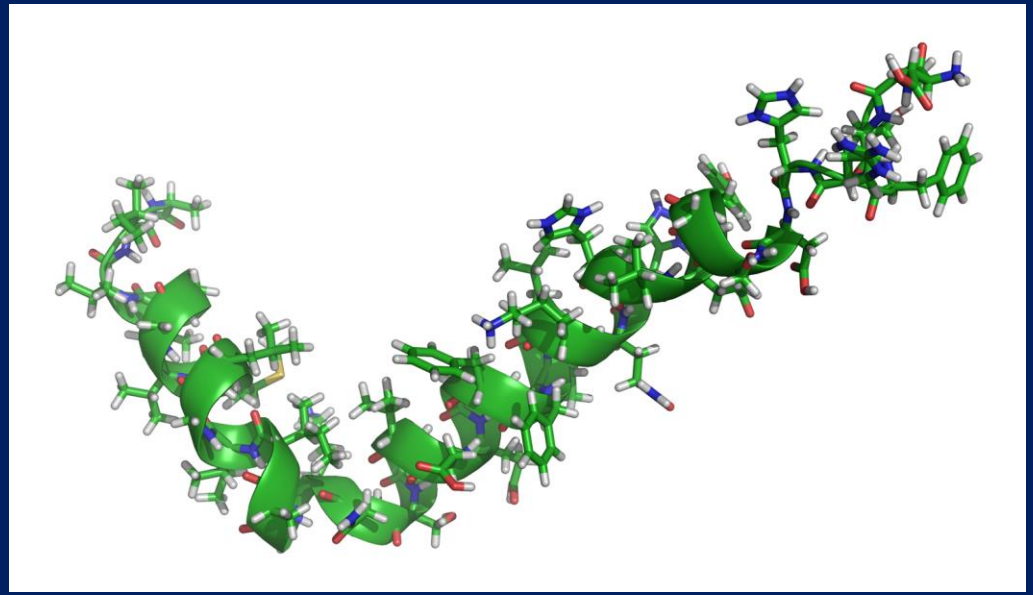


Fig. 1. Agents in clinical trials for treatment of Alzheimer's disease in 2018 (from clinicaltrials.gov accessed January 30, 2018).

Treatments



Amyloid

Amyloid-β

Changes in processing this protein are key in the pathology of Alzheimer's disease and related to cognitive function in persons without a clinical diagnosis of dementia.

Reaction to approval

F.D.A. Approves Alzheimer's Drug Despite Fierce Debate Over Whether It Works

Aducanumab, or Aduhelm, is the first new Alzheimer's treatment in 18 years and the first to attack the disease process. But some experts say there's not enough evidence it can address cognitive symptoms.

NEWS | 08 June 2021

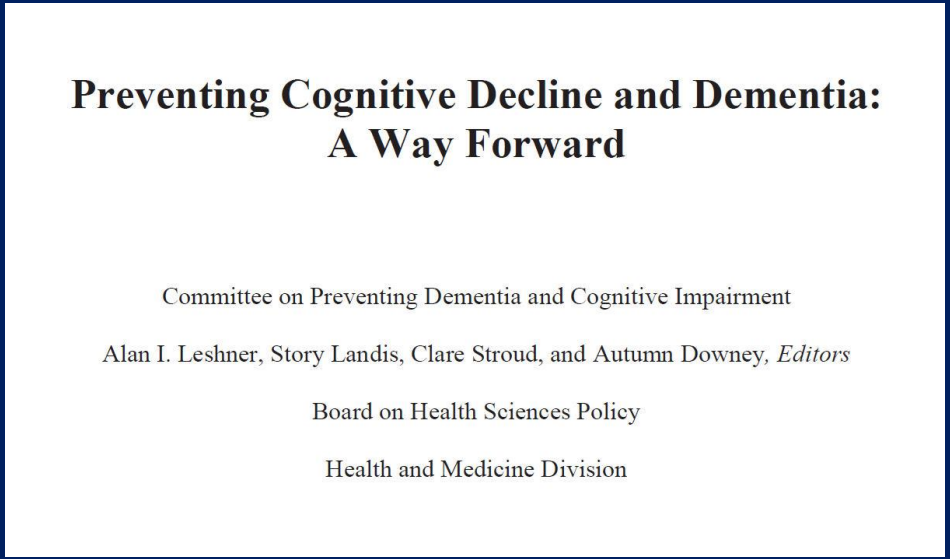
Landmark Alzheimer's drug approval confounds research community

Many scientists say there is not enough evidence that Biogen's aducanumab is an effective therapy for the disease.

Three F.D.A. Advisers Resign Over Agency's Approval of Alzheimer's Drug

The drug, Aduhelm, a monthly infusion priced at $56,000 per year, was approved this week despite weak evidence that it helps patients.

Prevention



National Academy of Sciences, June, 2017

Also see: Interventions to prevent age-related cognitive decline, mild cognitive impairment, and clinical Alzheimer-type dementia. Agency for Health Research and Quality, Comparative Effectiveness Report Number 188, March 2017.

Prevention

Global Health

Nearly Half of Dementia Cases Could Be Prevented or Delayed

International experts have identified 12 modifiable risk factors that could prevent or delay dementia.

payment, smoking, obesity, depression, physical inactivity, diabetes, and low social contact. Since then, the commission has reported that emerging evidence points to 3 more preventable dementia risk factors: head injuries or excessive alcohol consumption in midlife and air pollution exposure in later life.

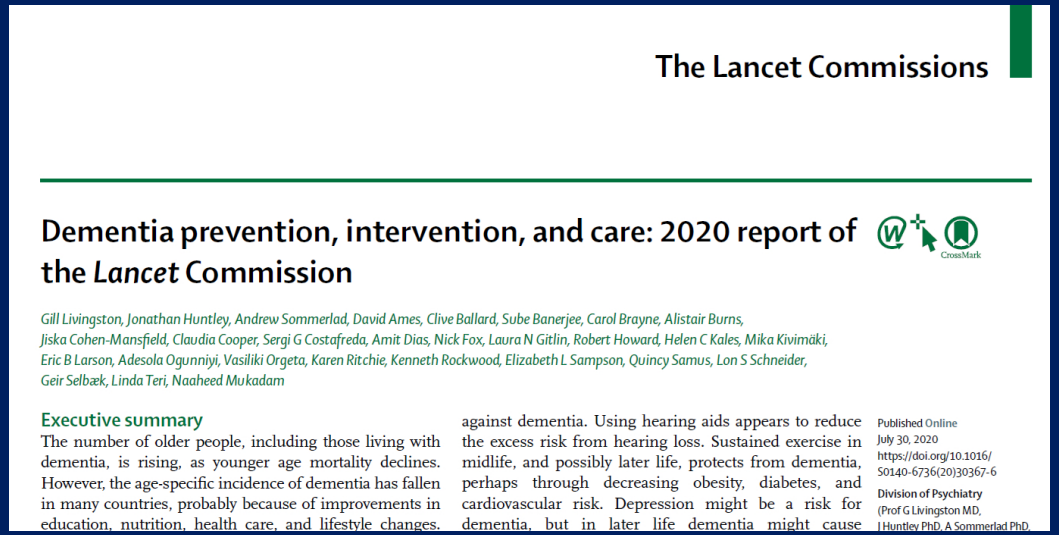
To prevent or delay dementia, the com-

ance by the end of 2021.

Currently, 75 wealthier countries that would pay upfront for their own doses have expressed interest in joining. Another 90 lower-income countries could participate through a financing mechanism established by Gavi, the Vaccine Alliance, which leads the COVAX Pillar along with the Coalition for Epidemic Preparedness Innova-

JAMA. 2020;324(11):1025. doi:10.1001/jama.2020.16210

Prevention



The Lancet Commissions

Dementia prevention, intervention, and care: 2020 report of the *Lancet* Commission

Gill Livingston, Jonathan Huntley, Andrew Sommerlad, David Ames, Clive Ballard, Sube Banerjee, Carol Brayne, Alistair Burns, Jiska Cohen-Mansfield, Claudia Cooper, Sergi G Costafreda, Amit Dias, Nick Fox, Laura N Gitlin, Robert Howard, Helen C Kales, Mika Kivimäki, Eric B Larson, Adesola Ogunniyi, Vasiliki Orgeta, Karen Ritchie, Kenneth Rockwood, Elizabeth L Sampson, Quincy Samus, Lon S Schneider, Geir Selbæk, Linda Teri, Naaheed Mukadam

Executive summary

The number of older people, including those living with dementia, is rising, as younger age mortality declines. However, the age-specific incidence of dementia has fallen in many countries, probably because of improvements in education, nutrition, health care, and lifestyle changes. against dementia. Using hearing aids appears to reduce the excess risk from hearing loss. Sustained exercise in midlife, and possibly later life, protects from dementia, perhaps through decreasing obesity, diabetes, and cardiovascular risk. Depression might be a risk for dementia, but in later life dementia might cause

Published Online July 30, 2020 https://doi.org/10.1016/S0140-6736(20)30367-6

Division of Psychiatry (Prof G Livingston MD, J Huntley PhD, A Sommerlad PhD,

www.thelancet.com Published online July 30, 2020
https://doi.org/10.1016/S0140-6736(20)30367-6

Prevention

Lancet Commission 2020

Modifying 12 risk factors might prevent or delay up to 40% of dementias:

- Prevent/treat diabetes
- Treat hypertension
- Prevent head injury
- Stop smoking
- Reduce air pollution
- Reduce midlife obesity
- Exercise
- Reduce occurrence of depression
- Avoid excessive alcohol
- Treat hearing impairment
- Social interaction
- Attain high level of education

www.thelancet.com Published online July 30, 2020 https://doi.org/10.1016/S0140-6736(20)30367-6

Prevention

Brain Maintenance

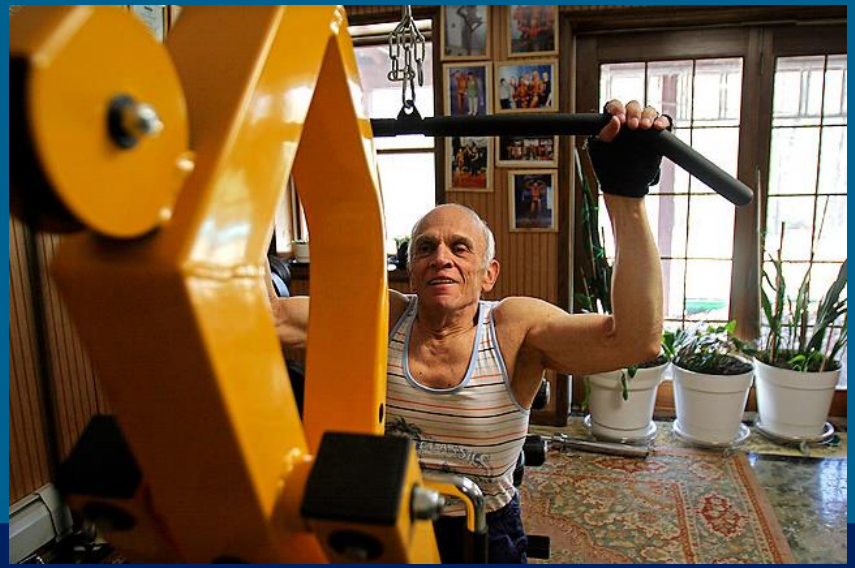
"Brain maintenance" is the primary factor in successful cognitive aging.

Genes and lifestyle are keys.

Interventions can promote brain structure and function with increasing age.

Nyberg et al. (2012) *Trends in Cognitive Sciences, 16,* 292-305.

Exercise



Meta-analysis of exercise effects on cognition

Exercise

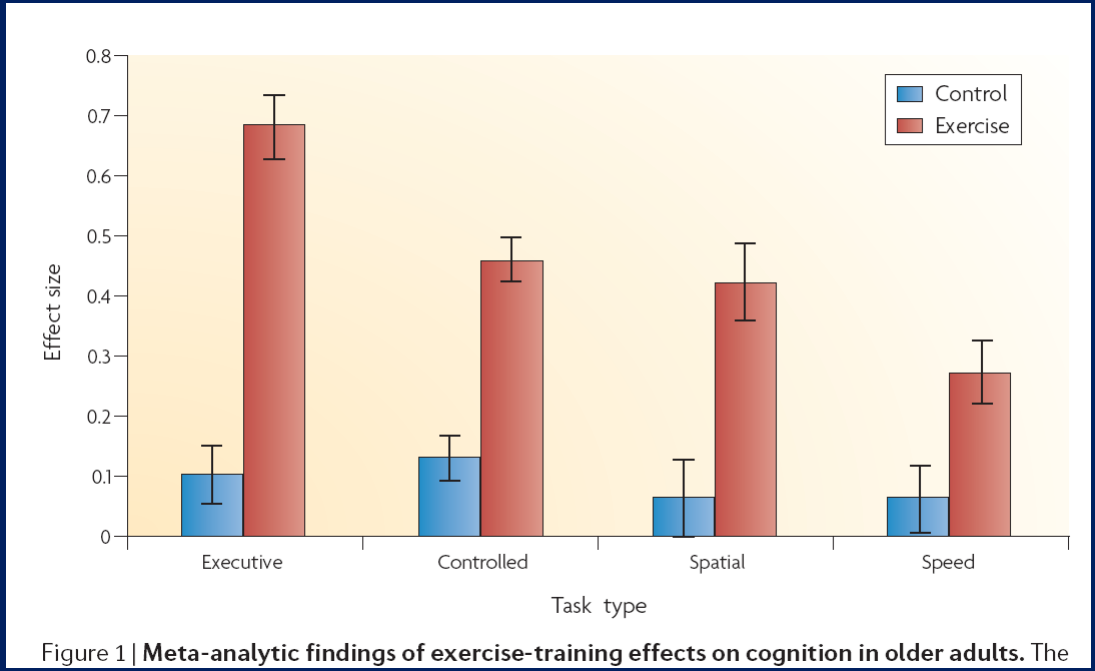


Figure 1 | **Meta-analytic findings of exercise-training effects on cognition in older adults.** The

Hillman et al., Nat Rev Neurosci, 2008 , 9, 58-65.

Exercise

PNAS

Exercise training increases size of hippocampus and improves memory

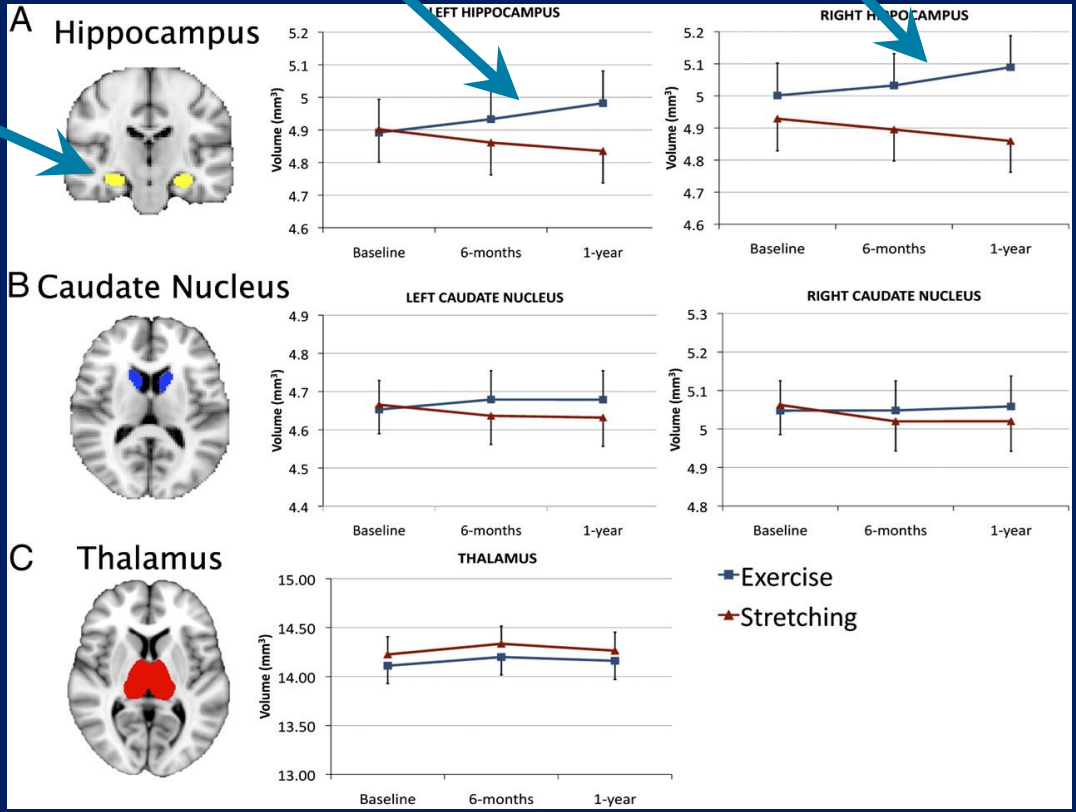
Kirk I. Erickson[a], Michelle W. Voss[b,c], Ruchika Shaurya Prakash[d], Chandramallika Basak[e], Amanda Szabo[f], Laura Chaddock[b,c], Jennifer S. Kim[b], Susie Heo[b,c], Heloisa Alves[b,c], Siobhan M. White[f], Thomas R. Wojcicki[f], Emily Mailey[f], Victoria J. Vieira[f], Stephen A. Martin[f], Brandt D. Pence[f], Jeffrey A. Woods[f], Edward McAuley[b,f], and Arthur F. Kramer[b,c,1]

[a]Department of Psychology, University of Pittsburgh, Pittsburgh, PA 15260; [b]Beckman Institute for Advanced Science and Technology, and [f]Department of Kinesiology and Community Health, University of Illinois, Champaign-Urbana, IL 61801; [c]Department of Psychology, University of Illinois, Champaign-Urbana, IL 61820; [d]Department of Psychology, Ohio State University, Columbus, OH 43210; and [e]Department of Psychology, Rice University, Houston, TX 77251

Edited* by Fred Gage, Salk Institute, San Diego, CA, and approved December 30, 2010 (received for review October 23, 2010)

Erickson KI et al. (2011). *Proceedings of the National Academy of Sciences, 108,* 3017-3022.

Exercise

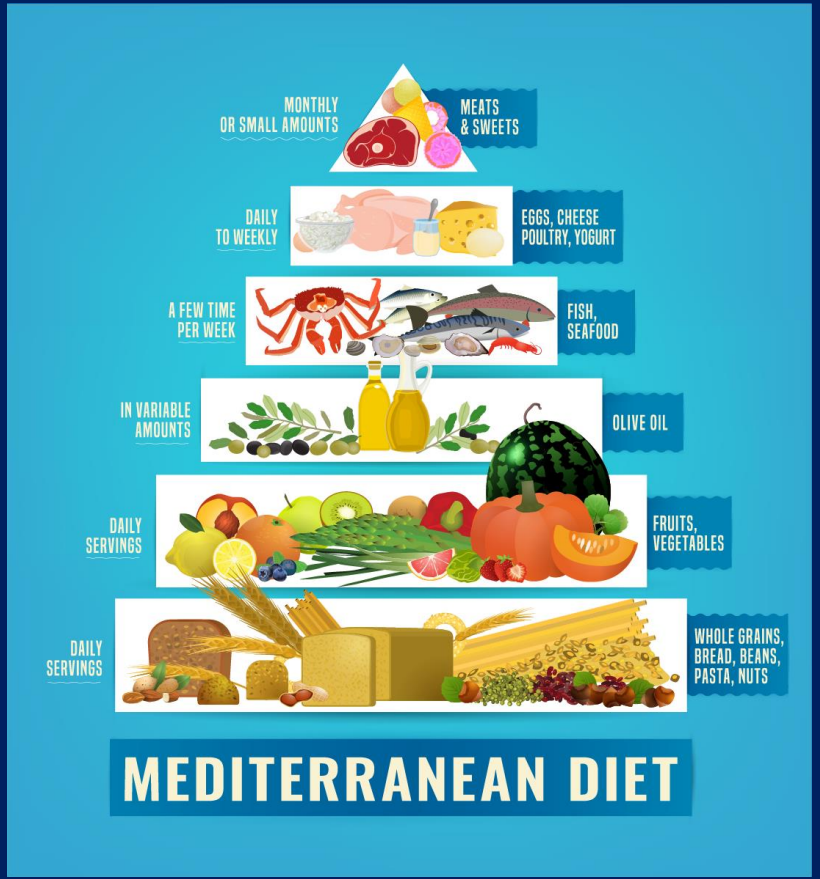


Erickson KI et al. (2011). *Proceedings of the National Academy of Sciences, 108,* 3017-3022.

Diet

Mediterranean diet

- The Mediterranean diet emphasizes olive oil, fish, cheese and yogurt, as well as fresh fruits and vegetables
- Beans, legumes, and nuts are important
- Whole grain breads and pastas



Diet

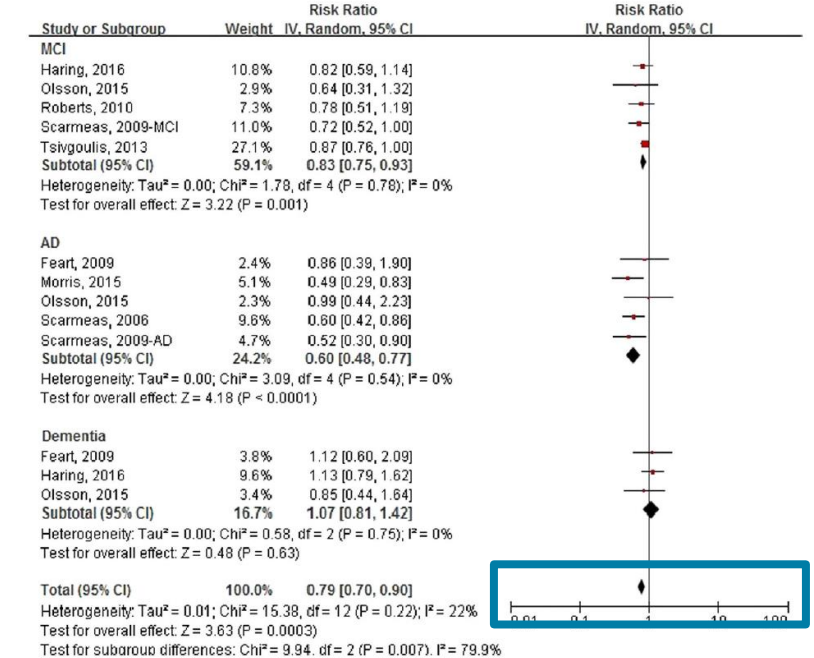
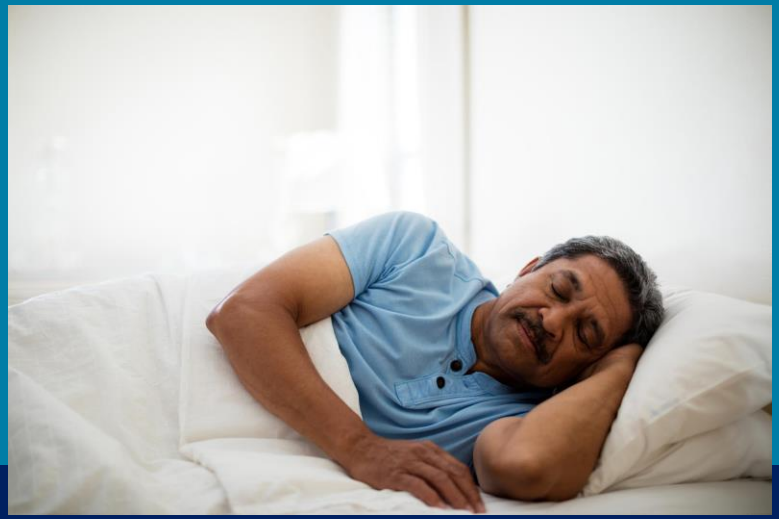


Figure 2. Forest plot of relative risks (RRs) and 95% confidence intervals (CIs) for the association between Mediterranean diet score (High vs. Low) and the incident risk of cognitive disorders by outcome type. MCI, mild cognitive impairment; AD, Alzheimer's disease.

Wu, L. Sun, D. (2017).Adherence to Mediterranean diet and risk of developing cognitive disorders: An updated systematic review and meta-analysis of prospective cohort studies. *Scientific Reports,* 7, 41317. doi: 10.1038/srep41317 (2017).

Sleep



Sleep

Sleep

Poor sleep linked to increased dementia risk

Semin Neurol. 2017 Aug; 37(4): 395–406

Slow wave sleep disruption increases cerebrospinal fluid amyloid-β levels.

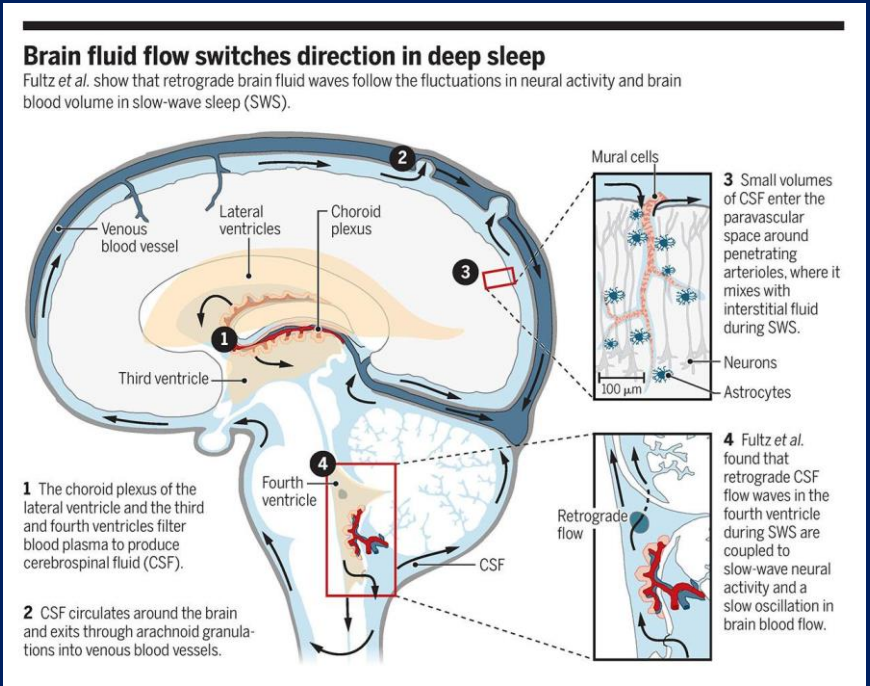
Brain. 2017 Aug; 140(8): 2104–2111

Slow wave sleep is a promising intervention target for Alzheimer's Disease

Front. Neurosci., 30 June 2020 https://doi.org/10.3389/fnins.2020.00705

CSF Brain fluid flow switches direction in deep sleep

Sleep



Søren Grubb, and Martin Lauritzen *Science* 2019;366:572-573

Cognitive Training

Life moves pretty fast. If you don't stop and look around once in awhile, you could miss it.

--Ferris Bueller

Cognitive Training

- Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study
- Began in 1996
- Six sites
- 2,832 participants
- National Institute on Aging
- Four groups: (1) memory, (2) reasoning, (3) speed of processing, and (4) control
- 10 sessions over 6 weeks
- Intervention for speed of processing
  - Useful Field of View

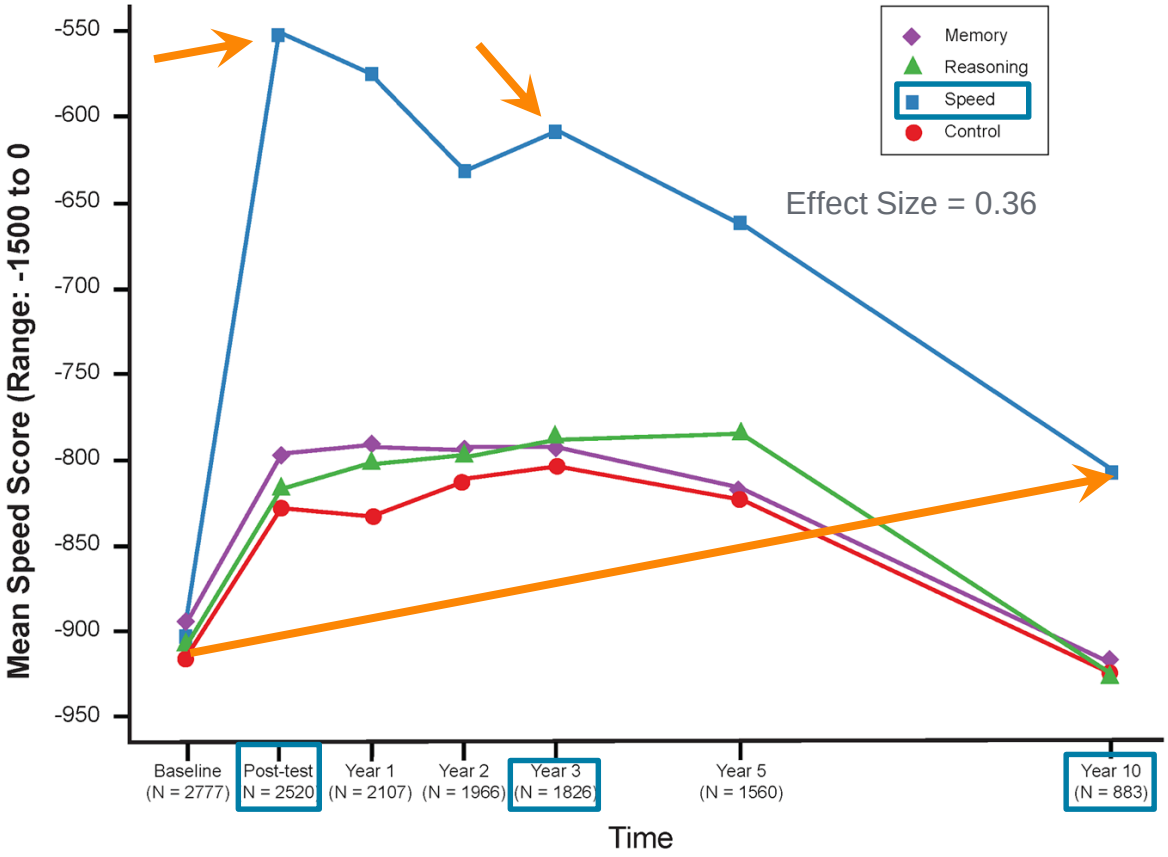


Figure redrawn from Rebok et al (2014). Journal of the American Geriatrics Society, 62, 16-24.

Risk of Developing Dementia

Cognitive Training

Treatment

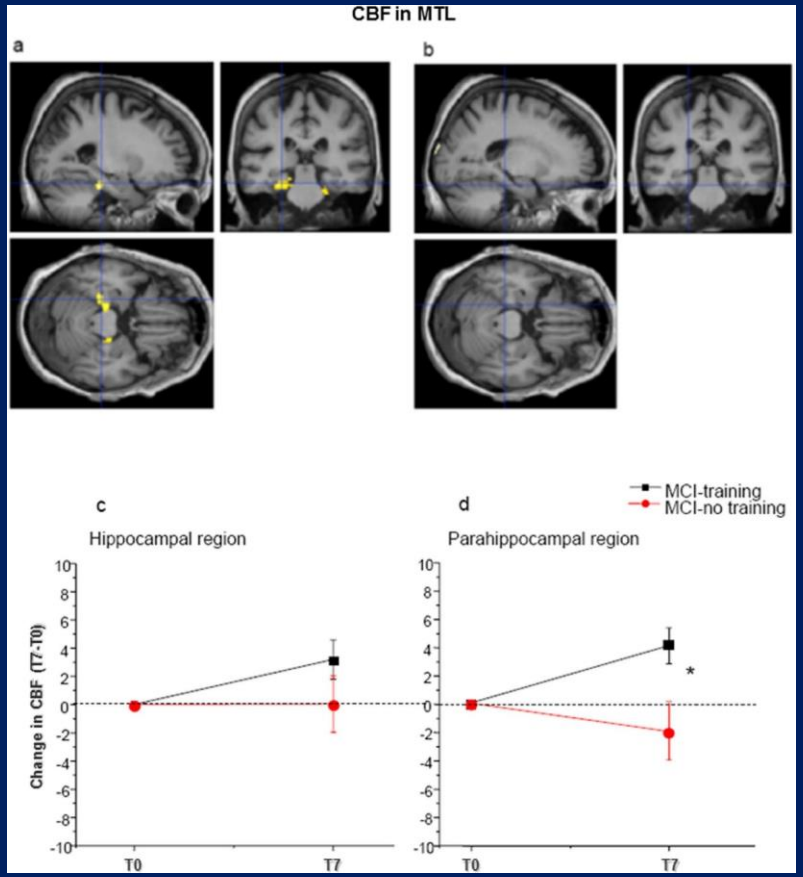
Risk:

- 331 participants developed dementia:
  - Control: 14%
  - 10 or fewer sessions: 12.1%
  - 11 to 14 sessions: 8.2%
- Speed training associated with lower risk for dementia by 8% per session
- HR, 0.52; CI 0.33 - 0.82; *P* = .005

Alzheimer Dement (N Y) 2017 Nov; 3(4): 603–611. Published online 2017 Nov 7. doi: 10.1016/j.trci.2017.09.002

What about combining treatments?

Combined physical/cognitive training in aged MCI subjects: the Train the Brain study



Train the Brain Consortium, Nature Sci Rep, 2017, 7: 39741.

Multicomponent interventions may interact with apo E and amyloid

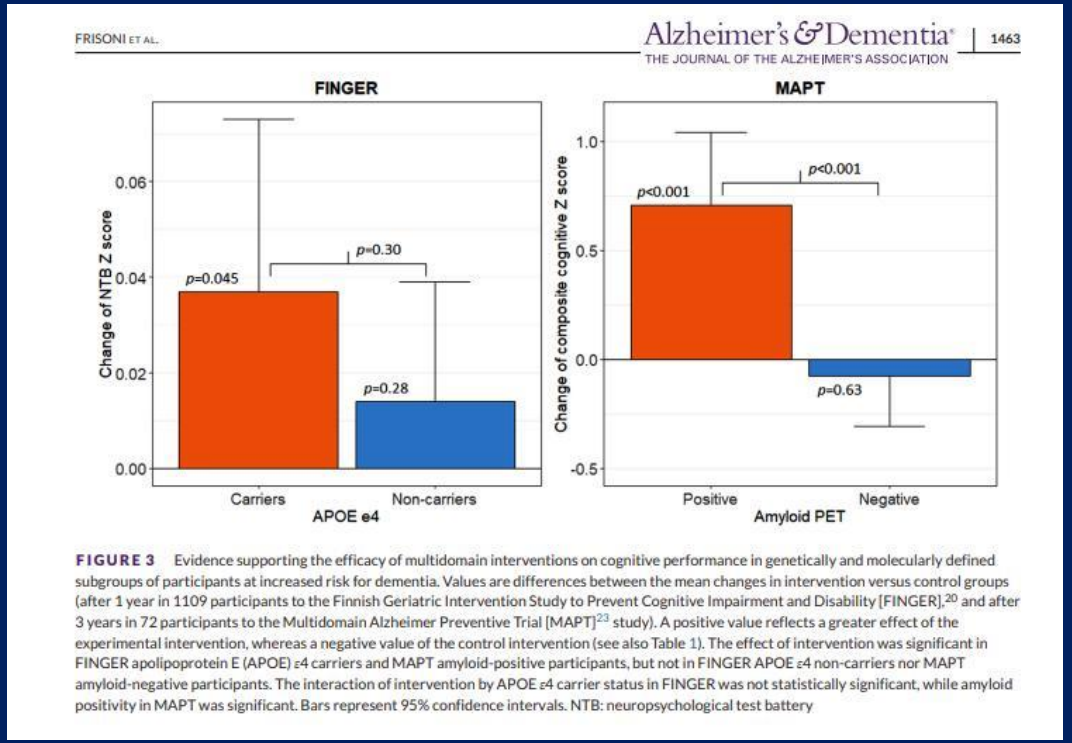
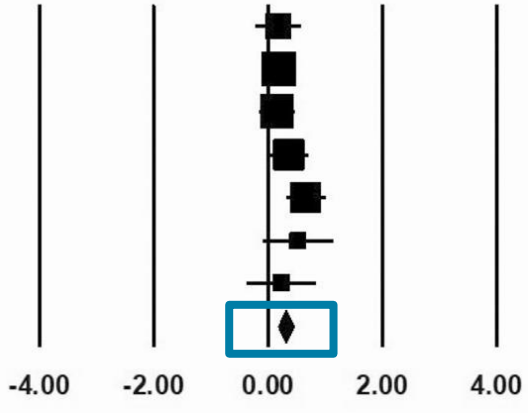


FIGURE 3 Evidence supporting the efficacy of multidomain interventions on cognitive performance in genetically and molecularly defined subgroups of participants at increased risk for dementia. Values are differences between the mean changes in intervention versus control groups (after 1 year in 1109 participants to the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability [FINGER],[20] and after 3 years in 72 participants to the Multidomain Alzheimer Preventive Trial [MAPT][23] study). A positive value reflects a greater effect of the experimental intervention, whereas a negative value of the control intervention (see also Table 1). The effect of intervention was significant in FINGER apolipoprotein E (APOE) ε4 carriers and MAPT amyloid-positive participants, but not in FINGER APOE ε4 non-carriers nor MAPT amyloid-negative participants. The interaction of intervention by APOE ε4 carrier status in FINGER was not statistically significant, while amyloid positivity in MAPT was significant. Bars represent 95% confidence intervals. NTB: neuropsychological test battery

Frisoni et al. Alzheimer's Dement. 2020;16:1457–1468.

Multicomponent interventions and ADLs

Study name	Hedges's g	Lower limit	Upper limit	p-Value
Barreto et al. (2017)	0.179	-0.229	0.588	0.390
Burge et al. (2016)_Trial 1	0.186	-0.123	0.495	0.238
Burge et al. (2016)_Trial 2	0.156	-0.153	0.465	0.323
Rolland et al. (2007)_Trial 1	0.367	0.027	0.706	0.034
Rolland et al. (2007)_Trial 2	0.660	0.314	1.006	0.000
Vreugdenhil et al. (2012)_Trial 1	0.527	-0.092	1.145	0.095
Vreugdenhil et al. (2012)_Trial 2	0.232	-0.378	0.841	0.456
	0.313	0.163	0.463	0.000



Flávia Borges-Machado, MSc, Nádia Silva, PhD, Paulo Farinatti, PhD, Roberto Poton, PhD, Óscar Ribeiro, PhD, Joana Carvalho, PhD, Effectiveness of Multicomponent Exercise Interventions in Older Adults With Dementia: A Meta-Analysis, *The Gerontologist*, 2020;, gnaa091, https://doi.org/10.1093/geront/gnaa091.

Putting it together

Brain health training program

Interventions

Daily

- Aerobic exercise
- Mentally stimulating activities
- Meditation
- Mediterranean diet
- Sleep

Brain health training program

Interventions

Weekly

- Cognitive training at least 3 times/week
- Strength training at least 3 times/week

Encouraging behavior change

Interventions

- Motivational interviewing
  - Empathy
  - Develop discrepancy
  - Acknowledge resistance change
  - Support self-efficacy

Encouraging behavior change

Interventions

- Facilitate goal “SMART” goal setting
  - Specific
  - Measurable
  - Achievable
  - Relevant
  - Time specific

Bottom line

Cognitive Aging and Dementia Prevention

Dementia prevention is possible through promoting brain health.

Cognitive Aging and Dementia Prevention

Dementia prevention is possible through promoting brain health.

Specific types of cognitive training, exercise and diet may slow cognitive aging and reduce dementia incidence.

Cognitive Aging and Dementia Prevention

Dementia prevention is possible through promoting brain health.

Specific types of cognitive training, exercise and diet may slow cognitive aging and reduce dementia incidence.

A brain health plan should be part of a comprehensive strategy for senior health.

Brain Health Study– enrolling now

All procedures are online

ClinicalTrials.gov Identifier: NCT04822129

Brain health study (enrolling now)

Inclusion

50 years of age or older

Interest in brain health

Interest in learning more about how to develop a personal brain health program

Have a computer or tablet with internet connection and an e-mail address

Brain health study (enrolling now)

Intervention

12 week study

Weekly video conferences

Cognitive assessment and free access to a commercial cognitive training site

Participants will be compensated for their time

Comparing treatment as usual with intensive behavior change support

Cogtrastim study (enrolling now)

Contacts

Rosemary Davenport, ARNP

954-262-1804

bap2@bellsouth.net

Ray Ownby, MD, PhD

954-262-1481

ro71@nova.edu

www.sfbrainhealth.com

UCSF Division of Geriatrics
Department of Medicine

Choosing Wisely for Older Patients

Opportunities to Address Age Friendly Care: Medications

Todd James, MD, AGSF, FACP
Associate Professor of Medicine
UCSF Division of Geriatrics

June 17, 2021

Disclosures

No Disclosures

Background

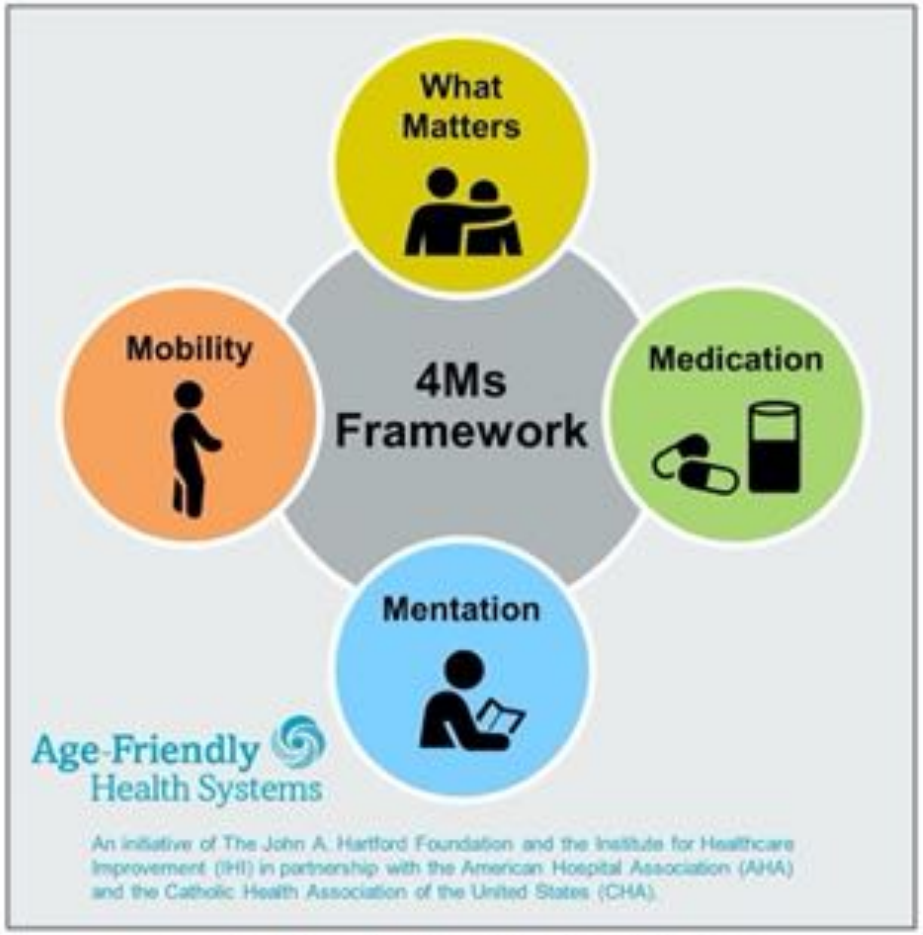
- Geriatrics Consult Services
- Age-Friendly Emergency Department

UIC THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE
CHICAGO PEORIA ROCKFORD URBANA

UCSF School of Medicine

INDIANA UNIVERSITY
SCHOOL OF MEDICINE

Age-Friendly 4M's



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.

Objectives

- To describe resources for identifying Potentially Inappropriate Medications
- To illustrate risks in specific clinical scenarios for older adults
- To describe evidence which alters management for common practices
- To formulate improved care plans engaging interprofessional resources

Goal: Appropriate Medications

- Cure Disease
- Prevent Disease Progression
- Improve Symptoms
- Improve Functioning

Frequent Reality:
Sometimes Medications are Inappropriate or Become Inappropriate or also Underused

How can we identify PIMs*

PIMs* = Potentially Inappropriate Medications

- Choosing Wisely
- AGS Beers Criteria for PIMs
- Screening Tool for Older People's Prescriptions (STOPP)
- European Union (EU)(7)-PIM list

Hill-Taylor B, Walsh KA, Stewart S, Hayden J, Byrne S, Sketris IS. Effectiveness of the STOPP/START (Screening Tool of Older Persons' potentially inappropriate Prescriptions/Screening Tool to Alert doctors to the Right Treatment) criteria: systematic review and meta-analysis of randomized controlled studies. J Clin Pharm Ther. 2016 Apr;41(2):158-69.

Paul Gallagher, Denis O'Mahony, STOPP (Screening Tool of Older Persons' potentially inappropriate Prescriptions): application to acutely ill elderly patients and comparison with Beers' criteria, *Age and Ageing*, Volume 37, Issue 6, November 2008, Pages 673–679, https://doi.org/10.1093/ageing/afn197

From THE AMERICAN GERIATRICS SOCIETY

A POCKET GUIDE TO THE 2019 AGS BEERS CRITERIA®

PIMs = Potentially Inappropriate Medications

Organ System, Therapeutic Category, Drug(s)	***Recommendation,*** Rationale, *Quality of Evidence (QE), Strength of Recommendation (SR)*
*Anticholinergics **	
First-generation antihistamines: ■ Brompheniramine ■ Carbinoxamine ■ Chlorpheniramine ■ Clemastine ■ Cyproheptadine ■ Dexbrompheniramine ■ Dexchlorpheniramine ■ Dimenhydrinate ■ Diphenhydramine (oral) ■ Doxylamine ■ Hydroxyzine ■ Meclizine ■ Promethazine ■ Pyrilamine ■ Triprolidine	***Avoid*** Highly anticholinergic; clearance reduced with advanced age, and tolerance develops when used as hypnotic; risk of confusion, dry mouth, constipation, and other anticholinergic effects or toxicity Use of diphenhydramine in situations such as acute treatment of severe allergic reaction may be appropriate *QE = Moderate; SR = Strong*

STOPP Criteria

PIMs = Potentially Inappropriate Medications

Example

STOPP

Bladder antimuscarinic drugs

- with dementia
  - *risk of increased confusion, agitation*
- with chronic glaucoma
  - *risk of acute exacerbation of glaucoma*
- with chronic constipation
  - *risk of exacerbation of constipation*
- with chronic prostatism
  - *risk of urinary retention*

IHI lists these PIMs as Big Offenders

- Benzodiazepines
- Opioids
- Highly-anticholinergic medications
- All prescription and over-the-counter sedatives and sleep medications
- Muscle relaxants
- Tricyclic antidepressants
- Antipsychotics

Review High-Risk Medications

- Engage the older adult and caregiver in review.
- Medicare beneficiaries may be eligible for an annual comprehensive medication review.
- Medication reconciliation, part of the Medicare Annual Wellness Visit.

ABIM Asks What may be Wiser? Choosing Wisely Program

- Specialty societies asked to identify practices that providers should question
- Care supported by evidence
- Care that is free from harm
- Care that is necessary

American Geriatrics Society

- AGS submitted 10 practices
- Practices reviewed today reference
  - Medication Cascade
  - Antipsychotics
  - Benzodiazepines

AGS Geriatrics Healthcare Professionals

Leading Change. Improving Care for Older Adults.

Patient Stories

Dee Prescribee

Dee fills her own pill boxes, 18 pills/day. Her daughter sees errors in pill box.

Medication Cascade

Medications added to treat
side effects of other medications

Increased risks of:

- Receiving incorrect medications
- Adverse drug reactions
- Nonadherence

Hajjar ER, et al. *Am J Geriatr Pharm.* 2007;5:345-351.

Medication Cascade

Adverse drug reactions include:

- Cognitive impairment
- Falls
- Functional decline

Steinman MA, Hanlon JT. *JAMA.* 2010;304(14):1592-1601.

Medication Cascade

- 40% of older adults take ≥5 prescriptions
  [3x more than 20 years ago]

- Add OTC's and 20% of older adults ≥10 agents

Boyd CM, et al. *JAMA*. 2005;294(6):716-724.
Steinman MA. *Am J Geriatr Pharmacother.* 2007;5(4):314-316.
Brownlee, et al. Health Affairs Blog, May 20, 2019

Medication Cascade

Medication Review Helps identify:

- Unnecessary medications
- Potentially harmful medications
- Underuse of medications
- Opportunities to reduce medication burden

Drenth-van Maanen AC. *Drugs Aging.* 2009;26(8):687-701.

Context of Medication Review Matters

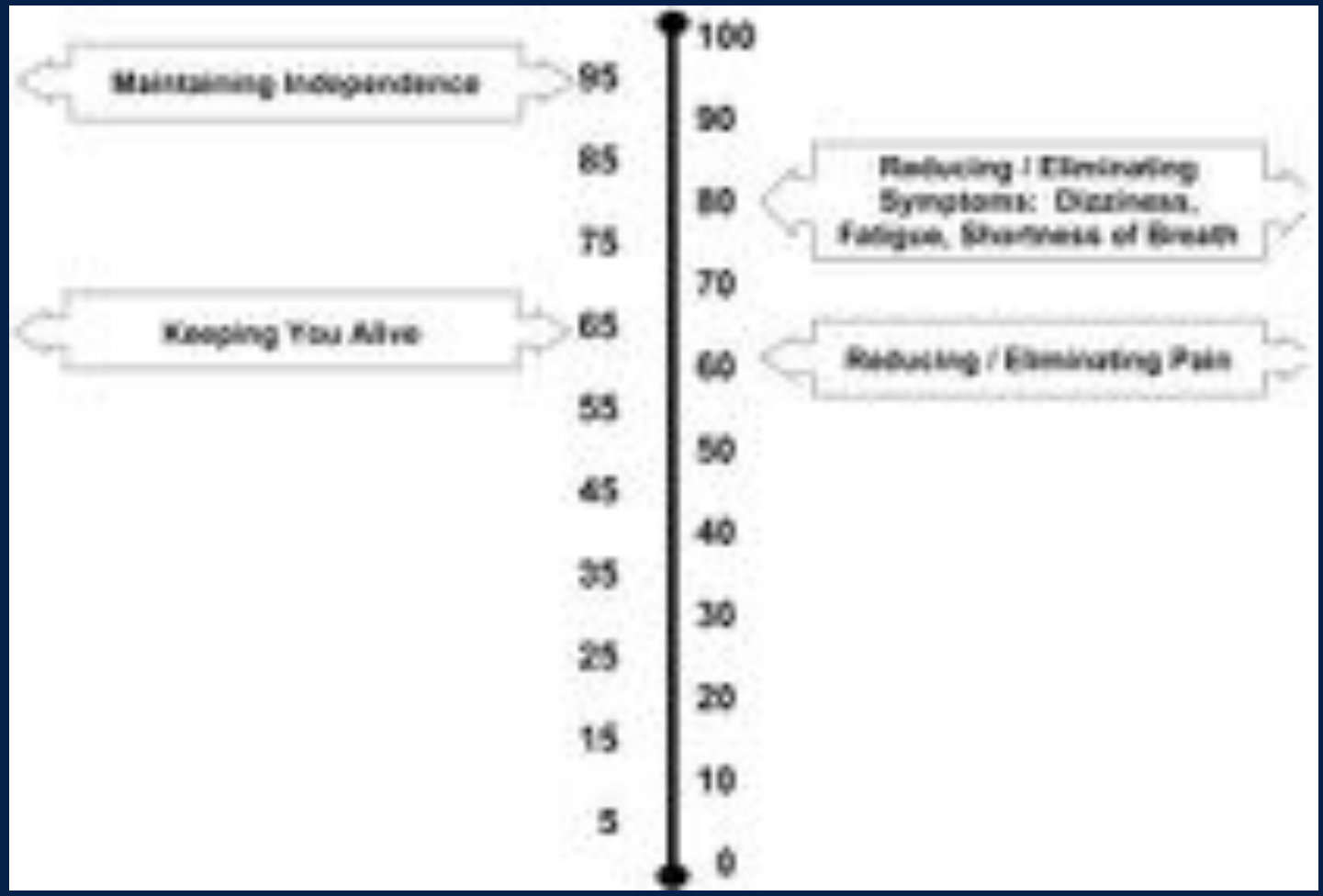
- Goals of care
- Life expectancy
- Time to benefit
- Burden of therapy
- Values/quality of life that are preferred?

  --see Preferences Tool

van Summeren JJ, et al. Outcome prioritisation tool for medication review in older patients with multimorbidity: a pilot study in general practice. Br J Gen Pract. 2017 Jul;67(660):e501-e506.

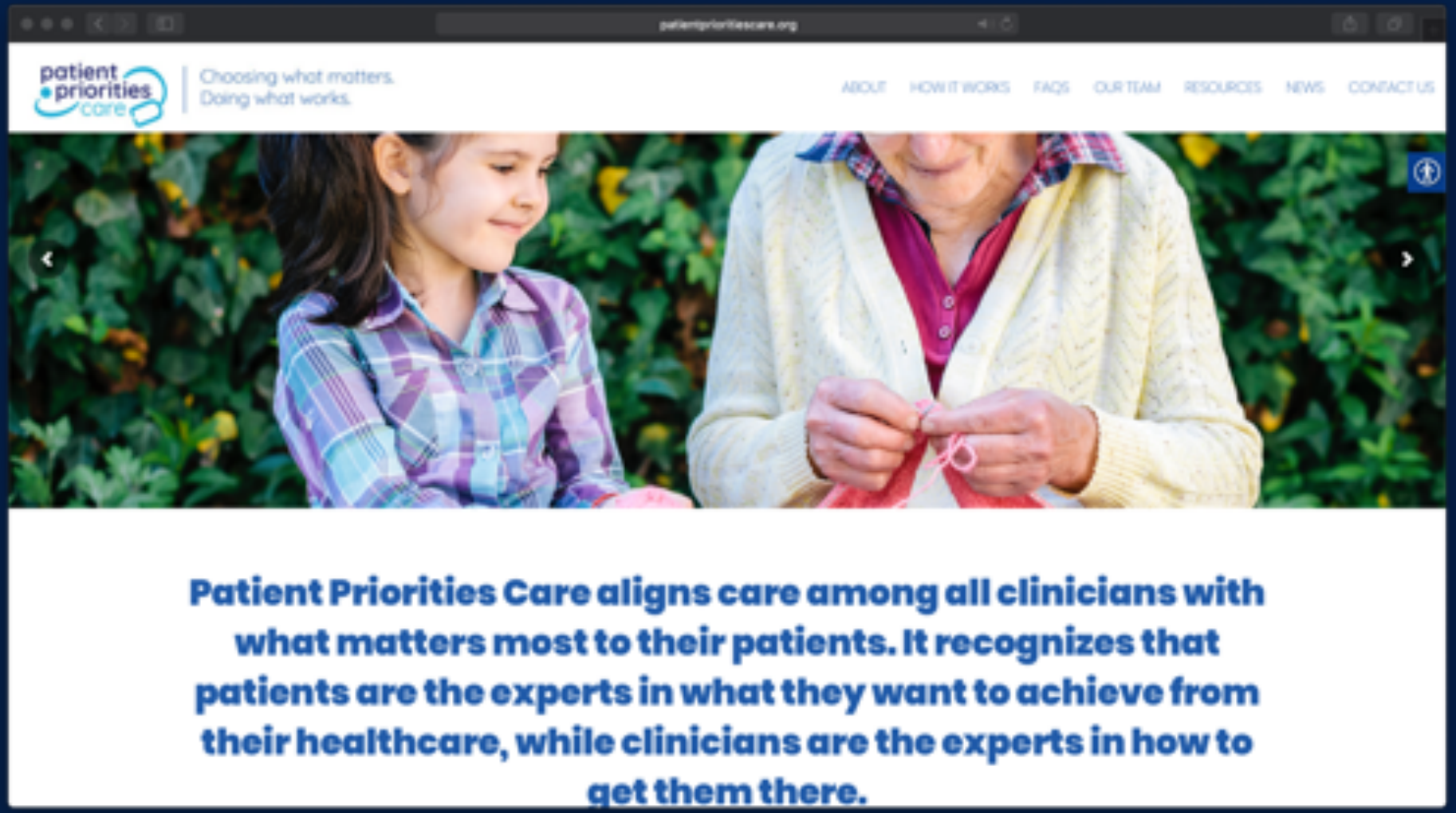
Reuben DB. Medical Care for the Final Years of Life "When You're 83, It's Not Going to Be 20 Years"*JAMA*. 2009;302(24):2686-2694.

Preferences Tool

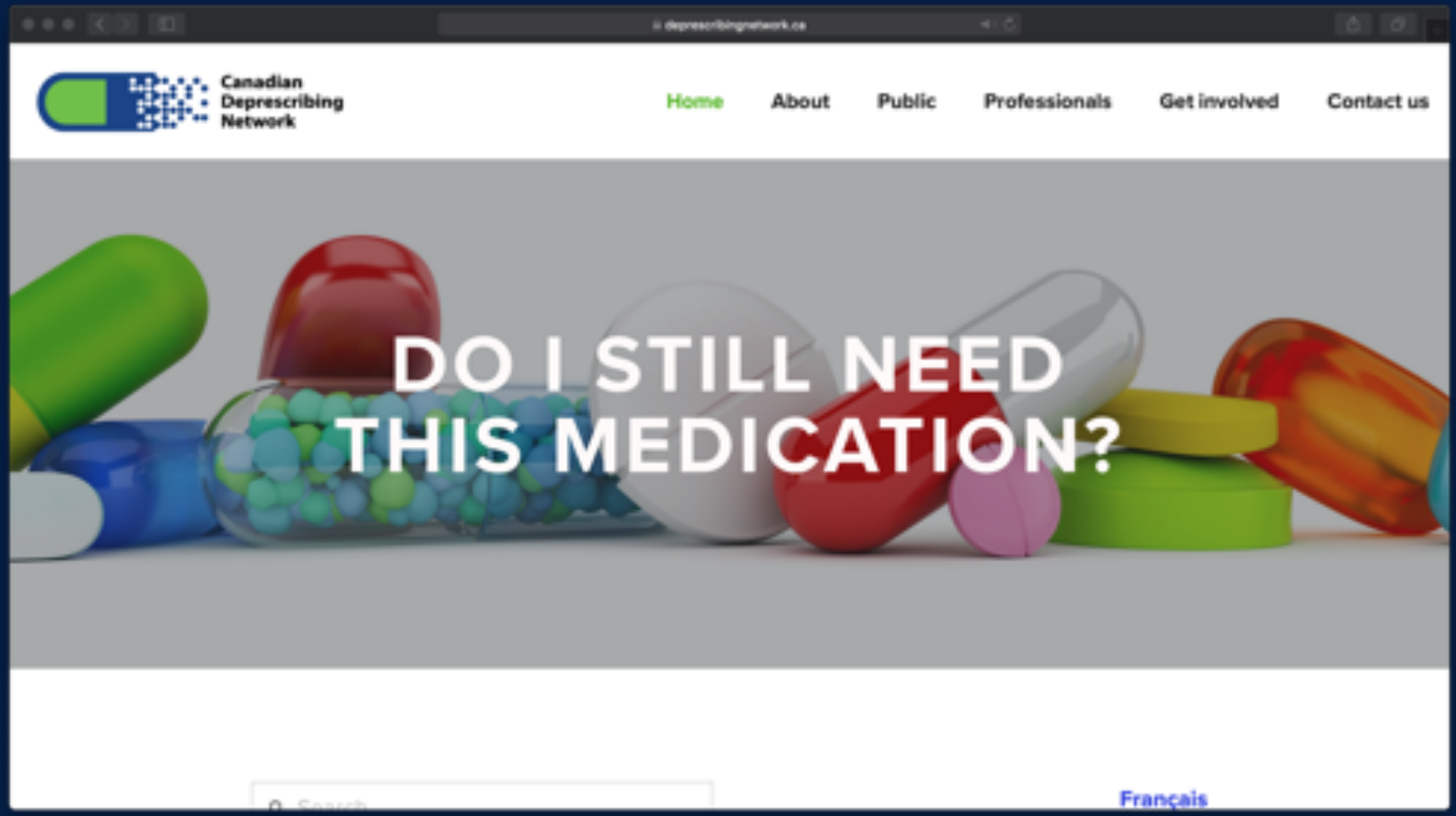


Fried TR, Tinetti M, Agostini J, Iannone L, Towle V. Health outcome prioritization to elicit preferences of older persons with multiple health conditions.
Patient Educ Couns. 2011 May;83(2):278-82.

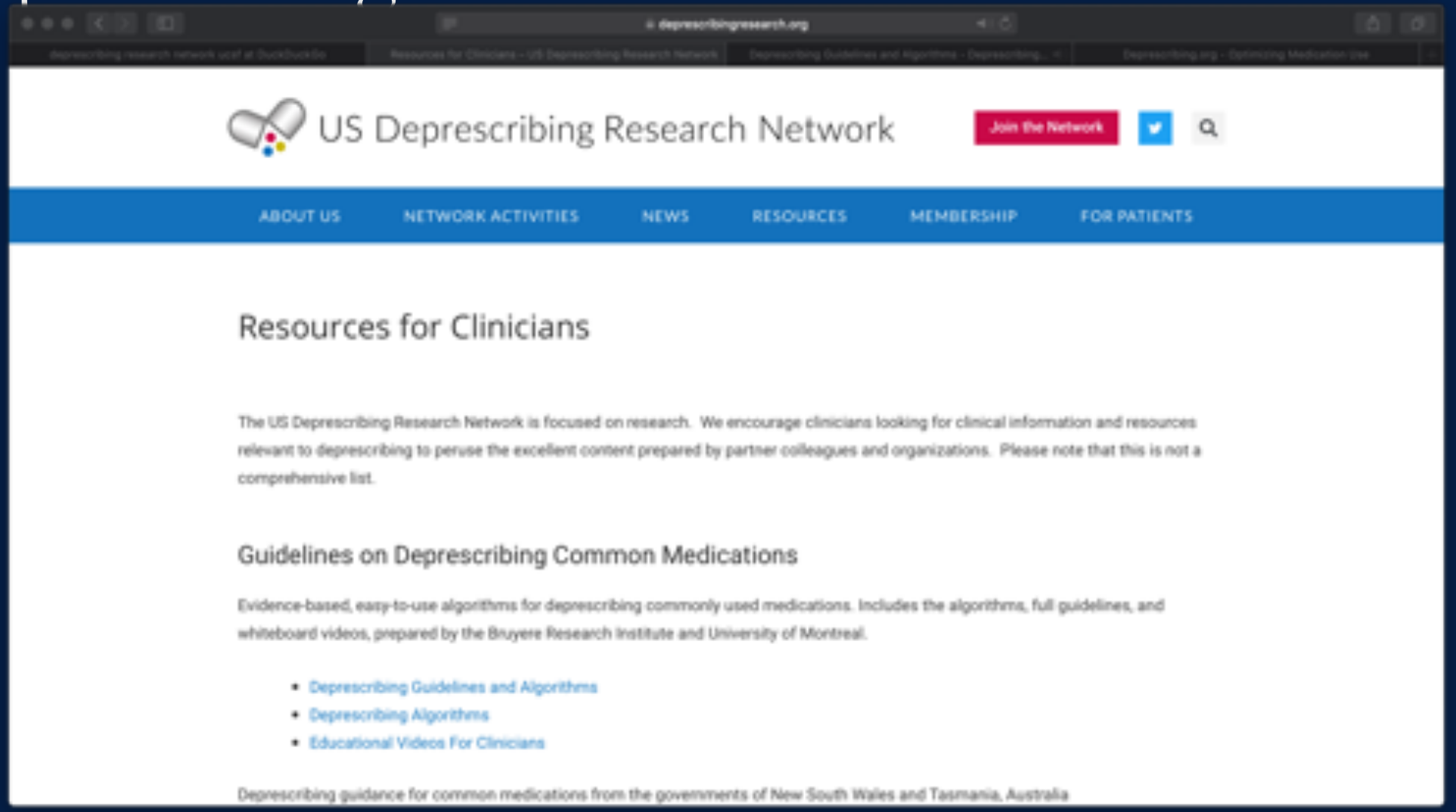
Patient Priorities Care



Deprescribing Canada



Deprescribing Network



LOW-VALUE CARE JAN 28

PRESS RELEASE: Millions of Older Americans Harmed by Too Many Medications

Lown Institute just released Eliminating Medication Overload: A National Action Plan. more

medication overload, press release

LOW-VALUE CARE

Medication overload and older Americans

Eliminating Medication Overload

LOWN INSTITUTE

Medication Cascade

- Case resolution: Dee Prescribee visits primary care team with her daughter.
- Daughter is concerned and brings large brown bag of all the bottles she can find.
- Goals discussed, time-to-benefit and values reviewed.
- Decision to prioritize vascular meds; work from med-list only; trial reduction to 7 pills

Antipsychotics

Antipsychotics

- Advice: Don't use antipsychotics as first choice to treat behavioral and psychological symptoms of dementia.

Antipsychotics

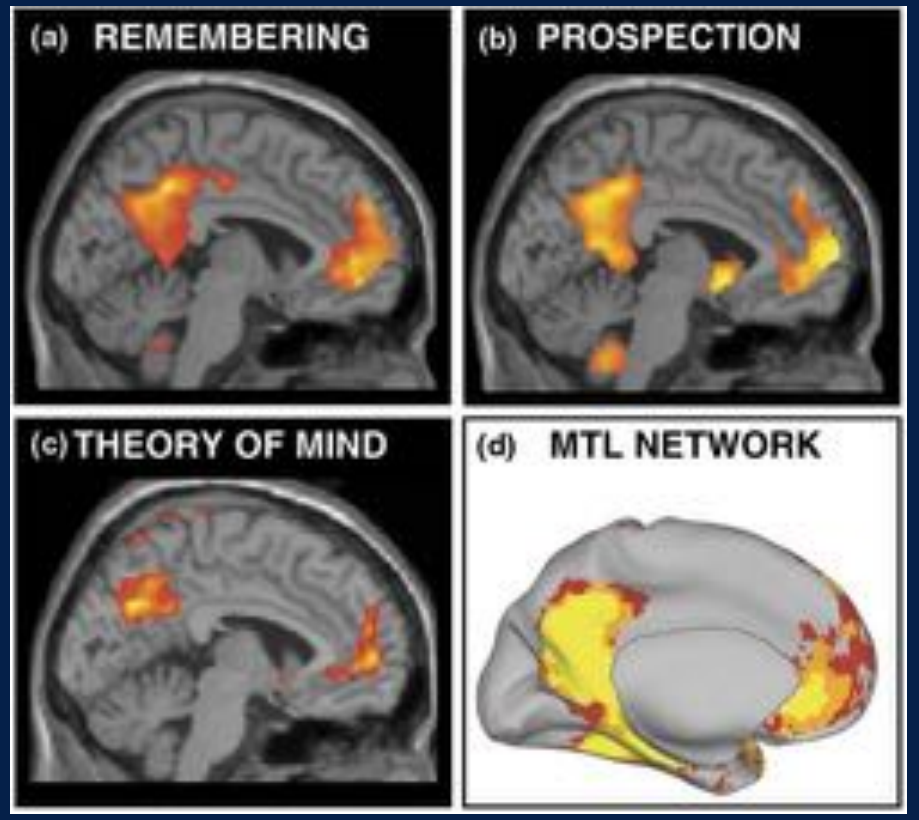
- Case Study: Andy, an 89 yo man with moderately advanced dementia; he lives at home; his wife Mary watches him 24/7; he disassembles furniture, he has episodes at which he energetically attempts to leave the house; he's aggressive; Mary's friend's husband got daily Haldol for his behaviors. Mary wants to try Haldol. His last doctor gave them lorazepam.

Antipsychotics

- Mary would like a break. Can't we calm Andy?
- All dementias may exhibit behaviors: agitation, apathy, repetitive questioning, aggression, wandering, sleep problems, inappropriate behaviors, resistance to care.
- Have you seen these?

Antipsychotics

- Antipsychotics are often prescribed
- Yet, provide little benefit and can cause harm
- What is efficacy of antipsychotics?



Antipsychotics

- No efficacy for behaviors. Sedation.
- Worsening cognitive function,

  lower urinary tract symptoms
- Increased risk of death, stroke, extrapyramidal symptoms (NNH=10 for olanzapine)
- Off-label

Maher AR, Maglione M, Bagley S, Suttorp M, Hu JH, Ewing B, Wang Z, Timmer M, Sultzer D, Shekelle PG. Efficacy and comparative effectiveness of atypical antipsychotic medications for off-label uses in adults: a systematic review and meta-analysis. J JAMA. 2011 Sep 28;306(12):1359-69. doi: 10.1001/jama.2011.1360. Review. Erratum in: JAMA. 2012 Jan 11;307(2):147. PubMed PMID: 21954480.

Gill SS, Bronskill SE, Normand SL, Anderson GM, et al. Antipsychotic drug use and mortality in older adults with dementia. Ann Intern Med. 2007 Jun 5;146(11):775-86. PubMed PMID: 17548409.

Vigen, Mack, et al. Cognitive effects of atypical antipsychotic medications in patients with Alzheimer's disease: outcomes from CATIE-AD. Am J Psychiatry. 2011 Aug;168(8):831-9. doi: 10.1176/appi.ajp.2011.08121844. Epub 2011 May 15. PubMed PMID: 21572163; PubMed Central PMCID: PMC3310182.

Antipsychotics

- For Andy – he's at baseline
- What is diagnosis? Need history and evaluation.
- What other dx & drugs may be adding symptoms: anticholinergics (TylenolPM), sedatives, narcotics, hypnotics
- Seems like: Behavioral and psychological symptoms of dementia.

Behavioral and psychological symptoms of dementia

Common problems (of most concern to caregivers)
Repetitive questioning
Argumentativeness
Toileting issues
Upset, agitated, restless
Refusing care
Awake at night
Verbal aggression
Wandering

Behavioral and psychological symptoms of dementia

Common problems **(of most concern to caregivers)**	**Solutions**
Repetitive questioning	Expect to provide repetitive answers. Re-orient.
Argumentativeness	Agree. Model behavior. Avoid debating.
Toileting issues	Timed voiding.
Upset, agitated, restless	Daytime activity and structure. Provide pet? Be calm.
Refusing care	Be flexible. Relax rules so long as safe.
Awake at night	Establish routines. Hire overnight coverage. Avoid bedtime beverages and caffeine.
Verbal aggression	Distract. Redirect. Identify and avoid antecedents.
Wandering	Daytime exercise and activity. Safety-proof walkways.

DICE Addresses Undesirable Behaviors

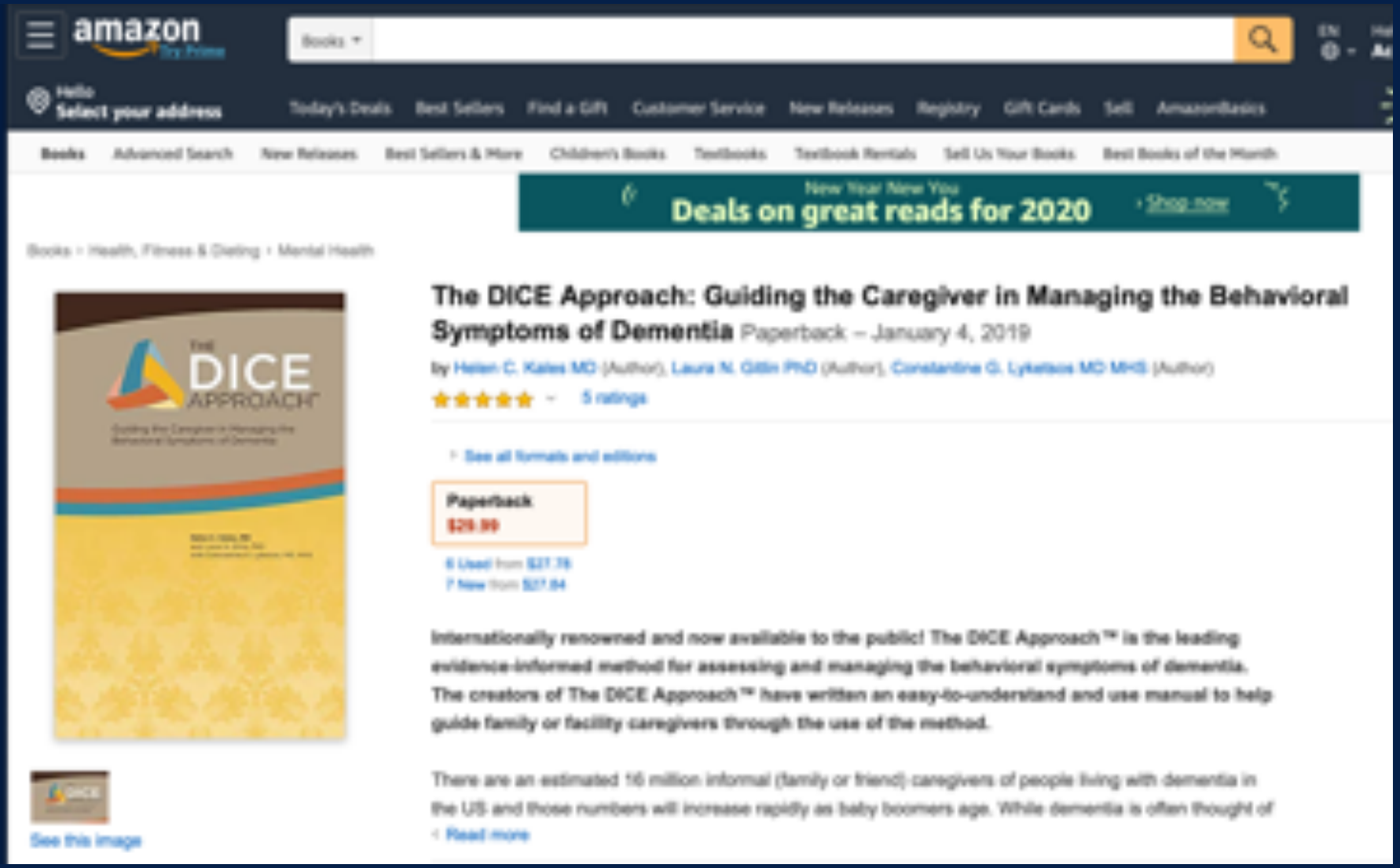
- Describe, Investigate, Create, and Evaluate (DICE), created by a national multidisciplinary panel of experts in dementia care, based on the current evidence as well as clinical experience.

Kales HC, Gitlin LN, Lyketsos CG. Assessment and management of behavioral and psychological symptoms of dementia. BMJ. 2015 Mar 2;350:h369. doi: 10.1136/bmj.h369.
Review. PubMed PMID: 25731881; PubMed Central PMCID: PMC4707529.

DICE model for behavioral problems in dementia

- Describe situations where problem behaviors occur
- Investigate problems that might combine with these factors and lead to behavioral issues
- Create a plan to prevent/respond to behavioral issues
- Evaluate how the plan is working and change it if needed

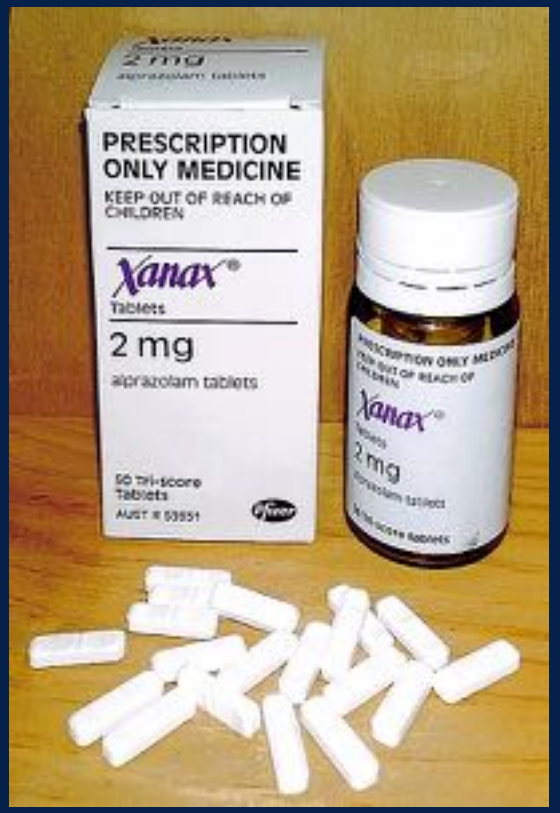
Guiding the Caregiver in Managing the Behavioral Symptoms of Dementia



Antipsychotics

- Case resolution
- For support, wife asks family members to schedule themselves for supervision and activity shifts on a calendar. They found he likes to disassemble Legos and is not bothered by someone assembling Lego blocks. Doors are locked with key locks and keys are kept by his wife. Sign on door that Train Line is on strike.

Benzodiazepines



Benzodiazepines

Advice:

Don’t use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.

Benzodiazepines

- Case study: Bennie Zapine, an 84 yo woman moved to assisted living and wants to sleep at 9:30PM. Everyone else does! She was an RN and worked 2nd shift; never in adult life went to bed before 1AM. Her husband always sent the kids to school. She wants a prescription!

A common problem

- Chronic sleep problem: 57% of older adults
- Alprazolam and zolpidem among top 20 prescriptions in US
- Used by 12% of community-dwelling elderly, 13% of nursing home residents

Foley *Sleep* 1995. http://www.imshealth.com. Aparasu *J Am Geriatr Soc* 2003.
Stevenson *Am J Geriatr Psychiatry* 2010.

Observational data

- Motor vehicle accidents
  - 1.6-fold increase (95% CI, 1.29–1.97)
- Crashes requiring hospitalization
  - 5.3-fold increase (95% CI, 3.6–7.9)
  - Comparable to a blood alcohol level at the legal limit

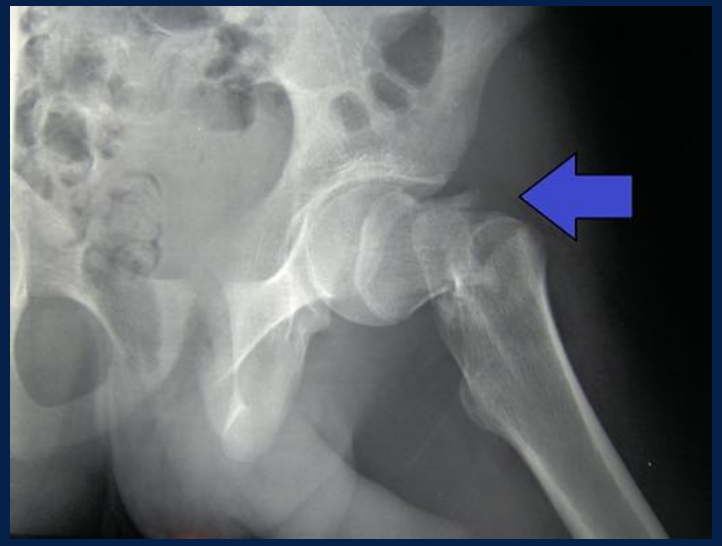
Rapoport *J Clin Psychiatry* 2009. Meuleners *J Amer Geriatr Soc* 2011.

Observational data

- Falls leading to hospitalization and death
  - 1.83-fold increase (95% CI, 1.10–3.06)

Stenbacka *Alcohol* 2002. Finkle *J Amer Geriatr Soc* 2011.

Observational data



Hip fractures

- 3.11-fold increase (95% CI, 1.96–4.91)
- Risk greater with zolpidem

"Wake up refreshed and recharged."

"Patients who take insomnia drugs can experience impairment of mental alertness the morning after use, even if they feel fully awake."

FDA 1/10/13

Randomized trials

- 24 RCTs, 2,417 participants, mean age ≥60, sedatives for ≥5 nights

  Adverse Events

- Memory loss, confusion, disorientation
  - 4.78-fold increase (95% CI, 1.47–15.5)

Glass, Sedative hypnotics in older people with insomnia: Meta- analysis of risks and benefits. *BMJ* 2005.

Adverse events

- Daytime fatigue
  - 3.82-fold increase (95% CI, 1.88–7.80)

- Dizziness, loss of balance, falls
  - 2.61-fold increase (95% CI, 1.12–6.09)

Glass *BMJ* 2005.

Effectiveness in older adults

- Improved sleep quality: 0.11 pts (7-point scale)
  - Increased sleep time: 25 minutes (95% CI, 12.8–37.8)
  - Decreased night-time awakenings: –0.63 (95% CI, –0.48 to –0.77)

Glass *BMJ* 2005.

Benefits versus harms

- NNT: 13 (95% CI, 6.7–62.9)
- NNH: 6 (95% CI, 4.7–7.1)
- Adverse event more than twice as likely as improved sleep

Glass *BMJ* 2005.

Cognitive-behavioral therapy

- More effective and durable than drug therapy for late-life insomnia
  - No adverse effects

Morin *JAMA* 1999. Sivertsen *JAMA* 2006.

Two exceptions

- Sedative-hypnotics are useful for:
  - Alcohol withdrawal/delirium tremens
  - Severe generalized anxiety disorder

Sleep Advisor

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Home » Sleep Science » Insomnia-Curbing Apps Are Beginning To Use Actual Cognitive Therapy

Insomnia-Curbing Apps Are Beginning To Use Actual Cognitive Therapy

Carolyn Burke
Last Updated On August 15, 2019

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apps.apple.com

Mac | iPad | iPhone | Watch | TV | Music | Support

App Store Preview

This app is available only on the App Store for iPhone and iPad.

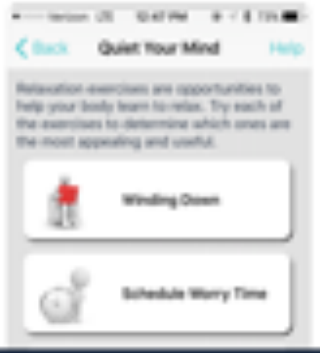
CBT-i

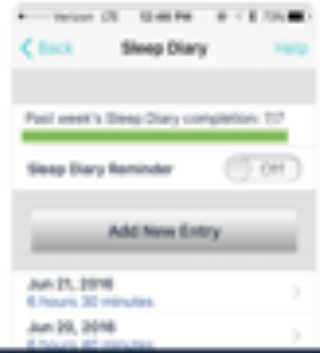
CBT-i Coach 12+

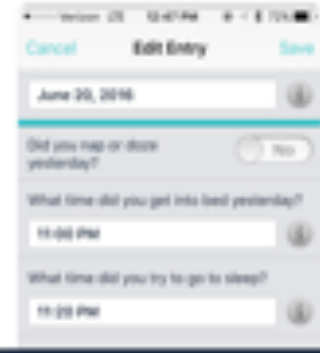
US Department of Veterans Affairs (VA)

Free

iPhone Screenshots







Benzodiazepines

- Case resolution for Benny Zapine
- We advised of risks and described our unwillingness to give sedative hypnotic, since harms were more likely than benefit.
- Reviewed prior sleep patterns, sleep hygiene, re-setting with alarm clock – every time she came to clinic – offer CBT-i coach app

What is Wiser for Medications?

- Recognize some practices that we should question
- Care that is supported by evidence
- Care that is free from harm
- Care that is beneficial

Summary

- Medication Cascade: Dee Prescribee
- Antipsychotics: Andy
- Benzodiazepines: Bennie Zapine

Returning to Our Objectives

- We reviewed rationales for identifying Potentially Inappropriate Medications (Beers, STOPP, Choosing Wisely initiative)
- We illustrated risks inherent in specific clinical scenarios
- We described evidence which alters clinical choices for common practices
- We formulated improved care plans engaging interprofessional resources

Questions

Thank you!

Todd.James@ucsf.edu

Age-Friendly Health Systems 4M Training For Healthcare Practitioners

Questions?

Age-Friendly Health Systems 4M Training For Healthcare Practitioners

Help us by completing an evaluation!

https://redcap.nova.edu/redcap/surveys/?s=CHETXK48Y4

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South Florida Geriatric Workforce Enhancement Program

Age-Friendly Health Systems 4M Training For Healthcare Practitioners

Join us Next Week!

Module 1: Introduction to Age-Friendly Health Systems

- *Thursday, June 3, 2021 • 10:00 am EST*

Module 2: Deep Dives – What Matters Most & Mobility

- *Thursday, June 10, 2021 • 10:00 am EST*

Module 3: Deep Dives – Mentation & Medication

- *Thursday, June 17, 2021 • 10:00 am EST*

Module 4: Putting it All Together

- *Thursday, June 24, 2021 • 10:00 am EST*

Age-Friendly Health Systems 4M Training For Healthcare Practitioners

Thank you!

Contact Information for Today's Speakers:

- **Isabel Rovira**, Co-Founder/COO, Urban Health Partnerships: isabel@urbanhp.org
- **Dr. Raymond Ownby,** Professor and Chair, Department of Psychiatry and Behavioral Medicine, Nova Southeastern University ro71@nova.edu
- **Dr. Todd James,** Associate Professor of Medicine, USCF Division of Geriatrics: Todd.James@ucsf.edu

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