Substance Abuse and Mental Health Services Administration

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Behavioral Health is Essential To Health

Prevention Works

Treatment is Effective

People Recover

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Preparing for the Mental Health Needs of Older Adults

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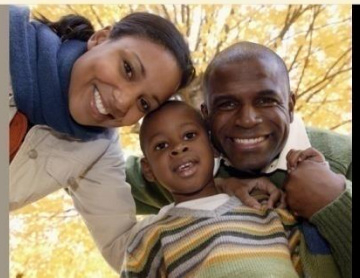


DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

Changing Landscape

- Between 2012 and 2050 the US will experience a significant shift its older adult population, specifically those over 65.
- By 2050 the population of those 65 and older is expected to be 83.7 million, almost double the estimated population of 43.1 million in 2012.
- By 2050 the US will become more ethnically and racially diverse, evolving to a minority majority country.
- Population shifts will have implications socially and economically.

https://www.census.gov/prod/2014pubs/p25-1140.pdf

Mental health concerns in older adults

- One in four older adults experiences some mental disorder such as depression, anxiety, and dementia. This number is expected to double to 15 million by 2030. (https://www.ncoa.org/center-for-healthy-aging/behavioral-health/)

- 15-20 percent of older adults in the United States have experienced depression (Geriatric Mental Health Foundation, 2008).

- Approximately 11 percent of older adults have anxiety disorders (AOA, 2001). Even mild depression lowers immunity and may compromise a person's ability to fight infections and cancers (APA, 2005). (http://www.apa.org/about/gr/issues/aging/mental-health.aspx)

- Mental health issues are often implicated as a factor in cases of suicide. Older men have the highest suicide rate of any age group. Men aged 85 years or older have a suicide rate of 45.23 per 100,000, compared to an overall rate of 11.01 per 100,000 for all ages (7) (https://www.cdc.gov/aging/pdf/mental_health.pdf).

Treatment challenges

- Researchers confirm that older adults with evidence of mental disorder are less likely than younger and middle aged adults to receive mental health services and that, when they do, they are less likely to receive care from a mental health specialist (Karel, Gatz & Smyer, 2012). (http://www.apa.org/about/gr/issues/aging/mental-health.aspx)

- Because of their coexisting physical conditions, older adults are significantly more likely to seek and accept services in primary care versus specialty mental health care settings (IOM, 2012). (http://www.apa.org/about/gr/issues/aging/mental-health.aspx)

- Older adults with depression visit the doctor and emergency room more often, use more medication, incur higher outpatient charges, and stay longer in the hospital (4) (https://www.cdc.gov/aging/pdf/mental_health.pdf).

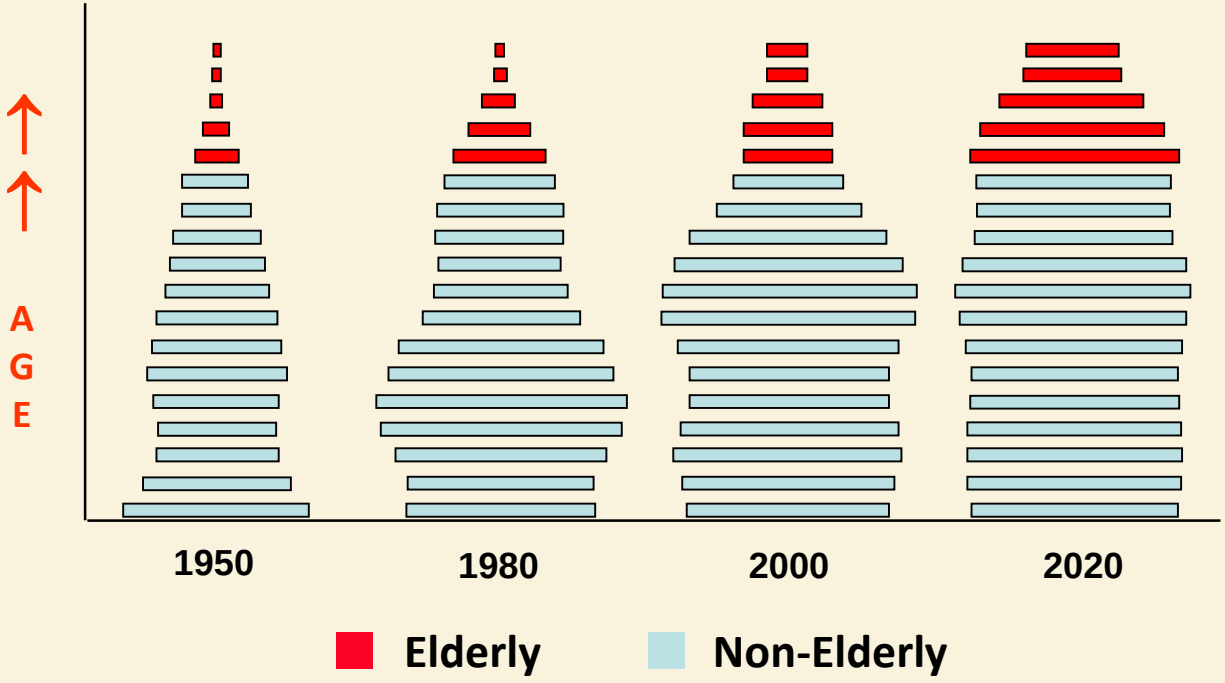
- In 80% of cases, depression is a treatable condition (8). Unfortunately, depressive disorders are a widely under-recognized condition and often are untreated or undertreated among older adults (https://www.cdc.gov/aging/pdf/mental_health.pdf).

- People with dementia often suffer from depression, paranoia and anxiety. Psychologists' skills in differential diagnosis and treatment are helpful in these complex cases. Psychologists also teach behavioral and environmental strategies to caregivers of those with dementia to deal with these common behaviors (APA, 1998). (http://www.apa.org/about/gr/issues/aging/mental-health.aspx)

Outline

- Mental health impact of an aging population
- Geriatric Psychiatry Clinical syndromes:
  - Geriatric Depression: prevalence, impact and role of Population Health for integrated care
  - Severe Mental Illness and novel models of care
  - The behavioral and psychological complications of dementia and opportunity for collaborative care
- Opportunities for prevention in geriatric mental health
- Discussion and questions

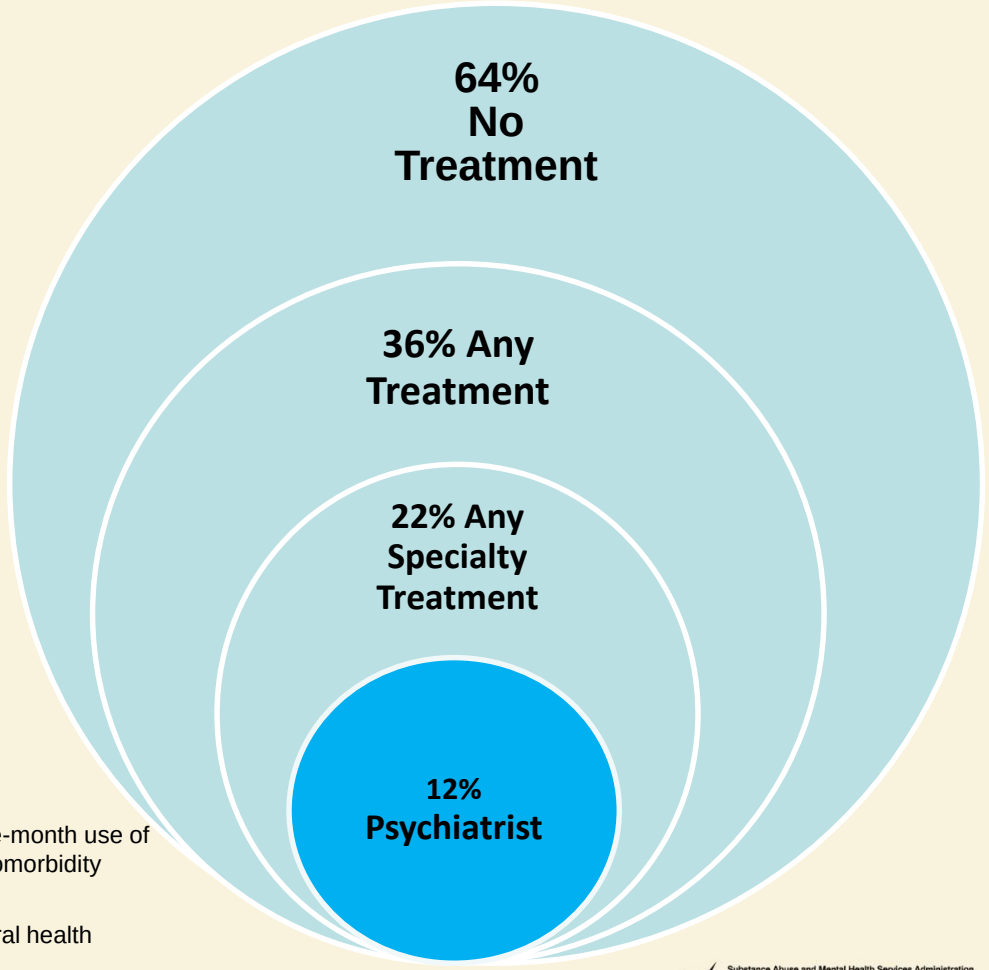
U.S. population pattern changes: Proportion of elderly increases as baby boomers age



U.S. Census Bureau

Most treatment for behavioral health conditions occurs outside of Psychiatry

- 70% of PCP visits have a behavioral health component
- 80% of individuals with mental health conditions are treated exclusively or primarily in non-psychiatric medical settings
- 60% of individuals with mental health conditions get no care
- 65% of PCPs report inability to refer patients to timely outpatient mental health services



Wang PS, Lane M, Olfson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry*, 62(6):629-40, 2005.

Collins C, Hewson DL, Munger R, Wade T. Evolving models of behavioral health integration into primary care. Milbank Memorial Fund, 2010.

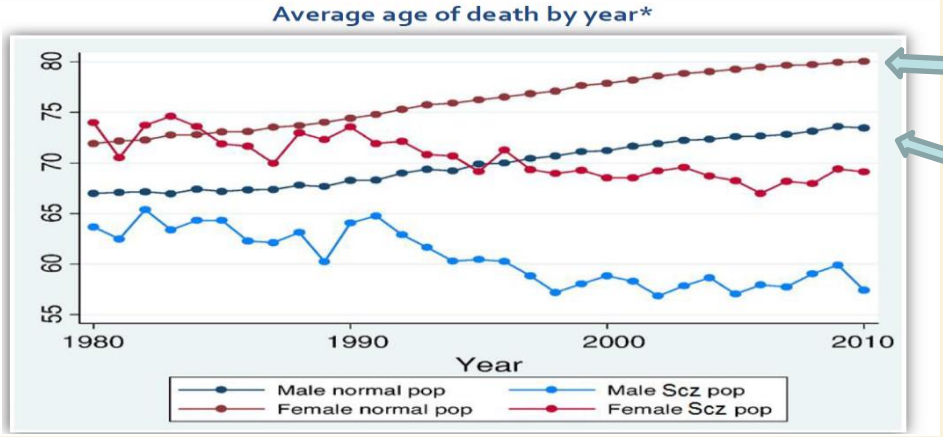
http://ctaf.org/sites/default/files/assessments/BHI_Final_Report_060215.pdf, accessed 12/15/15

Mental health conditions rank among the top 10 most common conditions among Medicaid readmissions

1. Septicemia (except in labor) — $319 M (17,600 readmissions)
2. *Schizophrenia and other psychotic disorders — $302 M (35,800 readmissions)
3. *Mood disorders — $286 M (41,600 readmissions)
4. Congestive heart failure (non-hypertensive) — $273 M (18,800 readmissions)
5. Diabetes mellitus with complications — $251 million (23,700 readmissions)
6. Chronic obstructive pulmonary disease and bronchiectasis—$178 M (16,400 readmissions)
7. *Alcohol-related disorders — $141 M (20,500 readmissions)
8. Other complications of pregnancy — $122 M (21,500 readmissions)
9. *Substance-related disorders — $103 M (15,200 readmissions)
10. Early or threatened labor — $86 M (19,000 readmissions)

AHRQ

Mental health conditions associated with premature death from all causes



Nielsen et al. Schizophrenia Res 2013; 146:22-27.

General Population

Schizophrenia

Widening mortality gap in schizophrenia (13-30 years)

Individuals with SMI have generally not benefitted from advances in medicine over past decades

Relative Risk of All Cause Mortality

Depression	1.7
Schizophrenia and Bipolar Disorder	2.6
Alcohol Use Disorder	1.8
Other Substance Use Disorder	2.0

Eaton WW et al. *Epidemiol Rev* 2008; 30:1-14

Accounted for by 3 principal variables:

- Clinical Factors
- Sociodemographic Factors
- Health Systems Factors

Druss BG et al. *Med Care* 2011; 49:599-604

Behavioral health conditions are associated with dramatically higher health care costs

Population	% with behavioral health diagnosis	PMPM without BH diagnosis	PMPM with BH diagnosis	Increase in total PMPM with BH diagnosis
Commercial	14%	$ 340	$ 941	276 %
Medicare	9%	$ 583	$ 1429	245 %
Medicaid	21%	$ 381	$ 1301	341 %
All insurers	**15%**	**$ 397**	**$ 1085**	**273 %**

Mental health specialty care accounts for only 3% of overall costs.
More effectively integrated mental health care could save billions.
* APA Milliman report 2014; Melek et al; 2013

Geriatric Depression: Overview

- Affects 6 million Americans over the age of 65
- 1 in 6 patients in primary care practice setting
- NOT a normal fact of aging – Beware of Ageism Bias
- Associated with Functional Disability and Suicide
- Can alter risk and course of general medical conditions
- A recurrent disorder that can be treated and diagnosed in primary care setting
- Limited access to specialty treatment: related to availability of specialists and stigma

Depression May Worsen Outcome of Many General Medical Conditions

Patient Population	Increased Morbidity	Increased Mortality
Post-MI[1,2]	√	√
CHF[3,4]	√	√
Nursing home patients[5]		√
Post-stroke[6]	√	

Depression also may worsen outcomes of cancer, diabetes, AIDS, and other disorders[7]

1. Frasure-Smith N, et al. *JAMA.* 1993;270:1819-1825.
2. Penninx BW, et al. *Arch Gen Psychiatry*. 2001;58:221-227.
3. Jiang W, et al. *Arch Intern Med.* 2001;161:1849-1856.
4. Vaccarino V, et al. *J Am Coll Cardiol.* 2001;38:199-205.
5. Rovner BW, et al. *JAMA*. 1991;265:993-996.
6. Pohjasvaara T, et al. *Eur J Neurol*. 2001;8:315-319.
7. Petitto JM, Evans DL. *Depress Anxiety.* 1998;8(suppl 1):80-84.

The Opportunity for Depression Treatment: Primary Care

10 %

of primary care office visits are related to depression

66%

People who commit suicide had contact with PCP in month prior to death

50 %

of depression care is provided in the primary care setting

>50%

of patients with mental illness only have contact with their PCP

Kessler RC (Arch Gen Psychiatry 2005); National Institutes of Mental Health (NIMH); Stafford RS (J Clin Psychiatry 2000);Regier D (Arch Gen Psychiatry 1993)

The Question:

- What is the Most Effective Way to Organize and Deliver Mental Health Services to Older Persons in Primary Care Settings?

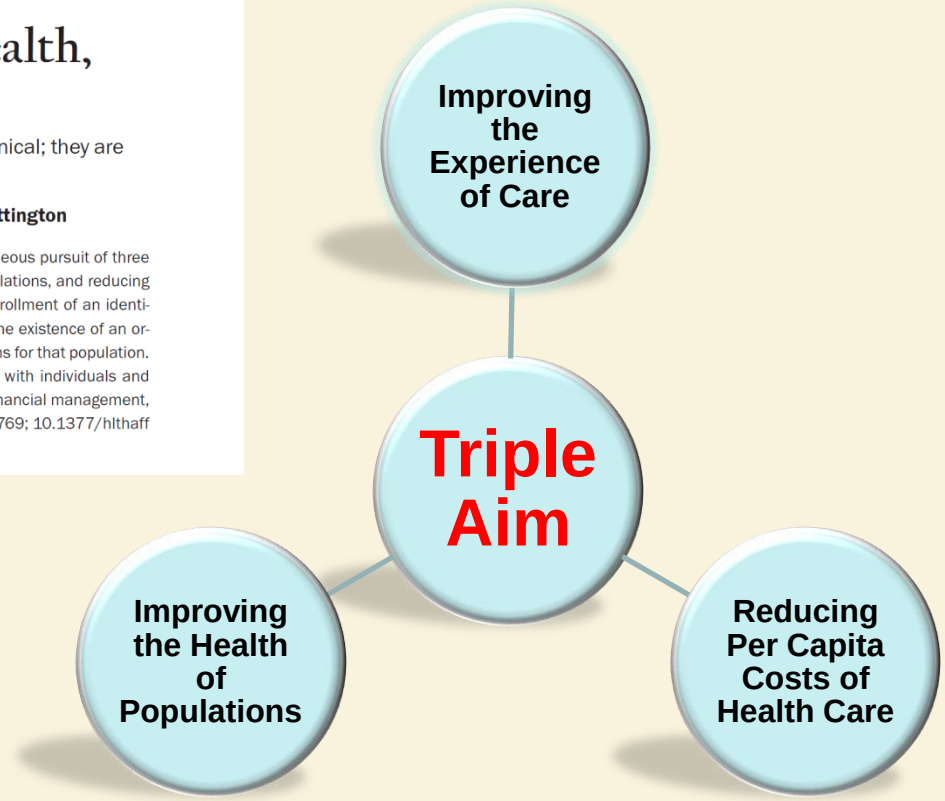
The Triple Aim

The Triple Aim: Care, Health, And Cost

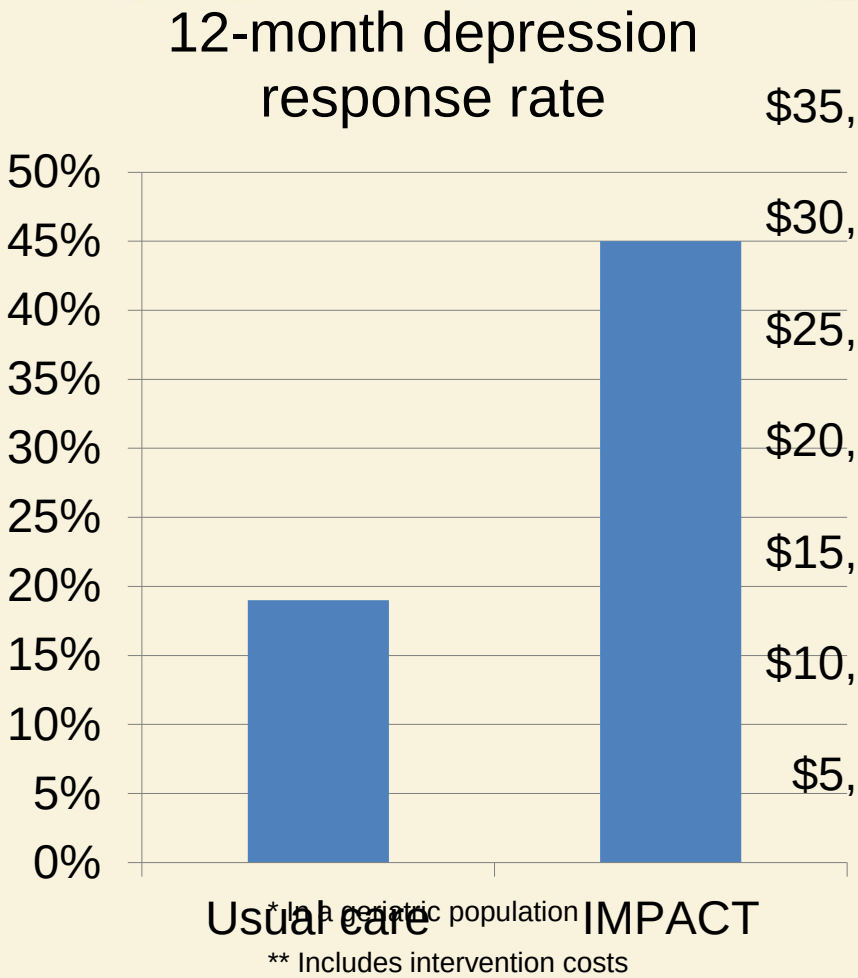
The remaining barriers to integrated care are not technical; they are political.

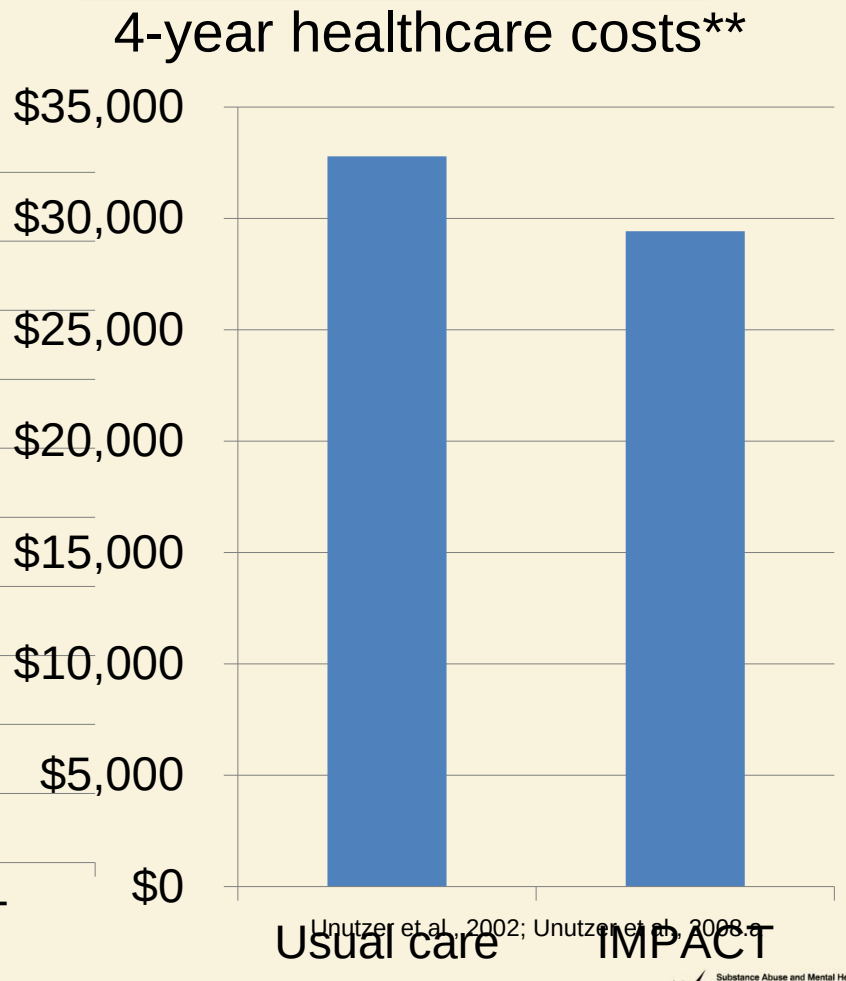
by Donald M. Berwick, Thomas W. Nolan, and John Whittington

ABSTRACT: Improving the U.S. health care system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations, and reducing per capita costs of health care. Preconditions for this include the enrollment of an identified population, a commitment to universality for its members, and the existence of an organization (an "integrator") that accepts responsibility for all three aims for that population. The integrator's role includes at least five components: partnership with individuals and families, redesign of primary care, population health management, financial management, and macro system integration. [*Health Affairs* 27, no. 3 (2008): 759–769; 10.1377/hlthaff .27.3.759]



IMPACT: clinical outcomes and cost-effectiveness*





* In a geriatric population

** Includes intervention costs

Unutzer et al., 2002; Unutzer et al., 2008.a

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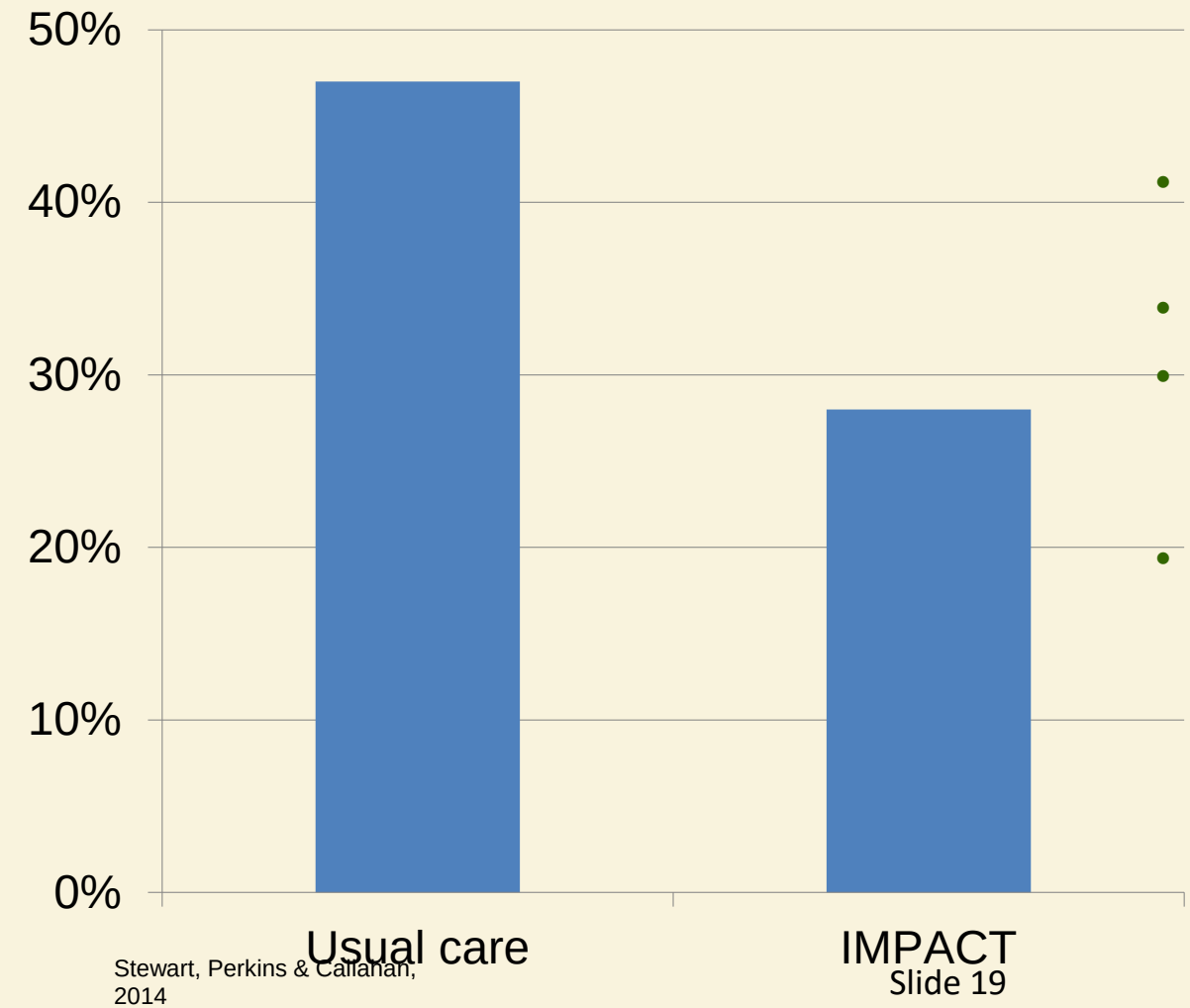
IMPACT improves other health measures



- Improved physical functioning
- Decreased pain
- Reduced suicidal ideation (even long after intervention)
- Improved access to preferred treatment

Stewart, Perkins & Callahan, 2014

Pop Quiz

What large population group in the USA has the following characteristics?

- 25-30 year shorter life span than the general population
- Accounts for about 3% of Americans
- Similar life expectancy to people in Ethiopia
- A declining lifespan over the past 3 decades
- Disproportionate risk of death from dramatically increased preventable cardiometabolic risk factors
- Substandard health care for common chronic illnesses
- Presents a paradigm for a high-risk, disadvantaged cardiovascular health disparity population

The Epidemic of Premature Death in Persons with Mental Illness

The average life expectancy in the US has steadily increased to 77.9 years (increasing by almost 5 years since the 90s alone)

At the same time…….

Mentally ill die 25 years earlier, on average

By Marilyn Elias, USA TODAY

Adults with serious mental illness treated in public systems die about 25 years earlier than Americans overall, a gap that's widened since the early '90s when major mental disorders cut life spans by 10 to 15 years, according to a report due Monday.

For people with major mental illness:
The average life expectancy is 53 yrs.
"50 is the New 75"

Why are Persons with Serious Mental Illness Dying Early?

- Higher rates of medical comorbidity in persons with SMI?
- Higher rates of obesity and associated cardiometabolic syndrome?
- Poor health care and health disparities?
- Iatrogenic exposure?
- Lifestyle and Health Behaviors?

Interventions to reduce risk of premature Cardiovascular Morbidity and Mortality

- In SHAPE: Integrated Health Promotion and Health Behavior Change - fitness assessment, “health buddy”, nurse evaluation -> improved fitness and weight loss

Clinically Significant Improved Fitness and Weight Loss Among Overweight Persons With Serious Mental Illness

Stephen J. Bartels, M.D., M.S.
Sarah I. Pratt, Ph.D.
Kelly A. Aschbrenner, Ph.D.
Laura K. Barre, M.D.
Kenneth Jue, M.S.S.A.
Rosemarie S. Wolfe, M.S.
Haiyi Xie, Ph.D.
Gregory McHugo, Ph.D.
Meghan Santos, M.S.W.
Gail E. Williams, B.A.
John A. Naslund, M.P.H.
Kim T. Mueser, Ph.D.

- Automated Remote Telemedicine Disease Management: reduced blood glucose
- Collaborative Activation Training in Primary Care
- Shared Decision Making

Bartels, et al.

Older Age Bipolar Disorder: Mr. Jones

- 76 year old married male
  - 1st bipolar episode at age 27
  - Subsequent episodes each year
  - Current episode: 3 weeks of increased irritability, decreased sleep, increased verbal abuse of family
  - Current tx: Lithium carbonate 900 mg/d, level 0.6 meq/L, serum creatinine 1.9 mg/dl
- Memory and ADLs have declined over preceding 2 years –assistance needed with dressing and bathing.
- Neuropsychological testing was consistent with diagnosis of Alzheimer's Disease.

Questions

- What is the typical course of Bipolar Disorder in older adults?
- How does lithium treatment affect an aging brain?
- How can mania, delirium and dementia be distinguished in a bipolar patient?
- Does bipolar disorder increase the risk of developing a neurodegenerative dementia?
- What are the evidence-based treatments for geriatric mania?

Older Adult Bipolar Disorder Is Common in Clinical Populations

- 6% of geriatric outpatient visits
- 8-10% of geriatric inpatient admissions
- 3% of nursing home residents
- 17% of geriatric patients presenting to psychiatric emergency department
- 10% of all patients with bipolar disorder present with first episode after the age of 50

*GIVEN THE GLOBAL INCREASE IN ELDERLY, OVERALL NUMBERS OF BD ELDERS WILL INCREASE

Depp CA, et al. *Bipolar Disord.* 2004;6(5):343-367
Depp CA, et al. *Am J Geriatr Psychiatry.* 2005;13(4):290-298
Yassa R, et al. *Psychiatr Clin North Am.* 1988;11(1):117-131.

Medical complexity causes earlier death in BD

Standardized mortality ratios (SMRs) in BD:

- 2.5 for men
- 2.7 for women
- Most frequent cause of death
  - Cardiovascular disease 31%
  - Suicide 19%
  - Cancer 14%
  - Life-style issues such as smoking, diet and substance abuse likely contribute
- Each 1-unit increase in BMI decreases BD treatment response by >7%
- BD individuals with obesity/cardiometabolic syndrome are at risk for suicide
- Elevated risk of dementia in Tawianese study: OR 4.32

1. Osby U, et al. *Arch Gen Psychiatry*. 2001;58(9):844-850.
2. Angst F, et al. *J Affect Disord*. 2002;68(2-3):167-181.
3. Newcomer J, Hennekens C. *JAMA*. 2007;298(15):1794-17964.
4. Kemp D and Fan J. Bipolar Disorder 2010.12: 404-413
5. Fagiolini.A. Bipolar Disord 2005: 7: 424–430
6. Wu KY, et al. Bipolar Disord. 2013

Schizophrenia and the Aging Population

- Approximately 1 million people in the U.S aged 55 and older have severe and persistent mental illness
- People with Schizophrenia represent the majority
- Population expected to double within 30 years
- Most have spent majority of their lives outside of institutions – 85% live in community
- This population is largely invisible to researchers, policy makers and service providers
- Mental Health Services for the elderly are fragmented and underutilized
- Geriatric long term care programs primarily focus on those with physical disabilities and dementia

Cohen CI, et al. *Am J Geriatric Psychiatry*. 2000;8:19-28
Palmer BW, et al. *Psychiatr Serv*. 1999;50:1178-1183

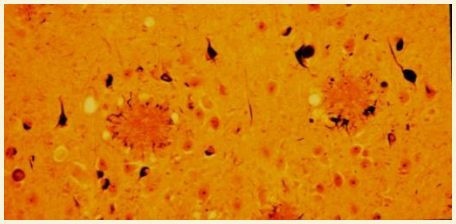
HOPES Study

- Design: Psychosocial skills training and preventive health care intervention (HOPES) vs. Treatment as usual (TAU) for older persons with serious mental illness (n=183 older adults, age≥50, mean age=60.2; 28% schizophrenia, 28% schizoaffective disorder, 20% bipolar disorder, 24% major depression).
- Setting: Two community mental health centers in Boston, MA and one in Nashua, NH.
- Intervention: Twelve months of weekly skills training classes, twice-monthly community practice trips, and monthly nurse preventive health care visits, followed by a 1-year maintenance phase of monthly sessions.
- Results: Skills training and nurse facilitated preventive health care for older adults with SMI was associated with sustained long-term improvement in functioning, psychiatric symptoms, self-efficacy, preventive health care screening, and advance care planning.

Bartels SJ, et al. *Am J Geriatric Psychiatry.* 2014; 22(11):1251-61

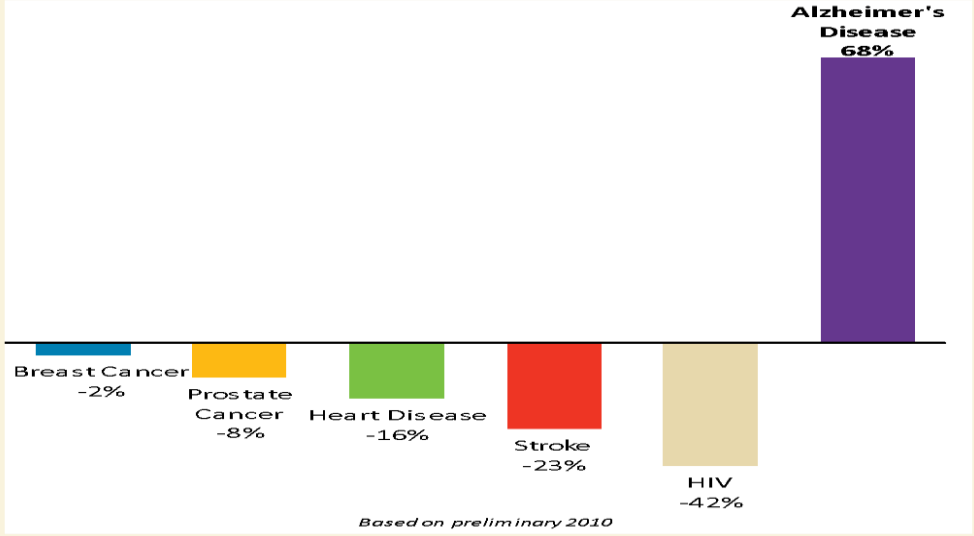
Alzheimer's Disease:
The challenge began 100+ years ago

- November 1906: Dr. Alois Alzheimer presented first case in Germany
- 51-year-old Auguste D. had profound memory loss, confusion, language difficulty, unfounded suspicions about husband and hospital staff
- On autopsy: plaques and tangles, brain shrinkage, vascular changes
- Her young age made Alzheimer think Auguste had a rare disease associated with middle age



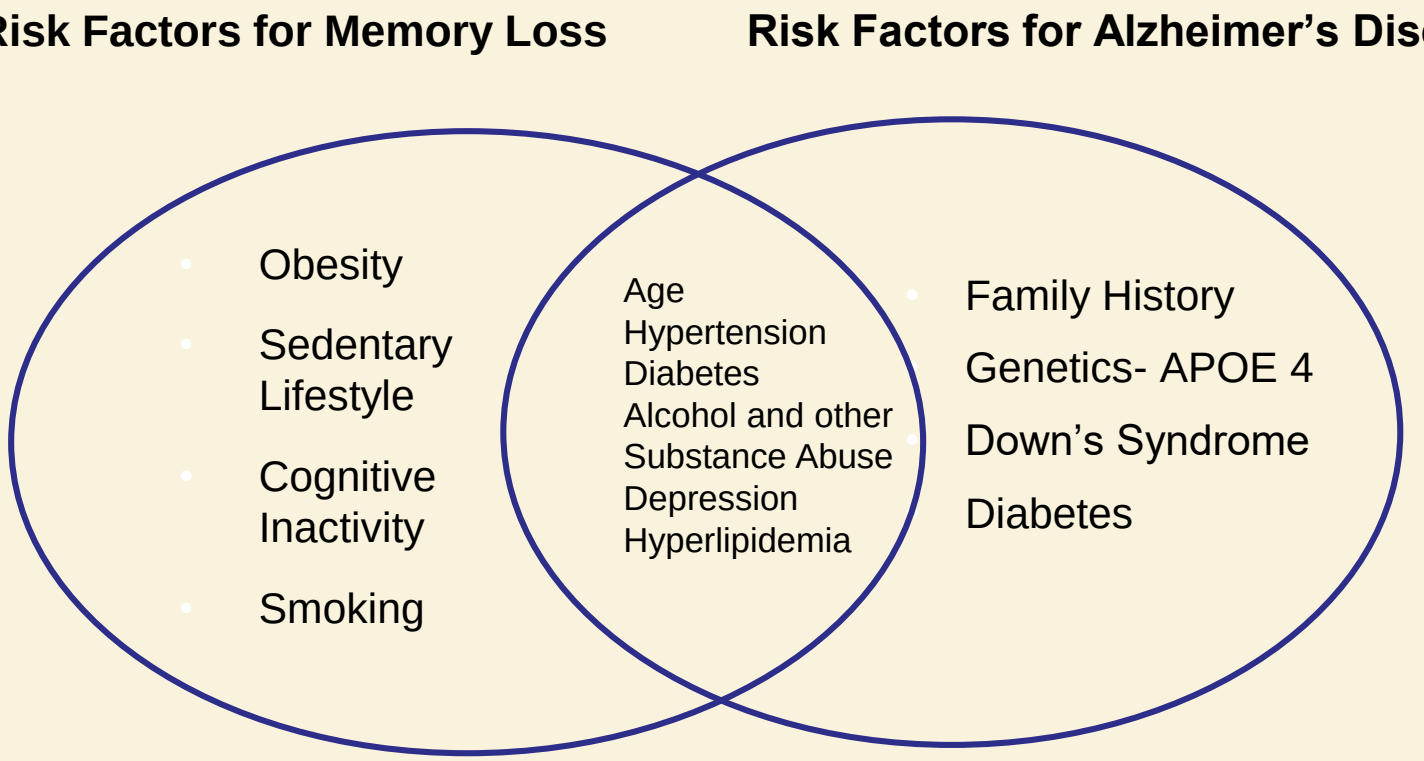
The Ripple Effect of Alzheimer's

- An estimated 5.4 million Americans have AD
- Alzheimer's is the 6th leading cause of death in the United States
- More than 15 million unpaid family members and friends care for those with Alzheimer's or another dementia
- $210 billion is the economic value of the care these "informal" caregivers provide
- Medicare payments AD 3x higher than general population ($183 billion in 2011)



Centers for Disease Control and Prevention2012 Alzheimer's Disease Facts and Figures

Risk Factors



The Additional Case for Health Promotion and Prevention: Aging and Brain Health

- Up to half of all cases of Alzheimer's (2.9 Million) are attributable to 7 modifiable risk factors:
  Depression, Diabetes, Midlife Obesity, Midlife Hypertension, Smoking, Low Educational Attainment, Physical Inactivity
- Public health campaign achieving 10% reduction in these 7 factors: prevention of 184,000 US cases
- 25% reduction in these 7 factors: reduction in
  ½ million cases in the US and 3 Million worldwide

Smith and Yaffe Lancet 2014

The Potential Economic Impact of Addressing Risk Factors to Prevent Alzheimer's Disease

For the 76 Million US Baby Boomers estimated lifetime reduction in dementia costs associated with a 10% reduction in:

	Medicare	Medicaid
• Body Mass Index [1]	$6 Billion	$35 Billion
• Cardiovascular Disease	$20 Billion	$17 Billion
• High Blood Pressure	$12 Billion	$12 Billion
• Diabetes	$7 Billion	$1 Billion

[1] Among overweight or Obese (>25)

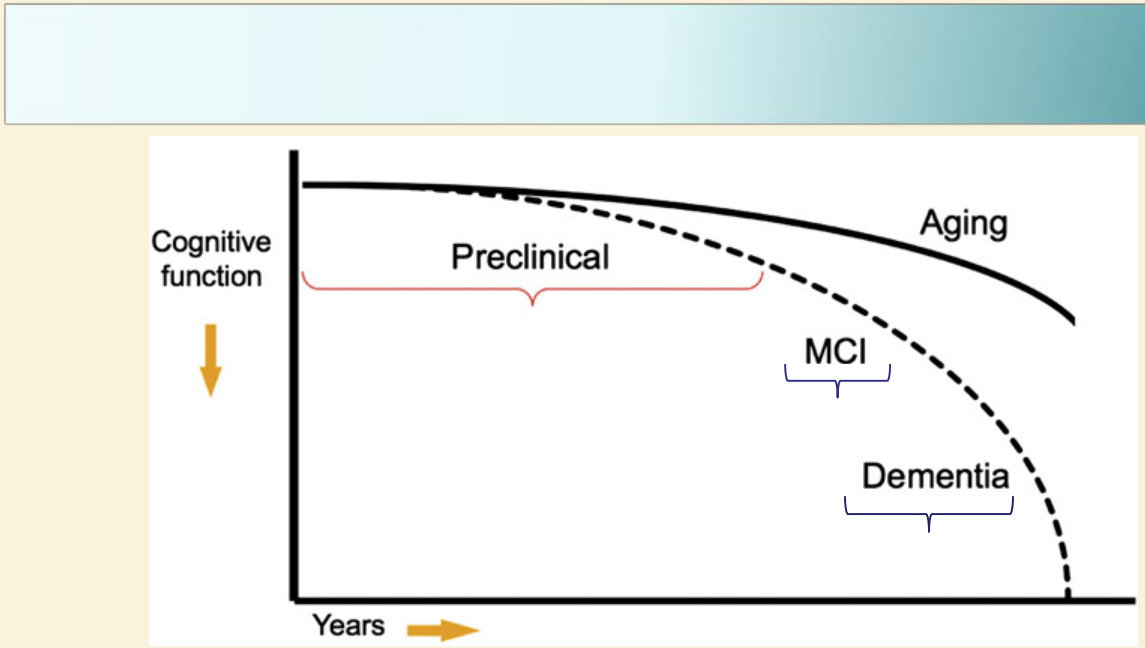
Assuming for 65+ cohort 14.5% will develop dementia at some point, with an average age of onset of 81 years, with an average duration of 5 years

Yang et al., Health Affairs 2014

Continuum of Alzheimer's Disease

Normal

Alzheimer's disease



Adapted from Sperling et al. 2011

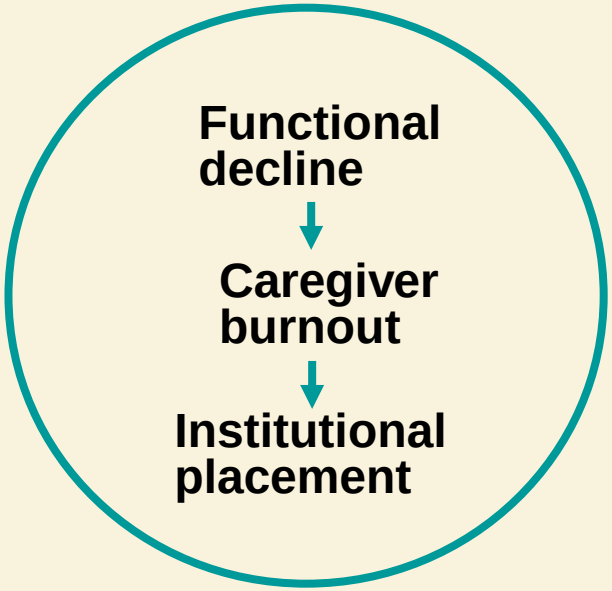
Behavioral Symptoms of AD: Mrs. Smith

- 68 yo WWF, living alone in elderly housing.
- One month history of increasing preoccupation with upstairs male neighbor, believes he is trying to sing to her and seduce her. Frantically writing notes to him, hears his voice, unable to sleep through night. She becomes anxious, distraught, feels unsafe at home. Increasingly socially isolated.
- Family brings her to emergency room for evaluation. They note a two year history of memory problems, gradually relying on her children for managing finances.
- No premorbid psych history, Med history of HTN, arthritis. Neuro exam non-focal. MMSE = 24/30. 12th grade education.

Psychiatric Factors that Impact on the Trajectory of Dementia

Psychosis

Delusions
Hallucinations
Social withdrawal



Cognitive deficits

Attention
Memory
Executive function

Mood disorder

Depression
Mania
Bipolar illness

Co-morbidity

Medical illness
Movement disorders
Substance abuse

Non-cognitive deficits

Aggressiveness
Agitation
Behavioral disturbance

Behavioral and Psychological Symptoms of Dementia (BPSD)

- Common: 90% of individuals with dementia experience at least some form of behavioral changes
- Agitation, depression, anxiety, irritability, hallucinations (25%), delusions (50%)
- Simple delusions of theft, impersonation
- Half of patients with psychotic symptoms become aggressive toward others as a result of the symptoms

The DICE Approach

Describe

- Caregiver describes problematic behavior
  - Context (who, what, when and where)
  - Social and physical environment
  - Patient perspective
  - Degree of distress to patient and caregiver

Investigate

- Provider investigates possible causes of problem behavior
  - Patient
    - Medication side effects
    - Pain
    - Functional limitations
    - Medical conditions
    - Psychiatric comorbidity
    - Severity of cognitive impairment, executive dysfunction
    - Poor sleep hygiene
    - Sensory changes
    - Fear, sense of loss of control, boredom
  - Caregiver effects/expectations
  - Social and physical environment
  - Cultural factors

Create

- Provider, caregiver and team collaborate to create and implement treatment plan
  - Respond to physical problems
  - Strategize behavioral interventions
    - Providing caregiver education and support
    - Enhancing communication with the patient
    - Creating meaningful activities for the patient
    - Simplifying tasks
    - Ensuring the environment is safe
    - Increasing or decreasing stimulation in the environment

Evaluate

- Provider evaluates whether "CREATE" interventions have been implemented by caregiver and are safe and effective

Consideration of Psychotropic Use (Acuity/Safety)

Kales et al. *J Am Geriatr Soc* 62:762–769, 2014

Pharmacotherapy for BPSD

- No FDA approved therapies
- Antipsychotics (APs) modestly effective at reducing symptoms, but this comes at the price of side effects (sedation, orthostatic hypotension, ataxia, EPS, TD, metabolic syndrome, stroke risk and FDA warning for mortality)
- APA Consensus guidelines 2016 support short-term use of APs for severe agitation with psychosis not responding to behavioral interventions
- Other therapies include SSRIs (citalopram), mirtazapine and certain anticonvulsants but NOT benzodiazepines
- Experimental therapeutics
  - Dronabinol for AD with agitation (synthetic cannabinoid)
  - Electroconvulsive therapy (ECT) for severe agitation in AD

Disease Modifying Experimental Therapies

- Amyloid: reduce build-up or enhance breakdown of amyloid plaque in the brain
  - Examples include immunotherapies
- Tau: reduce build-up of tau protein in the brain
- Both can be seen with brain imaging (PET scan)

PET Imaging

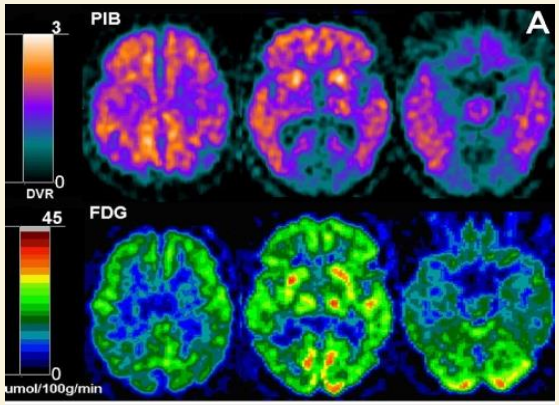
Positron Emission Tomography (PET)

- - Fluorodeoxy-glucose (sugar) measures brain activity; decreased with dementia
- - Amyloid tracers detect amyloid without autopsy; increased in Alzheimer's

AD

Amyloid

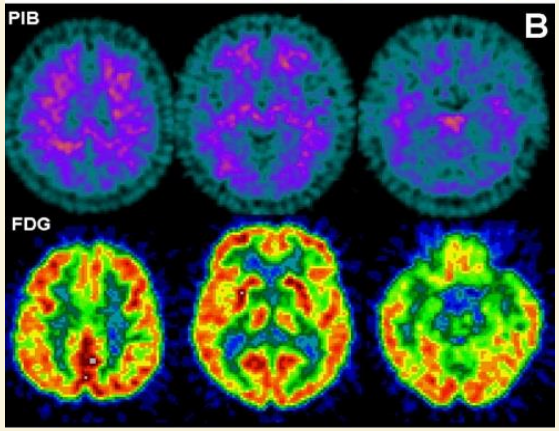
Glucose



Normal

Amyloid

Glucose



Li et al Eur J Nucl Med Mol Imaging. 2008 35(12): 2169–2181.

Future of AD Diagnostics and Therapeutics

- Amyloid and Tau imaging (or serum biomarkers) for pre-clinical detection of AD pathology (analogous to serum cholesterol measurement to reduce MI and CVA risk)
- Intervention with immunotherapies or other anti-amyloid and anti-tau therapeutics to reduce pathological spread and subsequent cognitive decline
- Prevention methods are available today

Combinations of Foods May Reduce Alzheimer's Risks

- Eating foods typical of "Mediterranean Diet" Reduces Risk of AD by 40%; Combination Important

  (Columbia Univ. Scarmeas, Stern, Tang, Mayeux & Luchsinger 2006 & 2009)

- DASH Anti-Hypertensive Diet Lowers Risk of Dementia; Combination of Foods: Vegetables, Whole Grains, Nuts Legumes &, Low or No-fat Dairy (Wengreen et. al. - 3400 Utah seniors)

- Nutrients, in combination, lowering risk:
  - Nuts, fish, tomatoes, poultry, fruits, cruciferous & dark & leafy vegetables, salad dressing with oils, as well as, mono-unsaturated fatty acids, omega 3's, vitamin E, vitamin B12 & folate.
  - Low intakes of high-fat animal foods, i.e. dairy, red meat, organ meat and butter, and of saturated fats & Omega 6's.

(Columbia Univ. 4 year study of 2,148 New Yorkers -June 2010 Y.Gu, Scarmeas, et.al. Arch of Neurol)

Exercise May Reduce 'Senior Moments'

- Exercise at mid-life reduces subsequent risk of dementia[1]
  - moderate-intensity walking regimen or a stretching/toning program
  - resistance training like weight lifting, aerobic training like walking, or balance and tone exercises, twice weekly for six months
- Increases brain cell growth in animals[2]
- Increases brain blood flow in humans[3]

1. Andel, 2008; 2. Gage 2002; 3. Rolland 2008

Dementia Care Coordination

- Goal: To identify and manage patients with cognitive disorders in primary care
- Why: Quality of care for dementia in primary care is poor- physician adherence to dementia quality indicators at 18%-42%
- Evidence based models demonstrate high quality of care for dementia, especially for assessment, screening, and counseling
- UCLA Alzheimer's & Dementia Care (ADC) Program[1]: Dementia care managers working with PCPs and community-based organizations to provide comprehensive dementia care
- VA Geriatrics in Primary Care[2:] Embedded geriatric care management
- NYU Caregiver Intervention in Minnesota[3:] Nearly $1 Billion in estimated cost savings over 5 years
- Indiana Health Brain Aging Center (HBAC)[4]: Net annual savings of $3K per patient
- Kansas Bridge Project[5]: Crisis intervention of dementia with behavioral disturbances, reduced psychiatric symptoms in patients, caregivers and delayed long tem care placement.

1. Jennings LA, Tan Z, Wenger NS, et al. *Journal of the American Geriatrics Society*. 2016 Aug 1;64(8):1724-30Engel PA, 2. Spencer J, Paul T, et al. *Journal of the American Geriatrics Society*. 2016 Apr 1;64(4):875-9, 3. Long KH, Moriarty JP, Mittelman MS, et al. *Health Affairs*. 2014 Apr 1;33(4):596-604, 4. French DD, LaMantia MA, Livin LR, et al. *Health Affairs*. 2014 Apr 1;33(4):613-8, 5. Johnson DK, Niedens M, Wilson JR, et al. *The Gerontologist.* 2013 Feb 1;53(1):102-12

Summary

- As the baby boomers age we will see increasing rates of depression in medical populations requiring novel approaches for integrated care
- Increasing population of SMI older adults best treated in integrated settings to help improve clinical outcome and treat medical co-morbidities
- Dementia is on the rise due to aging of population with
  - Current research efforts aimed at secondary prevention
  - Behavioral symptoms of dementia drive costs, morbidity/mortality and caregiver burden

Summary

- Opportunity for inpatient psychiatry to fill niche in a health care system for those individuals with severe and treatment refractory illness
  - Populations include mood and psychotic disorders and patients with dementia complicated by behavioral disturbances.

Summary

- To help achieve the Triple Aim:
  - Collect clinical data on every patient
  - Employ interventions to improve behavioral phenotyping, change health behaviors and monitor treatment effects and outcomes
- Goal: a coordinated system of care delivery providing integrated care for aging adults with mental illness