

Late Life Substance Use and Cognitive Impairment



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Disclosures

- Neither speaker has any financial disclosures
- We will not discuss off-label medication use

Do you find yourself **frustrated** by
calls involving **substances**
and **older adults** ?

Do you have **trouble deciding** if an
older adult with problematic
substance use may have
dementia, (and therefore qualify for the
program)?

Our main message for you:

Everyone struggles with these cases – YOU ARE NOT ALONE!!!

- It often takes *6+ months of sobriety* to really know “is this dementia?”
- There’s just about no way that you’ll be able to answer this question with certainty in your assessments

BUT!!!!!!!

- THERE ARE THINGS YOU CAN DO TO HELP OLDER ADULTS IN THESE SITUATIONS!
- MANY OF THESE OLDER ADULTS COULD BENEFIT FROM THE PROGRAM

What we will cover today:

- Discussion Topics:
 - Substance use, substance use disorders (SUDs) and older adults
 - Cognitive impairment and dementias
 - Connection between substance use and cognitive impairment
 - What you can do to help these patients
- End with ample time for cases and questions



EMS calls involving drugs and alcohol are common

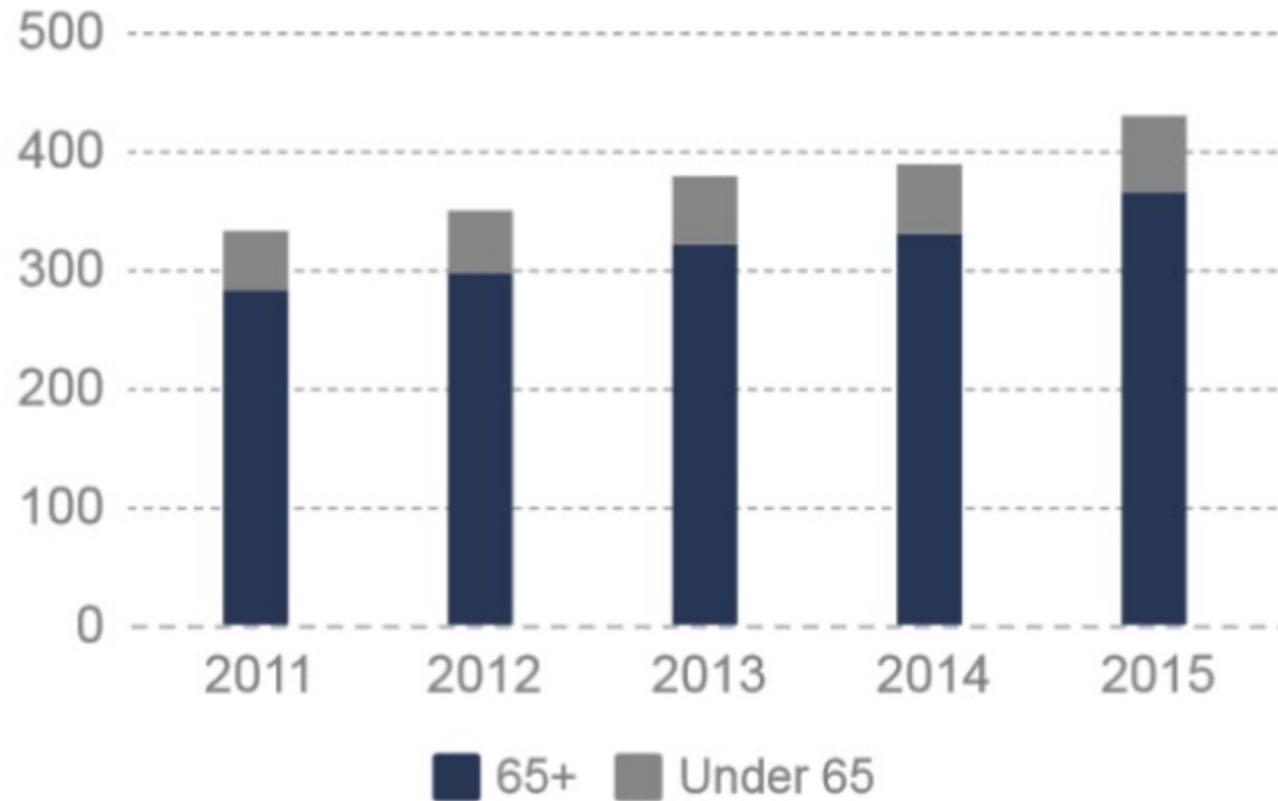
- One article on urban areas put the rates at 40-60% of all EMS calls!
(probably no surprise to all of you..)
- Run the gamut from traumas to intoxication to overdoses

“Breathing problems” most common overall call, can be related to substances



WHAT WOULD YOU ESTIMATE IS THE PERCENTAGE FOR YOUR SERVICE?

Estimated Alcohol-Attributable Fall Deaths, by Age, Wisconsin



obtained from: dhs.wisconsin.gov

Older Adults (OA) & Substance Use

Basics on OA and substance use...

- ~ 20% of OA have had disordered use
- The Baby Boomers have had more exposure to illicit drug use than other generations of OA
 - 47% have used illicit drugs
- OA needing substance use treatment are expected to increase
 - 1.7 million in 2001 $\Rightarrow$ 4.4 million in 2020



Basics on OA and alcohol use...

- Many older adults drink alcohol
 - About 40% of adults >65 drink alcohol
 - About 16% are at risk drinkers
- Older adults are more susceptible
 - Falls
 - Higher BAC with lower consumption
 - Confusion
 - Withdrawal complications



Risky alcohol use among older adults is a growing problem!

- High risk drinking in OA in the US grew 65% from 2004-2013!
- Older men more likely to be engaging in risky drinking
- Risky drinking is growing FASTER AMONG OLDER WOMEN

Basics on OA and opioid use and RX abuse...



- Prescription drug misuse includes any prescription medication
 - OA are the population at greatest risk
 - Not just traditional drugs of abuse
 - Opioids, benzodiazepines, muscle relaxers, gabapentin, antihistamines ...
 - Can be intentional or unintentional
 - OA also at risk for diversion and/or exploitation



Opioid misuse is a growing problem among older adults $\Rightarrow$ 2000-2012

- Heroin use increased by 26% in older adults
- Non-prescription methadone increased by 200%
- Other opiates and synthetics increased by 221%



Biggest group in the US on
methadone treatment for opioid
use disorder?

50-59 years of age!

Basics on OA and cannabis use...

- Older adults are using cannabis+ in greater numbers

Those 65+ are the fastest growing group of cannabis users

- OTC CBD products are not regulated and many do contain THC
- Older adults may be more susceptible to side effects ⇒ sedation, confusion, lung issues



Basic Review of Dementias

What is dementia?

- Cognitive decline in one or more areas
 - Memory
 - Visual/spatial construction
 - Executive function
 - Language...
- PLUS functional decline
 - Must be change from baseline



Types of Dementia

Most common types for late -onset

1. Alzheimer's Disease (AD)
2. Vascular Dementia
3. Lewy Body Dementia
4. Mix of the above
5. Frontotemporal Dementia (FTD)
6. Others: includes Alcohol -Related Dementias (ARD)

Most common types for early -onset

1. AD
2. Vascular
3. FTD
4. ARD
5. Lewy Body Dementia
6. Huntington's Disease
7. Multiple Sclerosis
8. Others

Behavioral and psychological disturbance is common in dementia and even mild cognitive impairment...

- 90%+ of those with AD
- More common with some other dementias
- Much more common with ARD
- Symptoms are broad
 - Agitation/ Aggression
 - Irritability/ Anger
 - Hallucinations
 - Depression/ Anxiety/ Apathy
 - Sleep disturbance
 - Wandering
 - Changes in appetite/eating



Substance use & Cognitive Impairment

Cognitive deficits associated with withdrawal or intoxication of drugs are often temporary

Advancing age increases vulnerability to the negative cognitive effects of substance use.



Substance use & Cognitive Impairment

- The cognitive effects of chronic use may...
 - Resolve relatively quickly with abstinence
 - Resolve after weeks or months of abstinence
 - Only resolve with extended abstinence
 - Not resolve at all with abstinence
- The prevalence of cognitive impairments in patients with SUD is still unclear, it is estimated between 30-80%





Substance use & Cognitive Impairment

The impact substance use has on the brain depends on:

- Length of time a person has been using the substance
- Frequency of use
- Typical amount used
- Route of administration

The longer and heavier the use, the more likely it is that a substance will have negative effects on the brain.

- Cognitive effects may make it more difficult for patients to engage in and benefit from health care and other services
- Effects on executive functions may make patients in recovery vulnerable to relapse

Alcohol Withdrawal in OA

- Onset of alcohol withdrawal symptoms may occur several days after cessation of drinking
- **Confusion = predominant clinical sign** (rather than tachycardia or tremor)
- Direct relationship between duration of withdrawal and the level of alcohol consumption

OA are at greater risk of complications

TABLE 1

Symptoms of alcohol withdrawal syndrome

Time of appearance after cessation	Symptoms
6–12 hours	Minor withdrawal symptoms: insomnia, tremulousness, mild anxiety, gastrointestinal upset, headache, diaphoresis, palpitations, anorexia
12–24 hours ^a	Alcoholic hallucinosis: visual, auditory, or tactile hallucinations
24–48 hours ^b	Withdrawal seizures: generalized tonic-clonic seizures
48–72 hours ^c	Alcohol withdrawal delirium (delirium tremens): hallucinations (mainly visual), disorientation, tachycardia, hypertension, low-grade fever, agitation, diaphoresis

^aSymptoms generally resolve within 48 hours.

^bSymptoms reported as early as 2 hours after cessation.

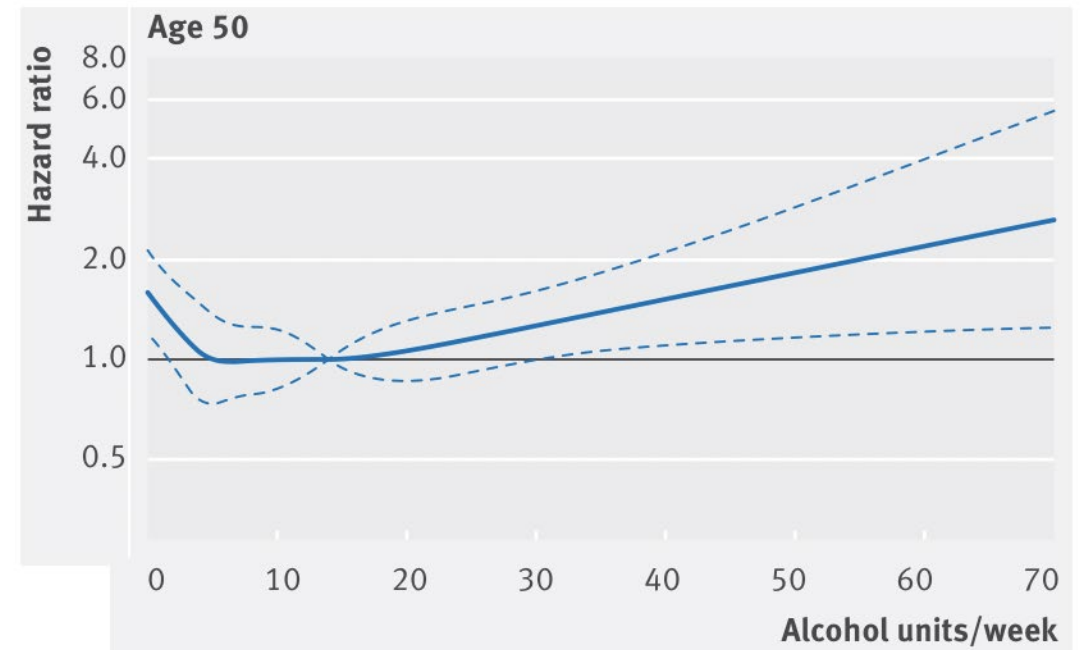
^cSymptoms as late as 5 days.

From Bayard M, McIntyre J, Hill KR, Woodside J, Jr. Alcohol withdrawal syndrome. Am Fam Physician 2004; 69:1443–1450.

Reproduced with permission from the American Academy of Family Physicians.

Alcohol & risk of dementia

High alcohol use increases risk of dementia and results in smaller hippocampal volume



10 units = five 12-oz beers

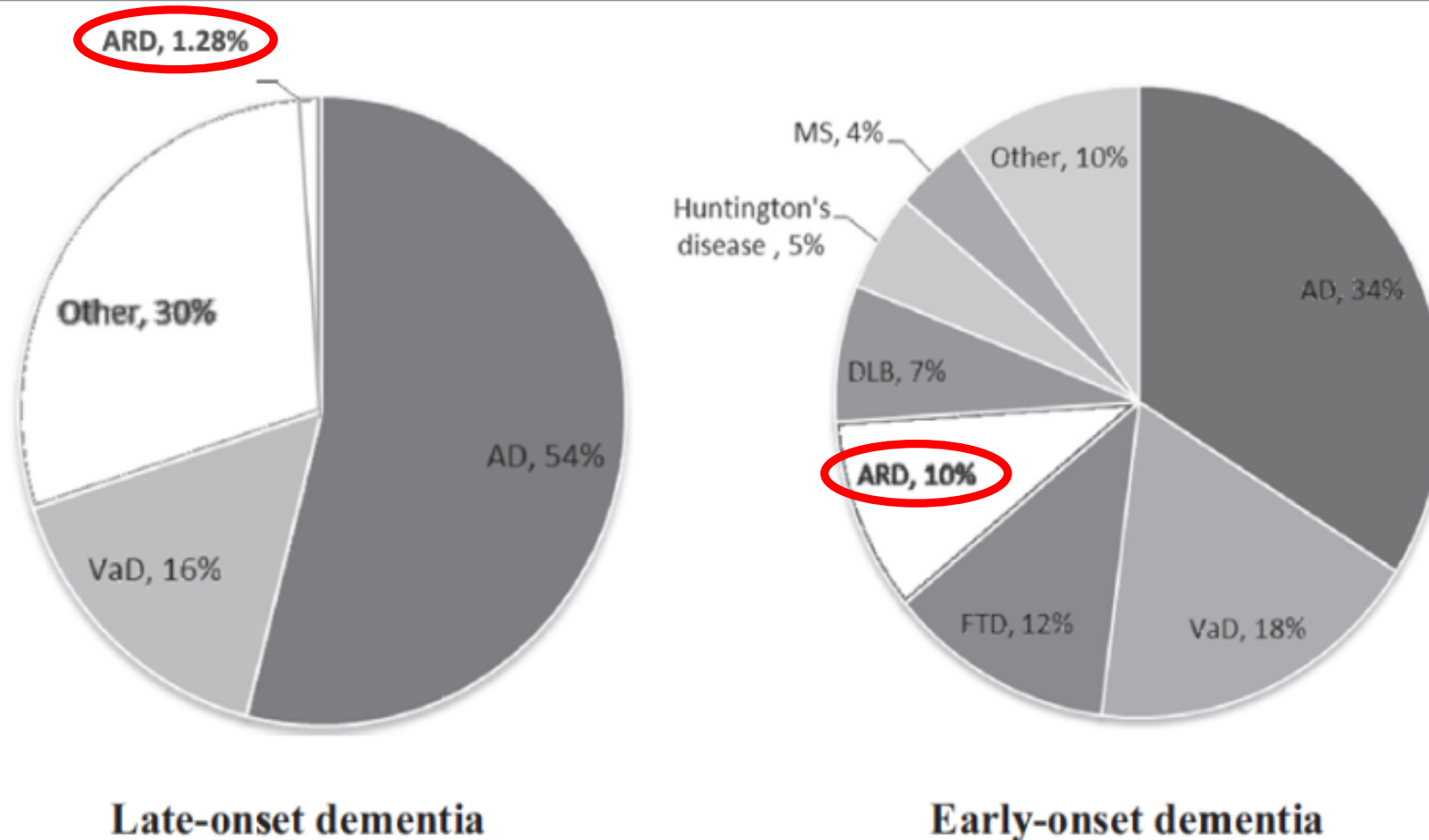
Alcohol Related Dementia (ARD)

- Prevalence: varies due to lack of “gold standard” diagnostic criteria
 - Prevalence studies ARD accounts for 10 to 24% of all dementias
- Patient characteristics: Male, co-morbid mental and physical conditions, social isolation, unmarried



ARD makes up a large portion of early onset dementia, less so for late -onset

FIGURE 2. (Left) Proportions of etiologies of late-onset dementia (≥ 65 years) based on Lobo et al.⁴ and Picard et al.²¹ (Right) Proportions of etiologies of early-onset dementia (< 65 years) based on Harvey et al.⁵ FTD = frontotemporal dementia; DLB = dementia with Lewy bodies; MS = multiple sclerosis.



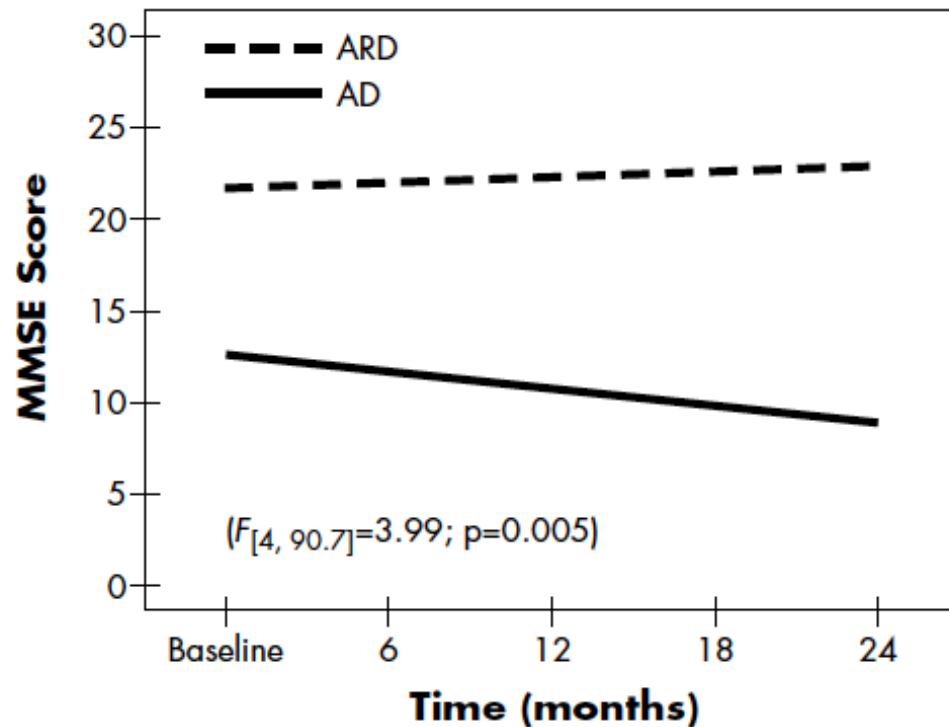
ARD Findings & Neuropathology

- Executive, visuospatial, and memory difficulties
- Spared language function
- Neuroimaging shows atrophy of mamillary bodies, thalamus, cerebellum, ventricular enlargement
 - Repeated binge drinking and withdrawal $\Rightarrow$ neuronal injury and white matter shrinkage
 - Abstinence has shown to result in reversal of white matter shrinkage

ARD on Testing

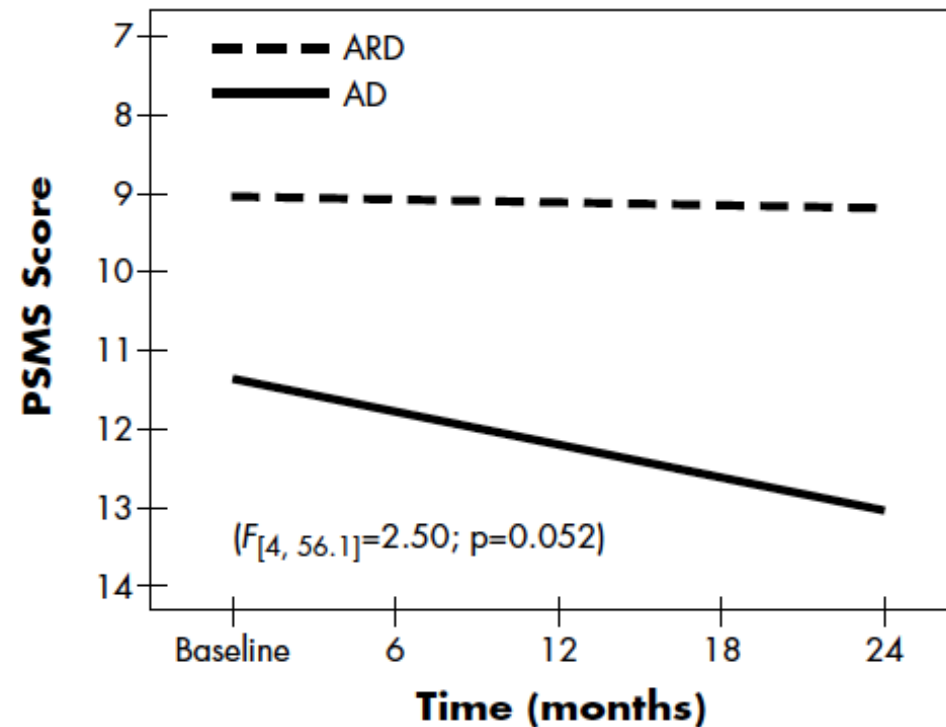
- Cognitive status & Functional Status: no deterioration & possible improvement over time with abstinence

FIGURE 1. Cognitive status (MMSE) of ARD and AD subjects over the course of 2 years



Note: MMSE: Mini-Mental State Exam; ARD: alcohol-related dementia; AD: Alzheimer disease.

FIGURE 2. Functional status (PSMS) of ARD and AD subjects over the course of 2 years



Note: PSMS: Physical Self-Maintenance Scale; ARD: alcohol-related dementia; AD: Alzheimer disease.



ARD Treatment

- Early detection is important: screen for alcohol use yearly and test cognitive function
- **ABSTINENCE**
 - Meta-analysis showed that cognitive profile can become normal only after 1 year of abstinence, while certain impairments may persist
- Parenteral Thiamine
 - Definite: 200 mg of 3 times daily for 5-7 days
 - Suspected/high risk: 100-200 mg 3 times daily 3-5 days



Benzodiazepines & Cognitive Impairment

- **Intoxication & withdrawal:** confusion and disorientation
 - Long acting benzodiazepines (clonazepam) are most commonly associated with cognitive impairment
- Benzodiazepine use is associated with an increased risk of Alzheimer's disease.
 - Risk increased by **43-51%** among those who had used benzodiazepines in the past
 - The association was slightly stronger for long-acting benzodiazepines.



Cocaine Use & Cognitive Impairment

- A pilot study that included age-matched controls found that older participants who were dependent on cocaine demonstrated greater impairment in psychomotor speed, attention, and short-term memory compared with younger participants.
- Studies have shown deficits in attention, working memory, and declarative memory
- Cocaine associated with several mechanisms of brain injury
- Cocaine-induced leukoencephalopathy





Marijuana Use & Cognitive Impairment

- Intoxication :
 - Slows reaction time
 - Impairs attention and concentration
 - Impairs motor coordination
- Withdrawal: irritability, anger, anxiety, depression, and disturbed sleep
- Long-term cannabis use: impaired learning, retention, and retrieval of dictated words, and time estimation **BUT** how long these deficits persist is not yet known
- Marijuana link to dementia is unknown
 - One study did find lower perfusion to hippocampus in marijuana users



Opioid Use & Cognitive Impairment



Intoxication :

altered mental status $\Rightarrow$ euphoria, lethargy, confusion, coma

Withdrawal:

electrolyte abnormalities from fluid loss $\Rightarrow$ dangerous!

Chronic opioid exposure: linked with neurocognitive impairments.

- One meta-analysis showed dysfunctions in three cognitive domains: impulsivity (risk-taking), cognitive flexibility, and verbal working memory
- Autopsy studies have shown neuropathologic findings in young opioid abusers similar to those seen with Alzheimer's disease
- Long-term opioid use might contribute to cognitive decline, still under investigation



**What can we do to help
these patients?**

How to talk to older adults about substances ⇒ Avoid Reinforcing Stigma

Language matters

Use Person-First Language

- ~~Alcoholic, addict, drug abuser, drug-seeker~~
- Person who uses/abuses alcohol, cocaine, etc.
- Person living with an opioid use disorder, etc.



Older adults with SUDs are *less likely to be screened, identified, and referred for treatment*

But OLDER ADULTS ARE
**JUST AS LIKELY TO BENEFIT
FROM TREATMENT AS YOUNGER ADULTS!**

Barriers to Care for Older Adults



- Stigma can be high
 - Most treatment programs not tailored to older adults
 - Can be uncomfortable attending therapies with predominantly younger focus
-
- Sensory impairments
 - Transportation can be an issue
 - Mobility and other medical issues can interfere
 - Financial concerns are barriers to access and afford care

Barriers to Care for Older Adults



- Medicare
 - Not subject to federal parity law
 - But, as of 2020
 - Comprehensive addictions treatment is covered
- Medicare Advantage Plans
 - Coverage varies widely
 - Studies have shown deliberate
 - Decreased reimbursement
 - Restriction of provider pools
- Medicaid
 - Varies state to state
 - Wisconsin explicitly covers addictions treatment

Most local programs take Medicaid,
many DON'T take Medicare

Comprehensive Local Resources for Treatment

- UW Behavioral Health and Recovery.
608 282-8270



- NewStart (Meriter) : 608 417-8144



- Tellurian : 608 222-7311



Comprehensive Local Resources for Treatment

- Journey Mental Health Center: 608-280-2720



- Madison Comprehensive Treatment Centers:
888-747-1037
 - Opioid Use Disorder-Specific
 - Note on their website about taking Medicare soon!



Madison East
Comprehensive Treatment Center
Opioid Use Disorder Program



Madison West
Comprehensive Treatment Center
Opioid Use Disorder Program



National Resource for Treatment

- SAMHSA's National Helpline: 1-800-662-4357
 - Can help locate treatment centers
 - English and Spanish
 - 24-7-365 access

 U.S. Department of Health & Human Services

SAMHSA
Substance Abuse and Mental Health
Services Administration



How to proceed with the program in these Seniors?

- Just because a substance is involved does NOT mean that the elder wouldn't benefit from the program
 - Do you note cognitive impairment? Even in the setting of intoxication?
 - Do you note evidence of functional decline?
 - If both of these are present, likely would benefit and qualify
- When to refer for treatment?
 - Always if you can!

When to call for help?

- When to call Law Enforcement?
 - Posing an immediate threat to self or others
 - Threatens violence with weapons
- When to report to Adult Protective Services?
 - Thermostats not set appropriately for weather conditions, wandering
 - Extreme or out of control paranoia, hallucinations, delusions, aggression, thoughts of suicide
 - Evidence of abuse/injuries
 - Unsafe driving/refuses to stop driving
 - Refuses personal care for prolonged periods of time

Thank you for
all you do
and for inviting us to
speak to you today!

TIME FOR CASE DISCUSSIONS AND QUESTIONS