Substance Use Disorders in Older Adults

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Learning Objectives

- Describe substance use disorders in non-judgmental language
- Describe the growing prevalence of psychoactive substance use among older adults.
- Identify possible treatment options for substance use disorders
- Appreciate special considerations for such treatment in an older patient, including:
 - Risks of ongoing methadone maintenance treatment for Opioid Use Disorder
 - Potential benefits of buprenorphine as an alternative for Opioid Use Disorder
 - Potential benefit of naltrexone for Alcohol use disorder
- Appreciate the need to integrate geriatric-based care with addiction medicine.

Spectrum of Substance Use vs Use Disorders

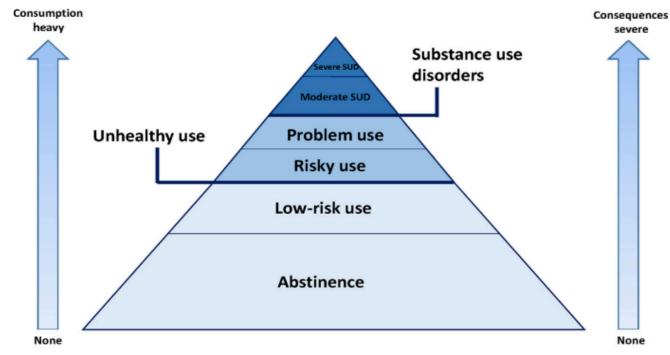
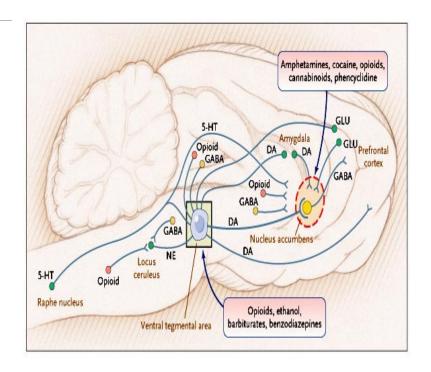


Fig. 1. Spectrum of substance use. SUD, substance use disorder. (Adapted from Saitz R. Clinical practice. Unhealthy alcohol use. N Engl J Med 2005;352(6):596-607.

Substance use disorder as a chronic disease

- Chronic, relapsing brain disease.
- Characterized by compulsive drug seeking and use, despite harmful consequences.
- Change in brain structure and function.
- <u>Limitations</u>: Does not fully account for the external contexts that may influence drug use behavior.



Substance use disorder as a chronic disease

	Substance use disorder	HTN	DM
Insidious – at least in the beginning	YES	YES	YES
Cuts across all socioeconomic backgrounds	YES	YES	YES
Can be out of control (uncontrolled)	YES	YES	YES
Patient compliance with treatment necessary	YES	YES	YES
Lifelong - chronic disease	YES	YES	YES
Lifestyle changes needed	YES	YES	YES

(NYS Office of Alcoholism & Substance Abuse Services)

A word about substance use, stigma, and language

"In our communities, people are dying. Our brothers, sisters, fathers, mothers, sons and daughters, even grandparents are dying every day from drug overdoses but we aren't talking about it. The shame and silence are killing us."

(Hector, Bronx, NY)

- Significant stigma related to substance use and treatment.
- Misconception of substance use disorders as a moral failing.
- Negative words reflect stigma:
 - Addict, abuser, junkie, substance abuse, clean, dirty.
- Consequences and implications of stigma:
 - Risk to personal safety.
 - Barriers to willingness to seek help.

Substance Use: The importance of language

AVOID	USE INSTEAD
Addict/Alcoholic/Junkie/Druggie	Person with Substance Use Disorder
Ex-addict	History of SUD or "living in recovery"
Clean/Dirty urine drug screen	Positive/Negative drug screen
Relapsed	"Had a setback", "started using again"
Clean	Sober
Non-compliant	Non-adherent or "choosing not to"
In denial	"Doesn't agree" or "doesn't want to"

Substance Use and Aging

The intersection of alcohol and drug use with chronic disease is complex among older adults.

Drugs and alcohol can cause and exacerbate chronic medical conditions.

Older adults are more vulnerable to the harms of drug and alcohol.



Psychoactive substance use and older adults









Historically, older adults have not had high rates of drug use.

The Baby Boomer cohort is unique as they came to age during a period of shifting attitudes towards drug use.

Adults age 65 and older with substance use disorder is projected to at least double in the coming decade.

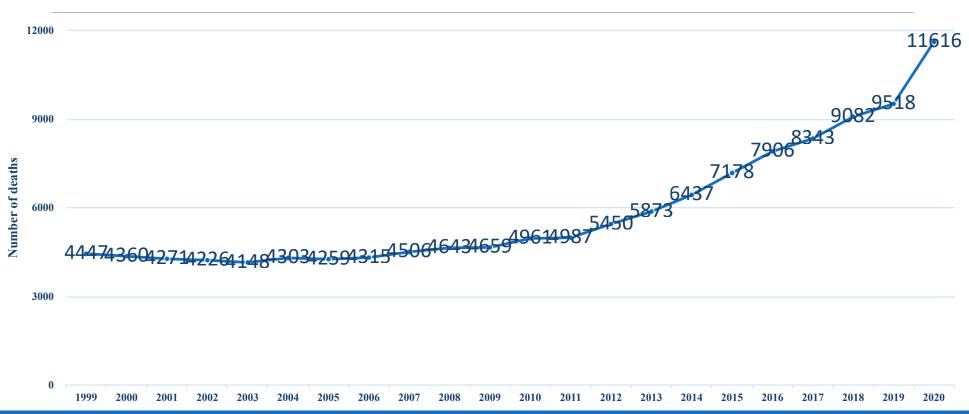
NEWS

More baby boomers are turning to pot and booze

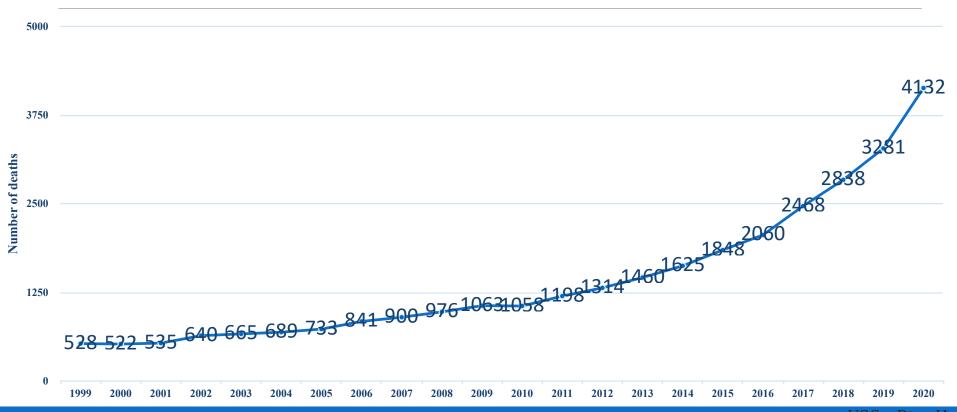
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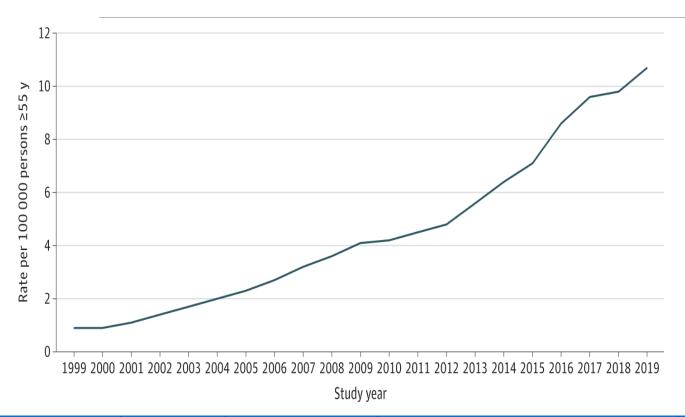
Number of alcohol-induced deaths among adults age 65+ by year, United States, 1999-2020



Number of unintentional drug overdose deaths among adults age 65+ by year, United States, 1999-2020



Rates of Opioid Overdose Deaths per 100,000 Persons 55 Years and Older, 1999 to 2019



Opioid-related overdose deaths in adults 55+ years increased from 518 deaths in 1999 to 10,292 deaths in 2019 (1,886%).

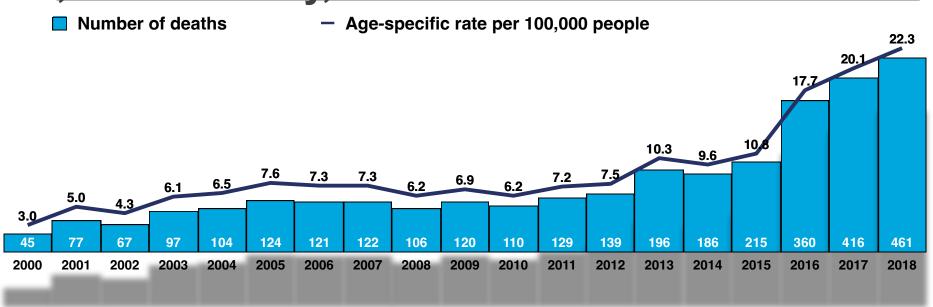
Deaths among non-Hispanic Black men were disproportionality represented in the overall increase in the rate of opioid overdose deaths among older adults.





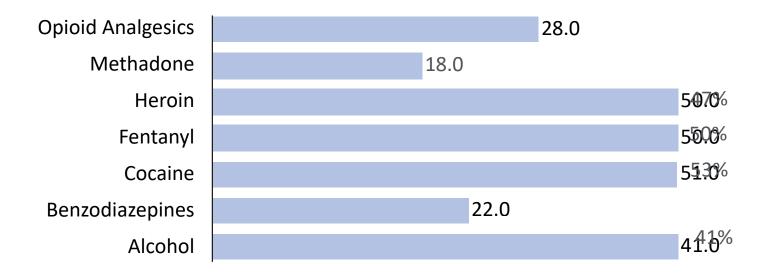
- In New York City, there have been significant increases in older adults utilizing opioid treatment programs from 1996 to 2012.
- 425% increase in adults aged 50-59 years.
- >700% increase in adults over the age of 60 years

Unintentional overdose deaths among adults ages 55+, New York City, 2000 to 2018



Han B, Tuazon E, Paone D. Unintentional Drug Poisoning (Overdose) Deaths among Older Adults in New York City. New York City Department of Health and Mental Hygiene: Epi Data Brief March 2020.

Substances involved in unintentional overdose deaths of adults ages 55 to 84, New York City 2018



Han B, Tuazon E, Paone D. Unintentional Drug Poisoning (Overdose) Deaths among Older Adults in New York City. New York City Department of Health and Mental Hygiene: Epi Data Brief March 2020.

What's unique about substance use disorders in older adults?

Need to consider multimorbidities in SUD



Tinetti M, Huang A, Molnar F. The Geriatrics 5M's: a new way of communicating what we do. J Am Geriatr Soc. 2017;65(9):2115.





BRIEF REPORTS

Geriatric Conditions Among Middle-aged and Older Adults on Methadone Maintenance Treatment: A Pilot Study

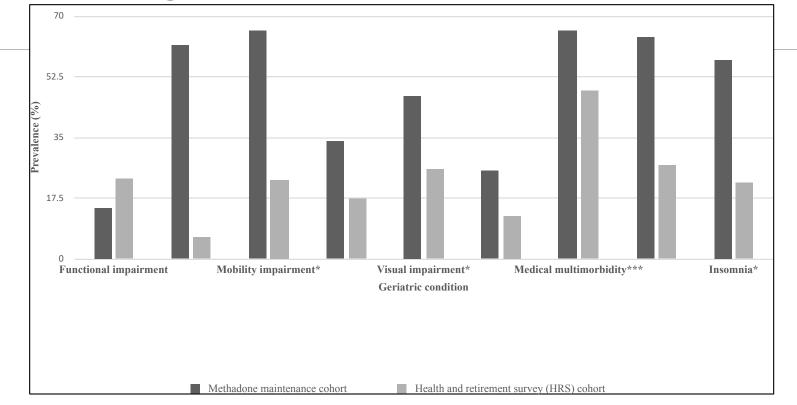
Han, Benjamin H. MD; Cotton, Brandi Parker PhD, APRN; Polydorou, Soteri MD; Sherman, Scott E. MD; Ferris, Rosie MPH; Arcila-Mesa, Mauricio MD; Qian, Yingzhi MA; McNeely, Jennifer MD

Author Information ⊗

Journal of Addiction Medicine: January/February 2022 - Volume 16 - Issue 1 - p 110-113 doi: 10.1097/ADM.0000000000000808

Han BH, Cotton BP, Polydorou S, et al. Geriatric Conditions Among Middle-aged and Older Adults on Methadone Maintenance Treatment: A Pilot Study. J Addict Med. 2022;16(1):110-113.

High burden of geriatric conditions



Han BH, Cotton BP, Polydorou S et al. Geriatric Conditions Among Middle-aged and Older Adults on Methadone Maintenance Treatment: A Pilot Study. Journal of Addiction Medicine, in press.





Original Research | Published: 13 October 2021

Multimorbidity and Inpatient Utilization Among Older Adults with Opioid Use Disorder in New York City

Benjamin H. Han MD M, Ellenie Tuazon MPH, Melissa Y Wei MD & Denise Paone EdD

Journal of General Internal Medicine 37, 1634–1640 (2022) Cite this article

Han BH, Tuazon E, Y Wei M, Paone D. Multimorbidity and Inpatient Utilization Among Older Adults with Opioid Use Disorder in New York City. J Gen Intern Med. 2022;37(7):1634-1640.

N=3,669 individuals age 55+ with opioid use disorder with a hospitalization in 2012

Multimorbidity-weighted index (MWI-ICD)

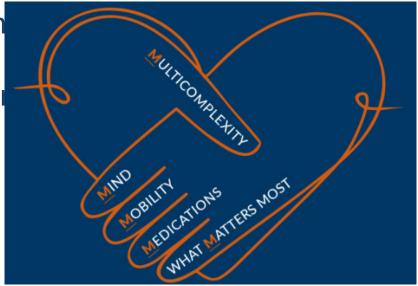
Mean (SD)	7.1 (SD 5.3)		8.4 (SD 5.5)		< 0.001			
Range (min-max)	0-31.9	0-33.9	, ,					
0-3.75	812	29.4%	180	19.9%	< 0.001	Ref	Ref	Ref
3.76-6.68	740	26.8%	210	23.2%		1.26	1.00-1.57	0.05
6.69-10.69	637	23.1%	255	28.2%		1.69	1.35-2.11	< 0.001
10.79-35.88	574	20.8%	261	28.8%		1.98	1.59 - 2.48	< 0.001

Number of individuals with 2+ hospitalizations: N=2,225~(60.6%)

Number of individuals with 7+ hospitalizations: N=906~(24.7%)

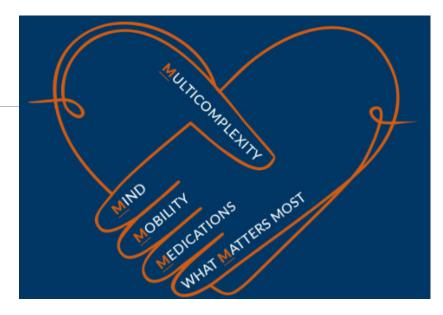
Older adults with substance use disorder have:

- High prevalence of geriatric conditions an multimorbidity.
- High rate of acute healthcare utilization as multiple inpatient admissions.
- Experience multiple layers of stigma and discrimination.
- Increasing social isolation.



What should we be doing as geriatrics healthcare providers?

 Screening and discussing psychoactive substance use in the context of aging and multicomplexity for all our older patients.



- Offer and deliver evidence-based substance use disorder treatment for all patients who meet criteria in all clinical settings.
- Provide our expertise for helping to care for adults who have SUD and multiple chronic diseases.

ACTION ITEMS:

- >Screen for substance use disorders in all older adults
- >Treat substance use disorders, using evidence-based medications and programs
- **➤ Consider** unique comorbidities of older adults with substance use disorders
- ➤ Refer to an addiction specialist



Final Recommendation Statement

Unhealthy Drug Use: Screening

June 09, 2020

Adults age 18 years or older The USPSTF recommends screening by asking questions about unhealthy drug use in adults age 18 years or older. Screening should be implemented when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred.



(Screening refers to asking questions about unhealthy drug use, not testing biological specimens.)

Final Recommendation Statement

Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Counseling Interventions

November 13, 2018

Adults 18 years or older, including pregnant women

The USPSTF recommends screening for unhealthy alcohol use in primary care settings in adults 18 years or older, including pregnant women, and providing persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce unhealthy alcohol use.



Alcohol Use and Dementia Risk: Some Use versus Heavy Alcohol Use

Alcohol use has been identified as a risk factor for dementia and cognitive decline. However, some patterns of drinking have been associated with beneficial effects

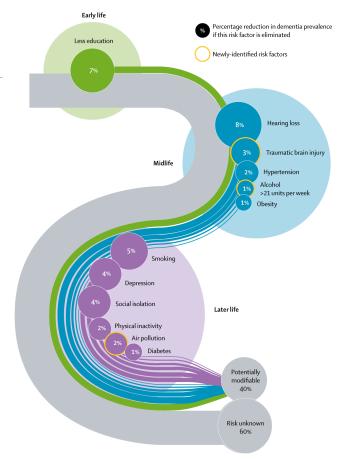
 Conflicting data on the impact of some drinking on dementia risk

However, Heavy alcohol use and AUDs are <u>clearly</u> associated with an increased risk for all types of dementia.

Heavy alcohol use is associated with lower levels of education, tobacco smoking, and depression, all of which are risk factors for dementia.

Risk factors for dementia

An update to the *Lancet* Commission on Dementia prevention, intervention, and care presents a life-course model showing that 12 potentially modifiable risk factors account for around 40% of worldwide dementias



Livingston G, Huntley J, Sommerlad A, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. The Lancet 2020 report of the Lancet Commission.

THE LANCET

The best science for better live

Older adults are less likely to be screened for alcohol and other substance use or have discussions about its use.

- 24.7% of men and 27.0% of women age 65 and older who use alcohol reported no alcohol screening/discussions with their clinician in the past year.
- Brief screening instruments can assess the level of risk caused by alcohol and drugs.
- Some screening tools are adaptations of instruments created for younger adults and others specifically for older adults.

Mauro PM, Askari MS, Han BH. Gender differences in any alcohol screening and discussions with providers among older adults in the United States, 2015 to 2019. Alcohol Clin Exp Res. 2021;45(9):1812-1820. doi:10.1111/acer.14668

Michigan Alcohol Screening Test-Geriatric Version

- (MAST-G) is an instrument designed to identify drinking problems developed specifically for older adults.
- 24 questions with yes/no responses; 5 or more indicates a problem.
- Highly sensitive and specific. Focuses more on potential stressors and behaviors relevant to alcohol use in late life.
- Short form: SMAST-G, has 10 questions with 2 positive responses indicating a problem.
- More specific than CAGE but lacks information about frequency/quantity.

Short Michigan Alcohol Screening Test-Geriatric Version (MAST-G)

- 1. When talking with others, do you ever underestimate how much you actually drink?
- 2. After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry?
- 3. Does having a few drinks help decrease your shakiness or tremors?
- 4. Does alcohol sometimes make it hard for you to remember parts of the day or night?
- 5. Do you usually take a drink to relax or calm your nerves?
- 6. Do you drink to take your mind off your problems?
- 7. Have you ever increased your drinking after experiencing a loss in your life?
- 8. Has a doctor or nurse ever said they were worried or concerned about your drinking?
- 9. Have you ever made rules to manage your drinking?
- 10. When you feel lonely, does having a drink help?

What is Moderate vs Heavy Drinking?



National Institute on Alcohol Abuse and Alcoholism (NIAAA):

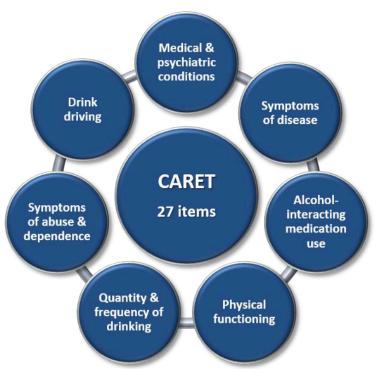
Moderate drinking is up to 1 drink per day for women and up to 2 drinks per day for men.

Adults over age 65 who are healthy and do not take medications should not have more than:

- 3 drinks on a given day
- 7 drinks in a week

The Comorbidity-Alcohol Risk Evaluation Tool (CARET)

 Screening instrument identifies older adults at risk because of the quantity and frequency of alcohol consumption, presence of comorbid disease, high risk behaviors, and concomitant use of medications that may interact with alcohol.



The Comorbidity-Alcohol Risk Evaluation Tool (CARET)

Table 1. Comorbidity Alcohol Risk Evaluation Tool (CARET)

Item	Amount of drinking considered at-risk		
Alcohol use and behaviors in the last 12 months			
Number of drinks and frequency of drinking	≥5/day at any frequency, 4/day at least 2 times/month, 3/day at least 4 times/week		
Four or more drinks on one occasion (binge drinking)	At least 1 time/week		
Driving within 2 hours of drinking three or more drinks	Any frequency		
Someone concerned about participant's alcohol use	Any amount		
Someone concerned about participant's alcohol use more than 12 months ago	≥4/day at any frequency, 2-3/day at least 4 times/week		
Alcohol use and medications taken at least 3-4 times per week currently			
Medications that may cause bleeding, dizziness, sedation	≥4/day at any frequency, 2-3/day at least 4 times/week		
Medications used for gastroesophageal reflux, ulcer disease, depression	≥4/day at any frequency, 2-3/day at least 4 times/week		
Medications for hypertension	≥5/day at any frequency, 4/day at least 2 times/week, 3/day at least 4 times/week		
Alcohol use and comorbidities in the past 12 months			
Liver disease, pancreatitis	Any amount		
Gout, depression	≥4/day at any frequency, 3/day at least 2 times/week, 2/day at least 4 times/week		
High blood pressure, diabetes	5/day at any frequency, 4/day at least 2 times/month, 3/day at least 4 times/week		
Sometimes have problems with sleeping, falling, memory, heartburn, stomach pain, nausea, vomiting, or feel sad/blue	≥5/day at any frequency, 4/day at least 2 times/month, 3/day at least 2 times/week		
Often have problems with sleeping, falling, memory, heartburn, stomach pain, nausea, vomiting or feel sad/blue	≥4/day at any frequency, 2-3/day at least 2 times/week		

Brief Intervention and Referral to Treatment (SBIRT)

- When the initial screening of an older individual indicates they are engaging in unhealthy substance use, providers should share their findings and make clear recommendations.
- "Based on your responses to the screening questions, your current use is more than is medically safe."
- Share how guidelines specifically relate to older adults and how substances may adversely impact their health and other chronic diseases.
- Older adults identified as needing more treatment than brief interventions can deliver should be referred to specialty treatment.

- DSM-V criteria for substance use disorders and alcohol use disorders may not be adequate to diagnose older adults with substance use problems.
- Biologic and social factors unique to older adults may make such criteria less relevant and presents unique challenges for an accurate diagnosis.

DSM-5 Criteria for SUD	Considerations for Older Adults
Use in larger amounts or over a longer period than was intended.	Cognitive impairment can prevent adequate self-monitoring. Substances may impair cognition greater than younger adults.
Recurrent substance use resulting in a failure to fulfill major role obligations: work, school, home.	· · · · · · · · · · · · · · · · · · ·

DSM-5 Criteria for SUD	Considerations for Older Adults
There is continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.	Older adults may not realize the problems they experience are from substance use.
Continued use despite resulting social or interpersonal problems	Older adults may engage in fewer activities regardless of substance use, making it difficult to detect.

DSM-5 Criteria for SUD	Considerations for Older Adults
Tolerance is developed	Because of the increased sensitivity, older adults will seem to have lowered rather than increase in tolerance.
Withdrawal	Withdrawal symptoms can manifest in ways that are more "subtle and protracted."

Treatment for opioid use disorder (OUD)

Methadone (Agonist)



- Federally licensed facility
- Daily observed dosing

Buprenorphine (Partial Agonist)



- Any outpatient setting
- DEA waiver for outpatient

Naltrexone (Antagonist)



- Any licensed prescriber
- Promising data for Alcohol Use Disorder
- Limited Data for OUD

OUD > 65 years old Pharmacokinetic considerations

As individuals age, there are a number of normal physiological changes that occur, leading to notable alterations in opioid pharmacokinetics

Therefore older adults may be more at risk of a number of adverse effects as they age



Dufort A, Samaan Z. Problematic Opioid Use Among Older Adults: Epidemiology, Adverse Outcomes and Treatment Considerations. Drugs Aging. 2021 Dec;38(12):1043-1053. doi: 10.1007/s40266-021-00893-z. Epub 2021 Sep 7. PMID: 34490542: PMCID: PMC8421190.

Han BH, Cotton BP, Polydorou S, Sherman SE, Ferris R, Arcila-Mesa M, Qian Y, McNeely J. Geriatric Conditions Among Middle-aged and Older Adults on Methadone Maintenance Treatment: A Pilot Study. J Addict Med. 2022 Jan-Feb 01;16(1):110-113. doi: 10.1097/ADM.0000000000000808

Aging on MMT

- Medical comorbidities, physical limitations, cognitive decline, and neurobehavioral changes often accumulate with age
- Older adults are more vulnerable to drug-drug interactions and potential side effects of MMT.
- Driving, utilizing public transportation can become increasingly difficult
- Reading bottle labels or accessing technology-based care
- These age-related changes pose potential challenges to remaining in MMT programs.



Potential Consequences of Long Term Methadone

- Constipation
- Respiratory Depression (worsening COPD sx's)
 - Hypercarbia & hypoxia
- Cardiac Dysrhythmia
 - Bradycardia
 - Tachyarrythmia (prolonged QTc -> TdP)
- Sedation / neurocognitive impairment / delirium
- Sleep-Disordered Breathing (-> HTN, Edema, MI, CVA)
- Endocrine System
 - Obesity /weight gain -> type II DM
 - Low blood glucose
 - Low testosterone / sexual dysfunction
 - Bone fractures / osteoporosis. (falls)



Potential Consequences of Long Term Methadone (continued)

- Peripheral Edema
- ◆ Chronic Venous Disease (?)
 - H/o injection drug use receiving methadone maintenance treatment, 87% point prevalence of CVD, with 52% of affected having the most advanced stages of disease.
- Urinary Retention / Hesitancy
- Opioid Induced Hyperalgesia
- Increased Serum Levels of methadone due to decreasing function of kidney and liver
- Sweating



Dufort A, Samaan Z. Problematic Opioid Use Among Older Adults: Epidemiology, Adverse Outcomes and Treatment Considerations. Drugs Aging. 2021 Dec;38(12):1043-1053. doi: 10.1007/s40266-021-00893-z. Epub 2021 Sep 7. PMID: 34490542; PMCID: PMC8421190.

Pieper B, Templin T. Lower extremity changes, pain, and function in injection drug users. J Subst Abuse Treat. 2003 Sep;25(2):91-7. doi: 10.1016/s0740-5472(03)00113-2. PMID: 14629991.

Canadian Guidelines on Opioid Use Disorder Among Older Adults

- Thirty-two recommendations were created.
- Older Adults ≥ 65 years of age
- Prevention recommendations: prioritize non-pharmacological and nonopioid strategies to treat acute and chronic noncancer pain.
- <u>Assessment recommendations</u>: a comprehensive assessment is important to help discern contributions of other medical conditions.
- <u>Treatment recommendations</u>: buprenorphine is first line for both withdrawal management and maintenance therapy, while methadone, slow-release oral morphine, or naltrexone can be used as alternatives under certain circumstances; non-pharmacological treatments should be offered as an integrated part of care.



Canadian Guidelines on Opioid Use Disorder Among Older Adults

Question G: What medications and protocol adjustments are safe and effective in the treatment of an OUD in older adults to improve outcomes?

-Recommendation 17

Buprenorphine maintenance should be considered a first-line treatment for an OUD in older adults.

GRADE Quality: Moderate; Strength: Strong

-Recommendation 18

Methadone maintenance treatment may be considered for those older adults who cannot tolerate buprenorphine maintenance or in whom it has been ineffective.

GRADE Quality: Moderate; Strength



Buprenorphine (schedule III)

- Partial agonist, high affinity, and slow dissociation.
- Reduces opioid use comparable with methadone.
- Must apply for a DEA X-waiver.
- Prescribed in a variety of settings any outpatient setting.
- Oral, sublingual, long-acting implant.
- ALSO: transdermal, transbuccal (Approved only for chronic pain)



Is Buprenorphine Safe in Older Adults?



- Shorter half-life than methadone.
- Safer for patients with ventricular arrhythmias.
- No dose adjustment for renal impairment or dialysis.
- Hepatoxicity is rare.
- Lower rate of side effects: less respiratory depression.
- Lower potential for lethal overdose compared with methadone given ceiling effect of partial agonist.

Low dose buprenorphine, a good strategy for older adults?

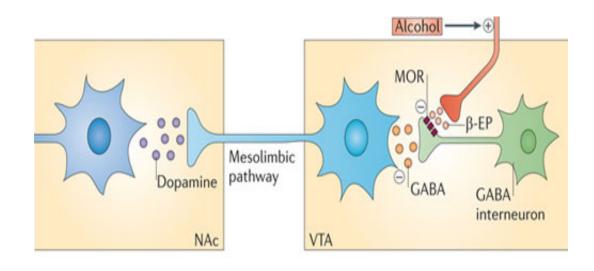
- Potential for precipitating withdrawal with traditional induction.
- Process can be difficult with high potency synthetic opioids and methadone.
- Severe medical or psychiatric comorbidities could make withdrawal symptoms potentially dangerous.
- Low dose initiation: Slow, *gradual*, replacement of the full opioid agonist with buprenorphine.

Naltrexone

- Antagonist therapy.
- Prevents acute opioid intoxication and developing physiologic dependence.
- Any licensed prescriber.
- Requires completed withdrawal from opioids.
- Side effects: hepatotoxicity.
- Fewer clinical trial data, efficacy only in patients who are highly motivated or under supervised medication administration.
- Oral, injectable forms.
- Naloxone challenge test.



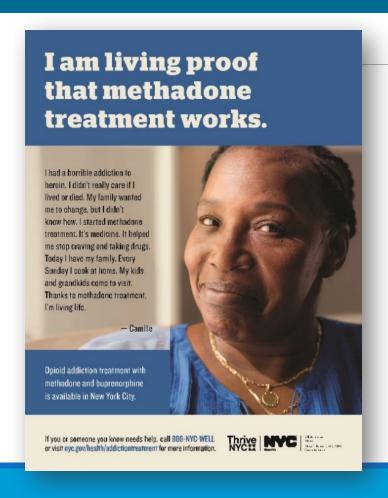
Naltrexone IN ALCOHOL DEPENDENCE



Nature Reviews | Neuroscience

- Reduces positive enforcement from drinking
- Reduces heavy drinking
- Studied in combination with other agents (gabapentin, acamprosate)
- Contraindicated in liver impairment

Opportunities to integrate geriatric care with addiction medicine



Chronic disease management, identification and treatment of geriatric conditions, chronic pain management, and advance care planning in:

- opioid treatment programs
- syringe service programs

Integrated substance use disorder + geriatricbased care for vulnerable populations

- legally-involved older adults
- homeless/unstably housed

Opportunities to integrate geriatric care with addiction medicine

I am living proof that buprenorphine treatment works.

Of all the treatments I've tried, buprenorphine is the only thing that worked for my opioid addiction. Now I'm in school, I go out to eat, to the moviessimple stuff-but the greatest joy is having a relationship with my daughters. I got back my life.



methadone and buprenorphine is available in New York City.

If you or someone you know needs help, call 888-NYC-WELL or visit nyc.gov/health/addictiontreatment for more information.



- Provide opioid use disorder and other substance use disorder treatment post-acute care facilities/skilled nursing facilities, home care settings, assisted living facilities, and adult day care programs.
- Increase number of geriatric healthcare providers who prescribe buprenorphine and feel confident in treating:
 - Opioid use disorder
 - Alcohol use disorder

TAKEAWAY ACTION ITEMS:

- >Screen for substance use disorders
- >Treat substance use disorders
- ➤ Consider unique comorbidities of older adults with substance use disorders
- ➤ Refer to an addiction specialist

Learning Objectives

Describe substance use disorders in non-judgmental language

Describe the growing prevalence of psychoactive substance use among older adults.

Identify possible treatment options for substance use disorders

Appreciate special considerations for such treatment in an older patient, including:

- Risks of ongoing methadone maintenance treatment for Opioid Use Disorder
- Potential benefits of buprenorphine as an alternative for Opioid Use Disorder
- Potential benefit of naltrexone for Alcohol use disorder

Appreciate the need to integrate geriatric-based care with addiction medicine.

Thank you!

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