

# THE HIDDEN SUBSTANCE ABUSE CRISIS



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# **TRAINING OBJECTIVES**

- ▣ Substance Use Disorders ... a review**
- ▣ Understand what is different with SUD in older adults**
- ▣ So why is it becoming such a big issue now**
- ▣ What treatment is effective with older adults?**
- ▣ What is the take-home message for us?**

Elly Donahue remembers crying as she loaded a syringe with heroin because she didn't want to be an addict anymore. Then she shot up because "that is what addicts do." "I couldn't stop, it was like trying to stop breathing, and you can't do that; it's automatic," she said. "It was like I was gasping for air. I remember crying and thinking, 'I don't want to do this, I don't want to be this way' .....but how do you stop? **Now it's your neighbor, your child, your coworker.**

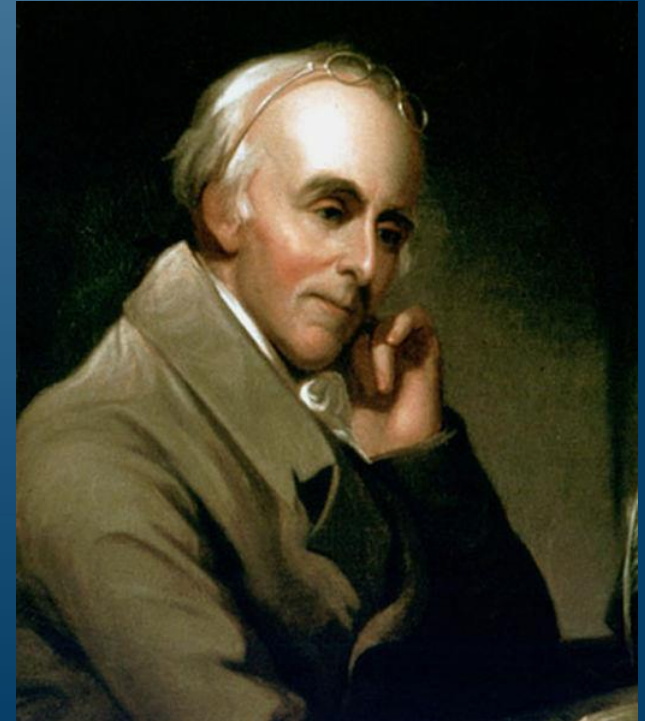
OR .....

**GRANDMA?**



# DISEASE

*“My observations authorize me to say, that persons who have been **addicted** to them, should abstain from them suddenly and entirely. 'Taste not, handle not, touch not' should be inscribed upon every vessel that contains spirits in the house of a man, who wishes to be cured of habits of intemperance, ...habitual drunkenness should be regarded not as a bad habit but as a **disease**.”*



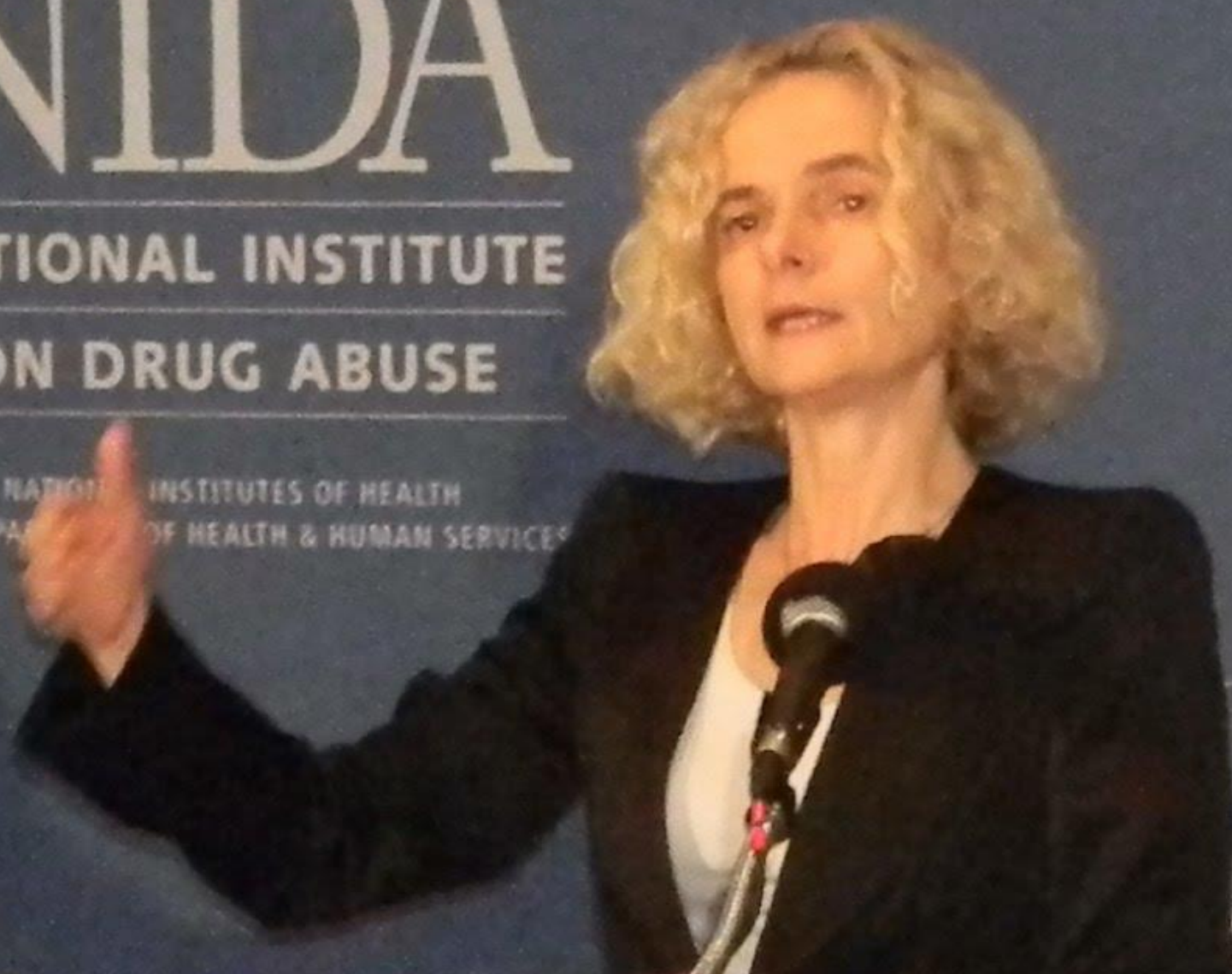
**Dr. Benjamin Rush**

# NIDA

NATIONAL INSTITUTE  
ON DRUG ABUSE

NATIONAL INSTITUTES OF HEALTH  
U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

A





# ***NORA D VOLKOW*** ON MARCH 23, 2018

There are neurobiological substrates for everything we think, feel, and do; and the structure and function of the brain are shaped by environments and behaviors, as well as by genetics, hormones, age, and other biological factors. It is the complex interactions among these factors that underlie disorders like addiction as well as the ability to recover from them. Understanding the ways social and economic deprivation raise the risks for drug use and its consequences is central to prevention science and is a crucial part of the biopsychosocial framework; so is learning how to foster resilience through prevention interventions that foster more healthy family, school, and community environments.

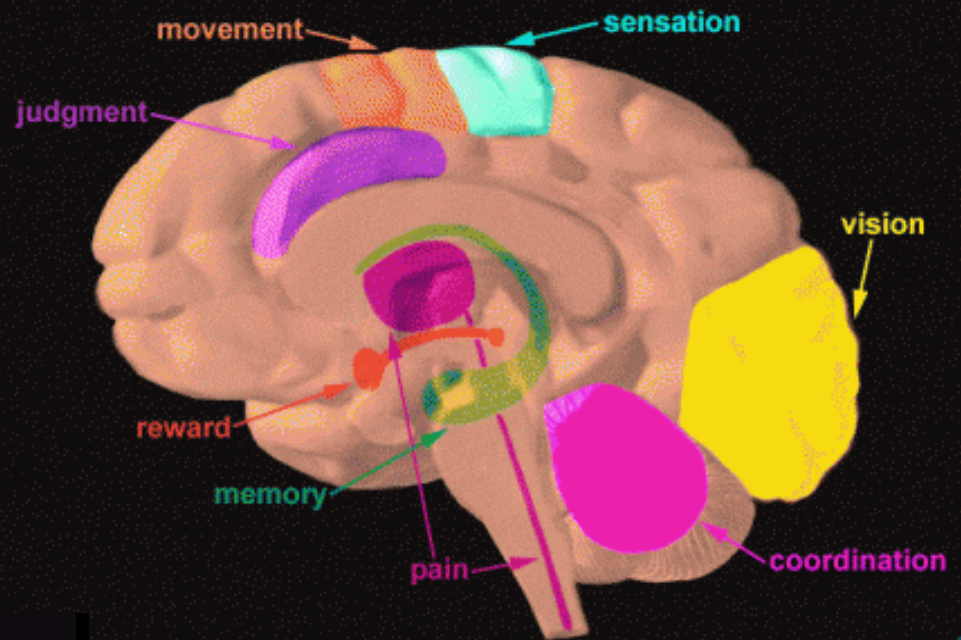
**Dr. Nora D. Volkow, Director of the National Institute on Drug Abuse (NIDA) at the National Institutes of Health, pioneered the use of brain imaging to investigate the toxic effects and addictive properties of certain drugs. Her work has been instrumental in demonstrating that drug addiction is a chronic brain disorder.**

# SOME HISTORY:

## DR. WILLIAM SILKWORTH 1939

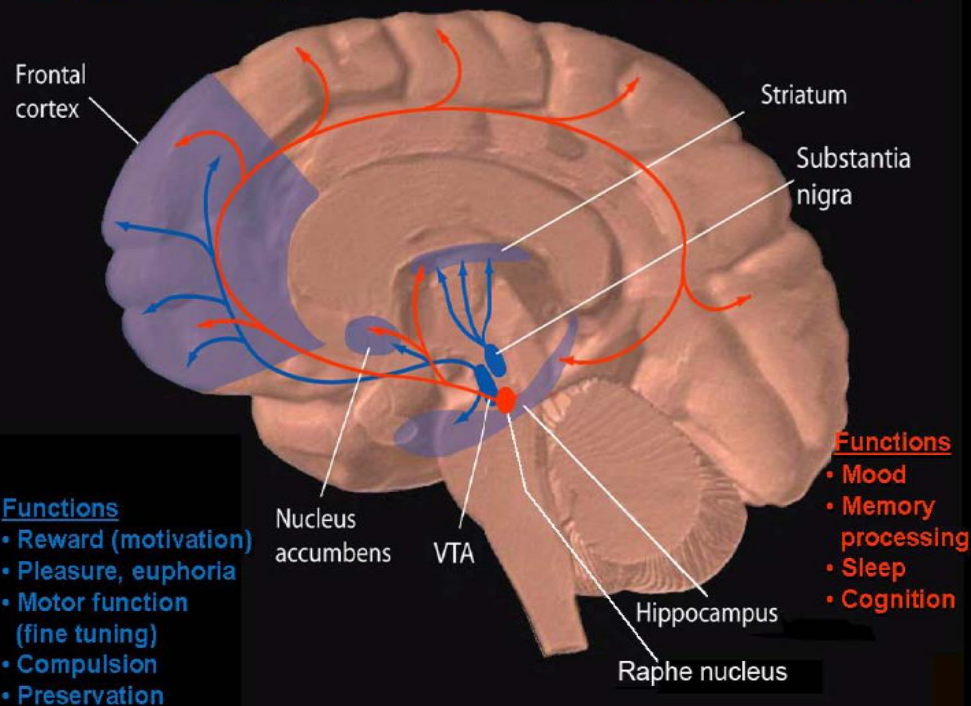
- A.A. states that “We are perfectly willing to admit that we are **allergic** to alcohol and that it is simply common sense to stay away from the source of our allergy.”<sup>1</sup> It also asserts that alcoholics have “a mental **obsession** to drink coupled with a physical allergy to alcohol.”<sup>2</sup> AA refers to the “the physical allergy to alcohol” experienced by alcoholics.<sup>3</sup> *Alcoholics Anonymous* (known as The Big Book”) calls alcoholism an allergy a half-dozen times.

# structure



## Dopamine Pathways

## Serotonin Pathways

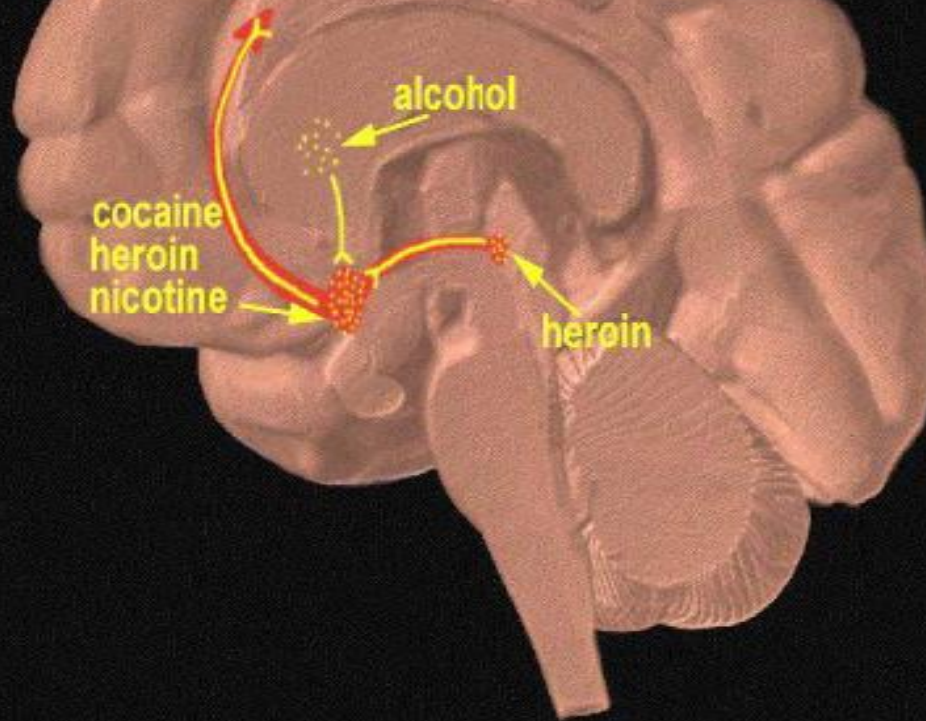


&  
function



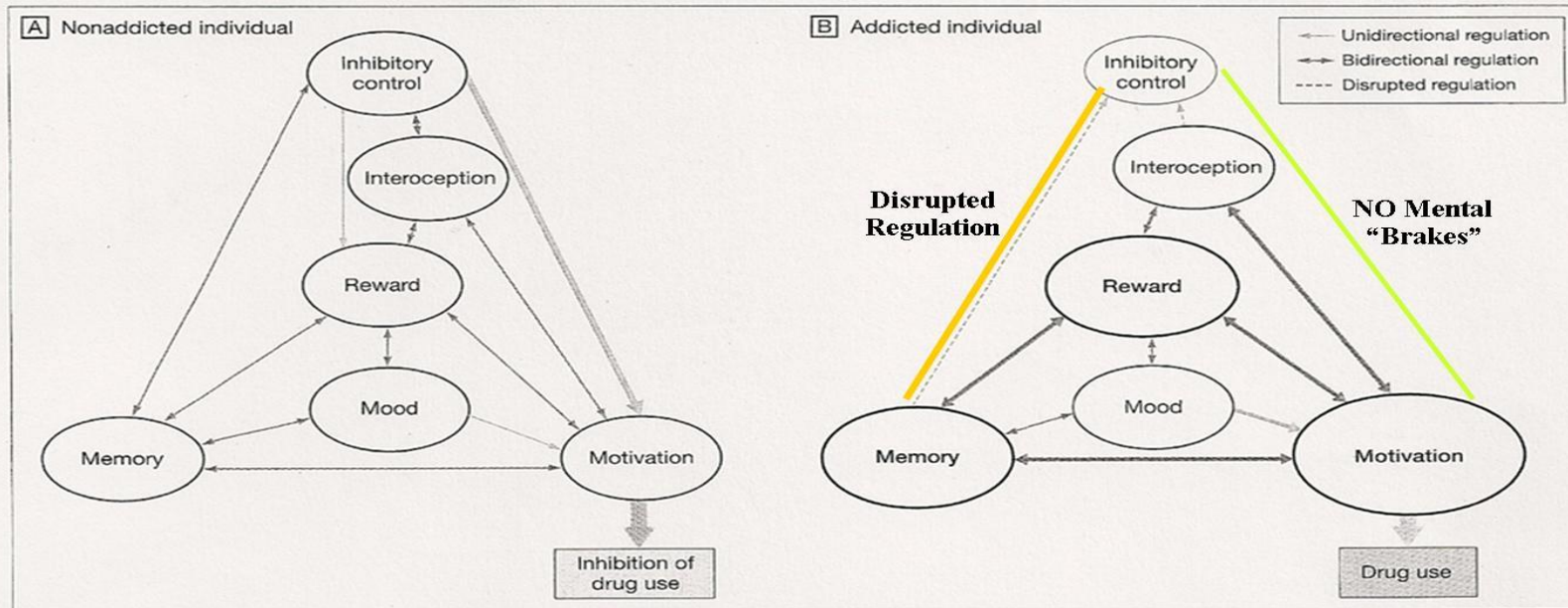
# JUST A BIT OF NEUROBIOLOGY

## Activation of the reward pathway by addictive drugs



# DRUGS “HIJACK” THE DOPAMINE SYSTEM

**Figure.** Proposed Network of Brain Circuits Involved With Addiction<sup>57</sup>



Circuits work together and change with experience. Each is linked to an important concept: reward (saliency), motivation (drive), memory (learning associations), inhibitory control (conflict resolution), mood (well-being),<sup>58</sup> and interoception (internal awareness).<sup>59</sup> Size of circuit ovals indicates influence in determining behavioral outcomes. Thicker line weights indicate greater influence on regulation of the circuit. A, In a nonaddicted person the decision to consume a drug (same process pertains for natural rewards) is a function of the balance between the expected pleasure (based on past experience or memory), alternative stimuli (this includes internal states such as mood and interoception but also alternative external rewards), and potential negative outcomes that oppose the motivation to take the drug (inhibitory control exerted by prefrontal cortex) and stop the drug use. B, During addiction, the enhanced value of the drug in the reward, motivation, and memory circuits overcomes the inhibitory control exerted by the prefrontal cortex, thereby favoring a positive feedback loop initiated by the consumption of the drug and perpetuated by enhanced activation of the motivation/drive and memory circuits. Decreased sensitivity to rewards also raises the hedonic threshold, disrupting mood and increasing the saliency values of drugs and behaviors temporarily associated with relief from the dysphoria. Learning and conditioning result in an enhanced interoceptive awareness of discomfort and the associated desire for the drug (craving). Absence of lines from inhibitory control circuit to reward and motivation circuits indicates loss of regulation.

# ***DISEASE***

- ▣ **Addiction** is a primary, chronic disease of brain reward, motivation, memory and related circuitry. It is characterized by one or more of the following (ABCDE):
  - Inability to consistently **abstain**
  - Impairment in **behavioral** control
  - **Craving**
  - **Diminished** recognition of problems
  - Dysfunctional **emotional** response
- ▣ Cycle of relapse and remission
- ▣ This disease is often progressive and fatal
- ▣ Contain vs. Cure
- ▣ Two main goals:
  - Keep alive
  - Increase quality of life



# SO WHY IS SUBSTANCE ABUSE AND MISUSE SUCH A BIG ISSUE NOW?

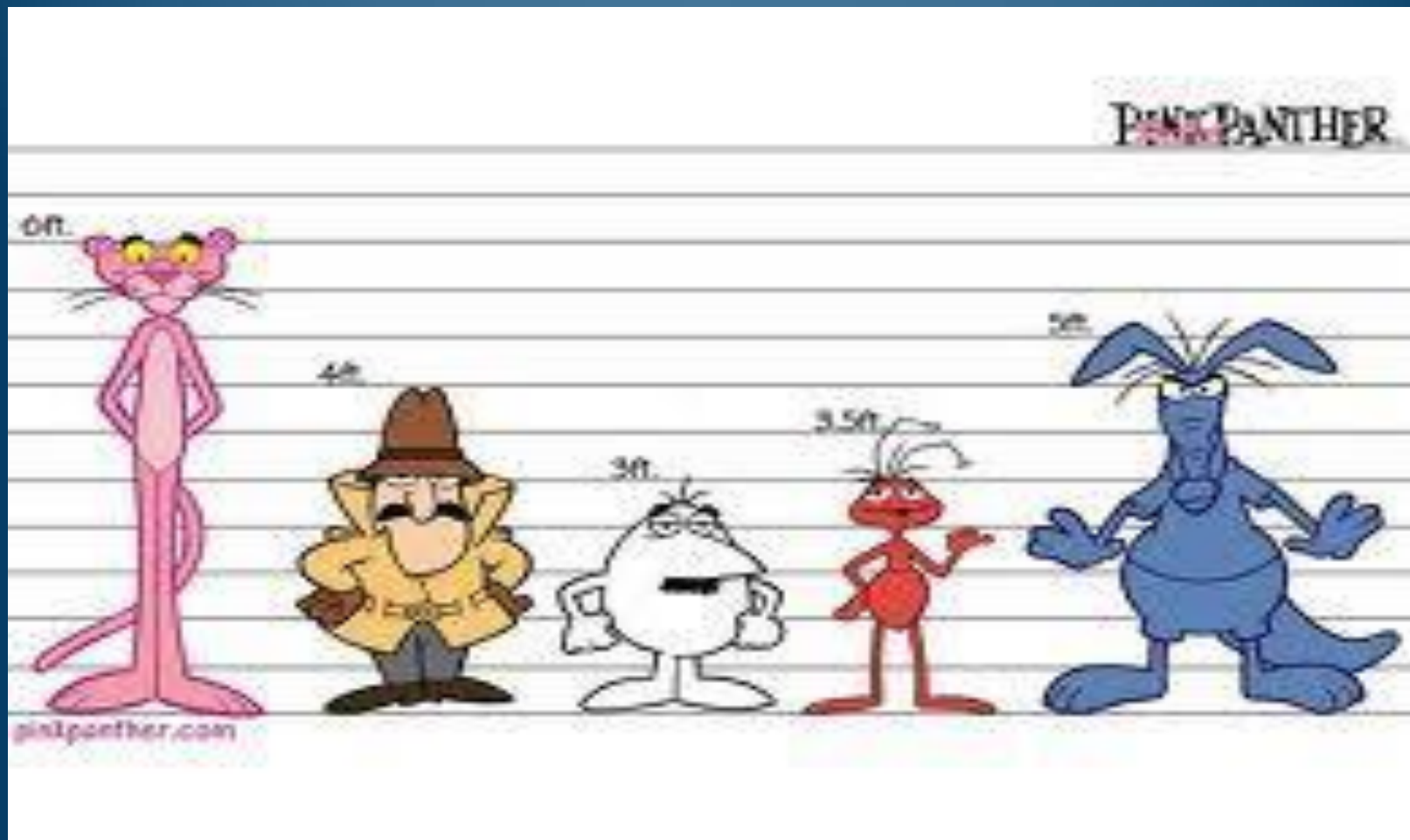


# THE AGING BABY BOOMERS

- The first baby boomers hit 65 years of age in 2011
- Older Adults will increase from 40.3 million (2014) to 72 million by 2030.
- SUD rates among people 50 years old and older are predicted to increase from 2.8 million (2014) to 5.7 million in 2020.
- In healthcare settings, Alcohol Use Disorders now range up to 22% of the entire patient population in people 65 or older.
- The old DX of Substance Misuse (not in DSM 5) rates were 16% of all older men and 11% for older women according to a National Institute of Health manuscript (Clin Geriatr Med. 2014 August; 30(3): 629-654.)



# SO WHY IS IT HIDDEN?



# THE HIDDEN PROBLEM WITH OLDER ADULTS

- Substance use has been underreported in the elderly for decades given that:
  - ✓ Healthcare providers mistake symptoms of substance abuse for dementia or depression or symptoms of other chronic disease
  - ✓ Older adults are more likely to hide issues with SUD
  - ✓ Adult children are embarrassed by the older person SUD
  - ✓ Ageism: Younger adults assign different quality of life standards for older adults, as in: “Dad’s beer brings him more happiness than anything else.”
  - ✓ Belief that SUD cannot be treated in older adults
  - ✓ Belief that costs of treatment for older adults is a waste of healthcare dollars

# THE HIDDEN PROBLEM WITH OLDER ADULTS

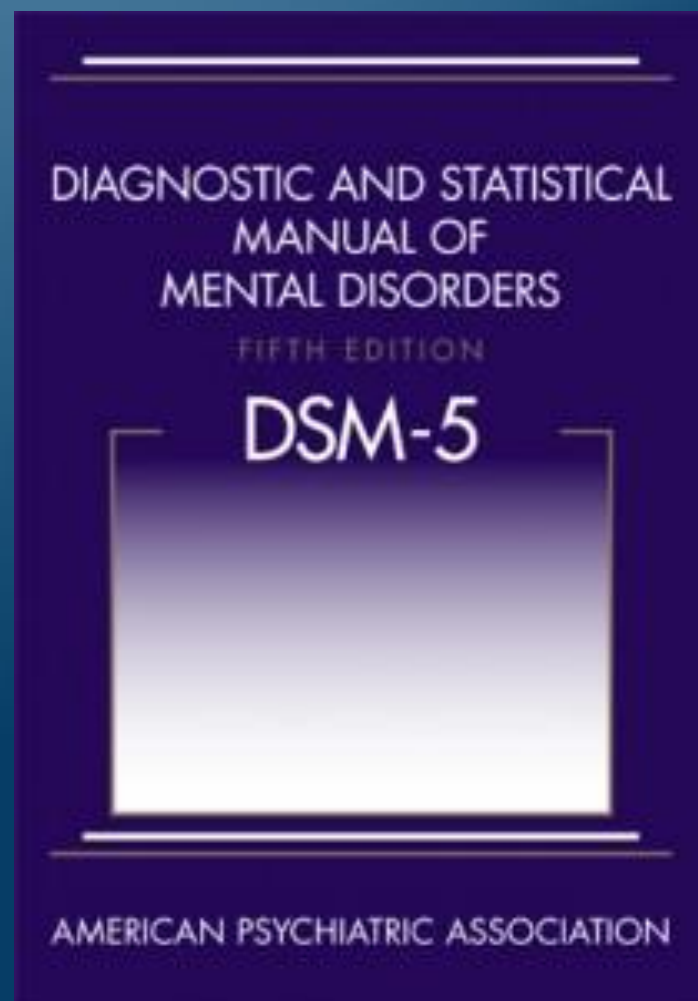
Clinicians see the older adult  
as their parent or  
grandparent ... who could  
**NEVER** have a SUD problem.





# WHAT'S IN A WORD?

- Misuse
- Abuse
- Dependence
- Substance Use Disorder





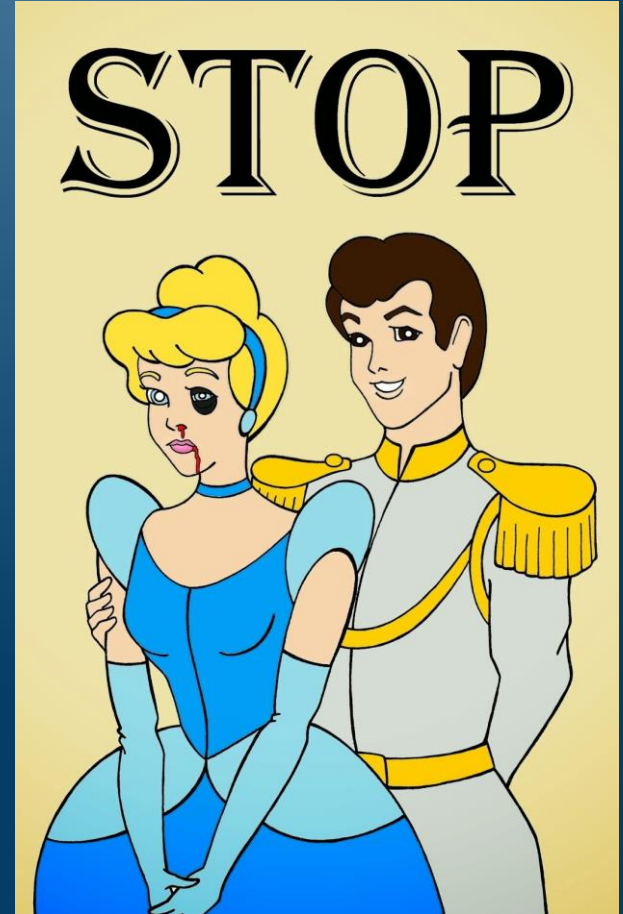
# MISUSE



# ABUSE

*Abuse is the improper usage or treatment of an entity, often to unfairly or improperly gain benefit. Abuse can come in many forms, such as: physical or verbal maltreatment, injury, assault, violation, rape, unjust practices; crimes, or other types of aggression*

- Wikipedia





DSM-IV		DSM-5	
In the past year, have you:		In the past year, have you:	
Any 1 = ALCOHOL ABUSE	Found that drinking—or being sick from drinking—often interfered with taking care of your home or family? Or caused job troubles? Or school problems?	1 Had times when you ended up drinking more, or longer, than you intended?	<p>The presence of at least 2 of these symptoms indicates an <b>Alcohol Use Disorder (AUD)</b>.</p> <p>The severity of the AUD is defined as:</p> <p><b>Mild:</b> The presence of 2 to 3 symptoms</p> <p><b>Moderate:</b> The presence of 4 to 5 symptoms</p> <p><b>Severe:</b> The presence of 6 or more symptoms</p>
	More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex)?	2 More than once wanted to cut down or stop drinking, or tried to, but couldn't?	
	More than once gotten arrested, been held at a police station, or had other legal problems because of your drinking? <b>**This is not included in DSM-5**</b>	3 Spent a lot of time drinking? Or being sick or getting over other aftereffects?	
	Continued to drink even though it was causing trouble with your family or friends?	4 Wanted a drink so badly you couldn't think of anything else? <b>**This is new to DSM-5**</b>	
Any 3 = ALCOHOL DEPENDENCE	Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?	5 Found that drinking—or being sick from drinking—often interfered with taking care of your home or family? Or caused job troubles? Or school problems?	
	Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, restlessness, nausea, sweating, a racing heart, or a seizure? Or sensed things that were not there?	6 Continued to drink even though it was causing trouble with your family or friends?	
	Had times when you ended up drinking more, or longer, than you intended?	7 Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?	
	More than once wanted to cut down or stop drinking, or tried to, but couldn't?	8 More than once gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex)?	
	Spent a lot of time drinking? Or being sick or getting over other aftereffects?	9 Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?	
	Given up or cut back on activities that were important or interesting to you, or gave you pleasure, in order to drink?	10 Had to drink much more than you once did to get the effect you want? Or found that your usual number of drinks had much less effect than before?	
	Continued to drink even though it was making you feel depressed or anxious or adding to another health problem? Or after having had a memory blackout?	11 Found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, restlessness, nausea, sweating, a racing heart, or a seizure? Or sensed things that were not there?	

# SYMPTOMS OF SUBSTANCE USE DISORDER

- The newest revision of the diagnostic manual for mental disorders (the DSM-5) has updated the criteria commonly used to diagnose either an alcohol disorder (commonly referred to as alcoholism) or a substance use disorder.
- According to the DSM-5, a “substance use disorder describes a problematic pattern of using alcohol or another substance that results in impairment in daily life or noticeable distress.” As with most addiction problems, despite any consequences a person who has a problem with either alcoholism or drugs suffers, they will generally continue to use their drug of choice. They may make half-hearted attempts to stop or cut back their use, usually to no avail.

# DIAGNOSTIC CRITERIA FOR SUD DX

The DSM-5 states that in order for a person to be diagnosed with a disorder due to a substance, they must display **2** of the following 11 symptoms **within 12-months:**

- Consuming more alcohol or other substance than originally planned
- Worrying about stopping or consistently failed efforts to control one's use
- Spending a large amount of time using drugs/alcohol, or doing whatever is needed to obtain them
- Use of the substance results in failure to “fulfill major role obligations” such as at home, work, or school.
- “Craving” the substance (alcohol or drug)



# DIAGNOSTIC CRITERIA FOR SUD DX

- Continuing the use of a substance despite health problems caused or worsened by it. This can be in the domain of mental health (psychological problems may include depressed mood, sleep disturbance, anxiety, or “blackouts”) or physical health.
- Continuing the use of a substance despite its having negative effects on relationships with others (for example, using even though it leads to fights or despite people’s objecting to it).
- Repeated use of the substance in a dangerous situation (for example, when having to operate heavy machinery or when driving a car)
- Giving up or reducing activities in a person’s life because of the drug/alcohol use
- Building up a tolerance to the alcohol or drug. Tolerance is defined by the DSM-5 as “either needing to use noticeably larger amounts over time to get the desired effect or noticing less of an effect over time after repeated use of the same amount.”
- Experiencing withdrawal symptoms after stopping use. Withdrawal symptoms typically include, according to the DSM-5: “anxiety, irritability, fatigue, nausea/vomiting, hand tremor or seizure in the case of alcohol.”

# Diagnosis

## Loss of control

- more than intended
  - amount
  - time spent
- unable to cut down
- giving up activities
- craving

## Physiology

- tolerance
- withdrawal

## Consequences

- unfulfilled obligations
  - work
  - school
  - home
- interpersonal problems
- dangerous situations
- medical problems

*formerly "Dependence"*

*formerly "Abuse"*

- A **substance use disorder** is defined by having 2 or more • in the past year resulting in distress or impairment.
  - The diagnosis is made separately for each substance.
  - Severity is rated by the number of symptoms present:
- 2–3 = mild
  - 4–5 = moderate
  - 6+ = severe

# BREAK TIME!



BUT THOSE DSM 5 CRITERIA APPLY TO  
PEOPLE WHO ARE UNDER 60 YEARS OF  
AGE.

**IT DOES NOT APPLY TO OLDER  
ADULTS (60 AND OLDER)**

# DIAGNOSTIC CRITERIA PROBLEMS

- Consuming more: Because the amount of lean muscle a person has decreases and thus BMI increases – older folks are impaired with lower consumption
- Spending a large amount of time: older adults have fewer responsibilities, are frequently retired and have much more time.
- Failure to fulfill major role obligations: as stated above, have fewer demands or roles



# DIAGNOSTIC CRITERIA PROBLEMS

- Continuing even with health complications: Older adults have health problems with or without SUD
- Giving up or reducing activities: older adults are frequently less active
- Building up a tolerance: Older adults have much lower tolerances given the physiological changes that are a part of aging.
- Experiencing Withdrawal symptoms: Older adults who being using late may never develop dependence and may never experience withdrawal

# RECOMMENDED DX STRATEGY

- SAMHSA Consensus Panel assembled for Tip 26 addressing SUD among Older Adults (consisting of researchers, clinicians, treatment providers and program directors) recommended a dichotomy or 2-stage conceptualization for older adults rather than the DSM 5 Criteria:
  - A) At-risk drinking
  - B) Problem drinking

# WHAT ABOUT NON-ALCOHOL DRUGS?

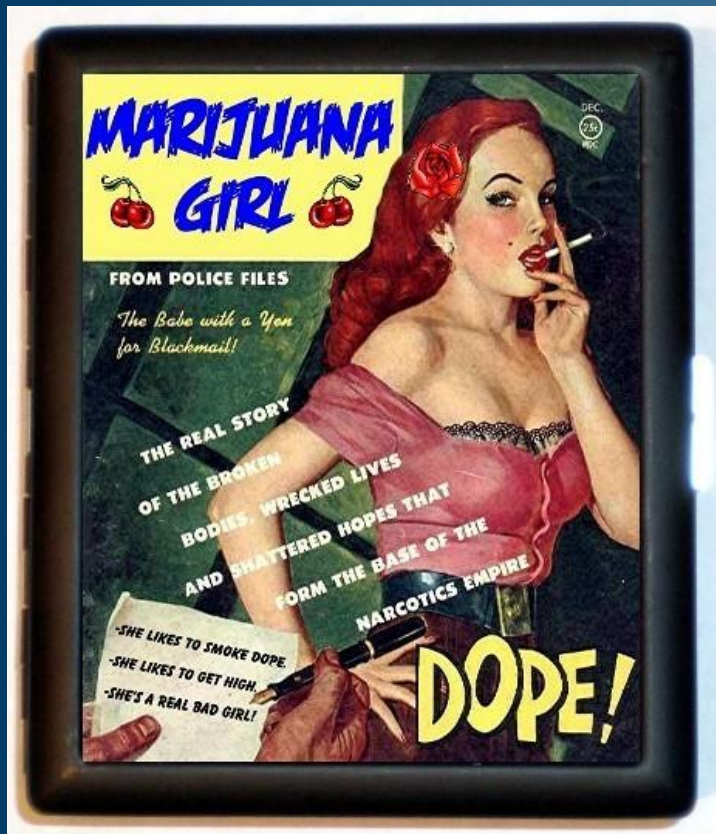
- While alcohol is the most commonly abuse drug among older adults, as the boomer age, their culture goes with them.
  - More women will be exhibiting at-risk and problem drinking
  - More older adults will be using Marijuana

# WHAT ABOUT NON-ALCOHOL DRUGS?

- The ratio of men to women drinking and using non-alcohol drug is equalizing: one study done in Sweden showed that the ratio of men to women had gone from 8:1 to 3 ½ : 1 in the span of a decade.



# Grandma is Lost in the weeds!



**Making sense of  
medical &  
recreational  
marijuana in older  
adults**

*Grandma in 1963*

# OVERVIEW

- Is it a medicine?
- Who is using it?
- What is it?
- What are the risks?
- What is the evidence?



# MEDICINE?

- Marijuana is NOT an FDA approved drug
- Marijuana is a Schedule I substance
- Active ingredients are cannabinoids
- Synthetic cannabinoids: Dronabinol and Nabilone are FDA approved
  - Nausea/vomiting due to chemo
  - Appetite and weight loss in HIV/AIDS and Cancer
- Doctors **can't** write a Rx for marijuana
  - Prescription, supply or sale is illegal by federal law
  - Liability for certifying use? Malpractice coverage?



# MARIJUANA – THE PLANT

- Marijuana is obtained from serrated leaves of the cannabis plant.
- The key psychoactive factor (**THC**) is contained in a sticky substance, or resin, that accumulates on these leaves.
- Depending on the growing conditions, cannabis will produce either a greater amount of resin or greater amount of fibers.

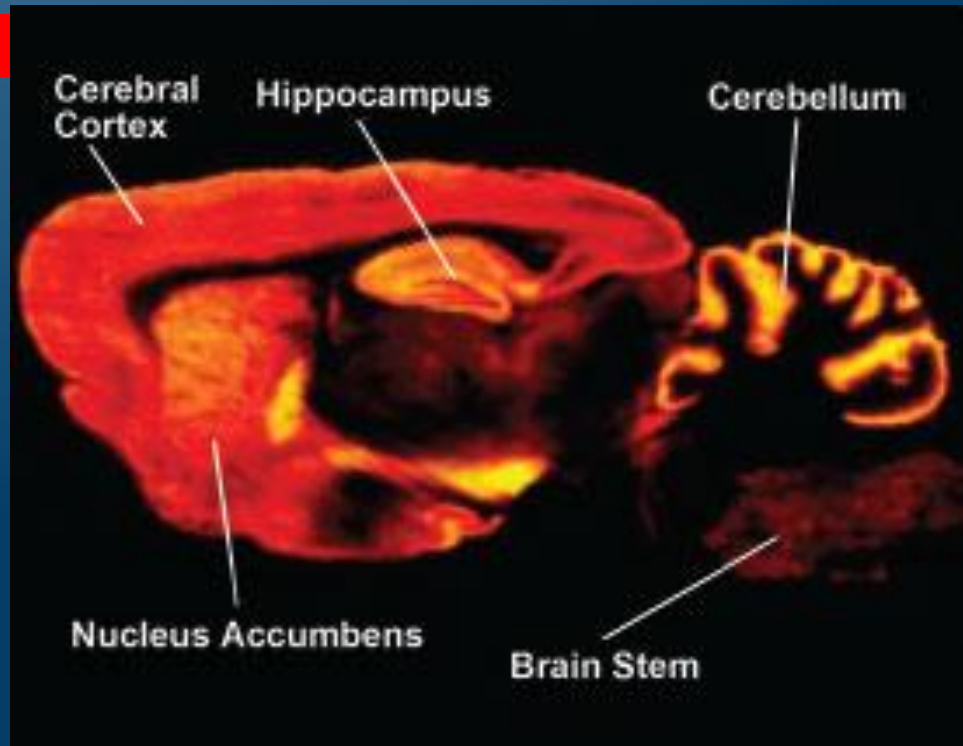




# What are the RISKS?

## RAT BRAIN

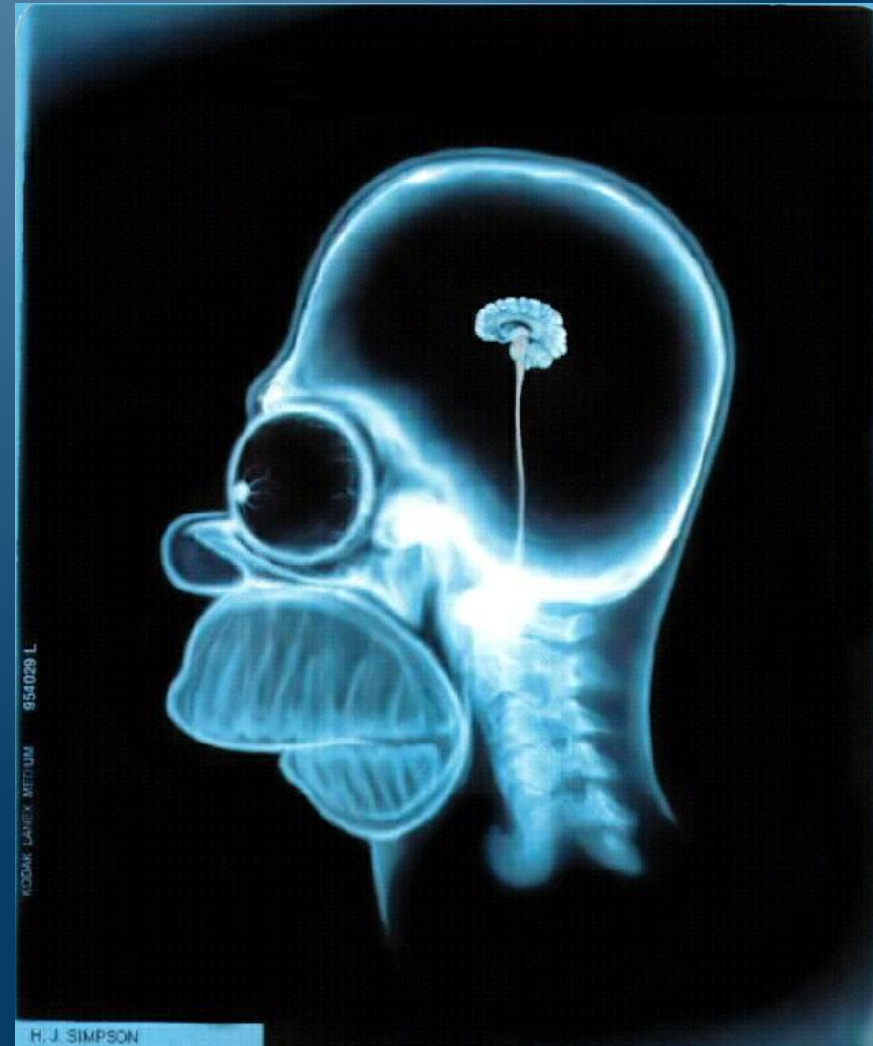
- Exposure to THC around birth or adolescence demonstrates impaired learning and memory **later in life**
- Hippocampus changes
- Altered reward system



<https://www.drugabuse.gov/publications/research-reports/marijuana/how-does-marijuana-use-affect-your-brain-body>

# HUMAN BRAIN

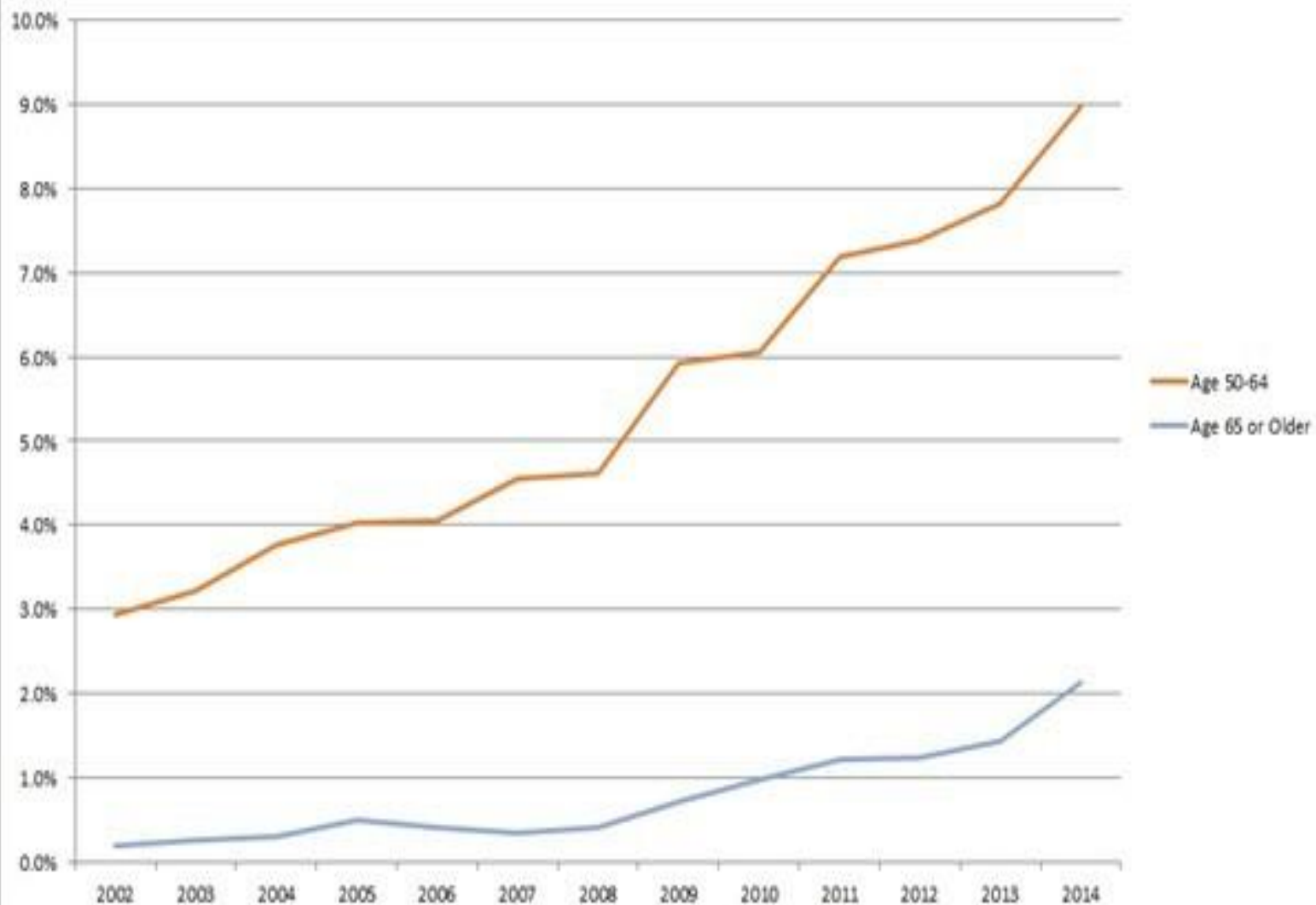
- **Inconclusive**
- Some suggest connectivity and reduced volume in certain regions (memory, learning and impulse control)
- Others found no structural differences
- Several suggest functional impairment in cognition
  - Age initiated, how much, how long





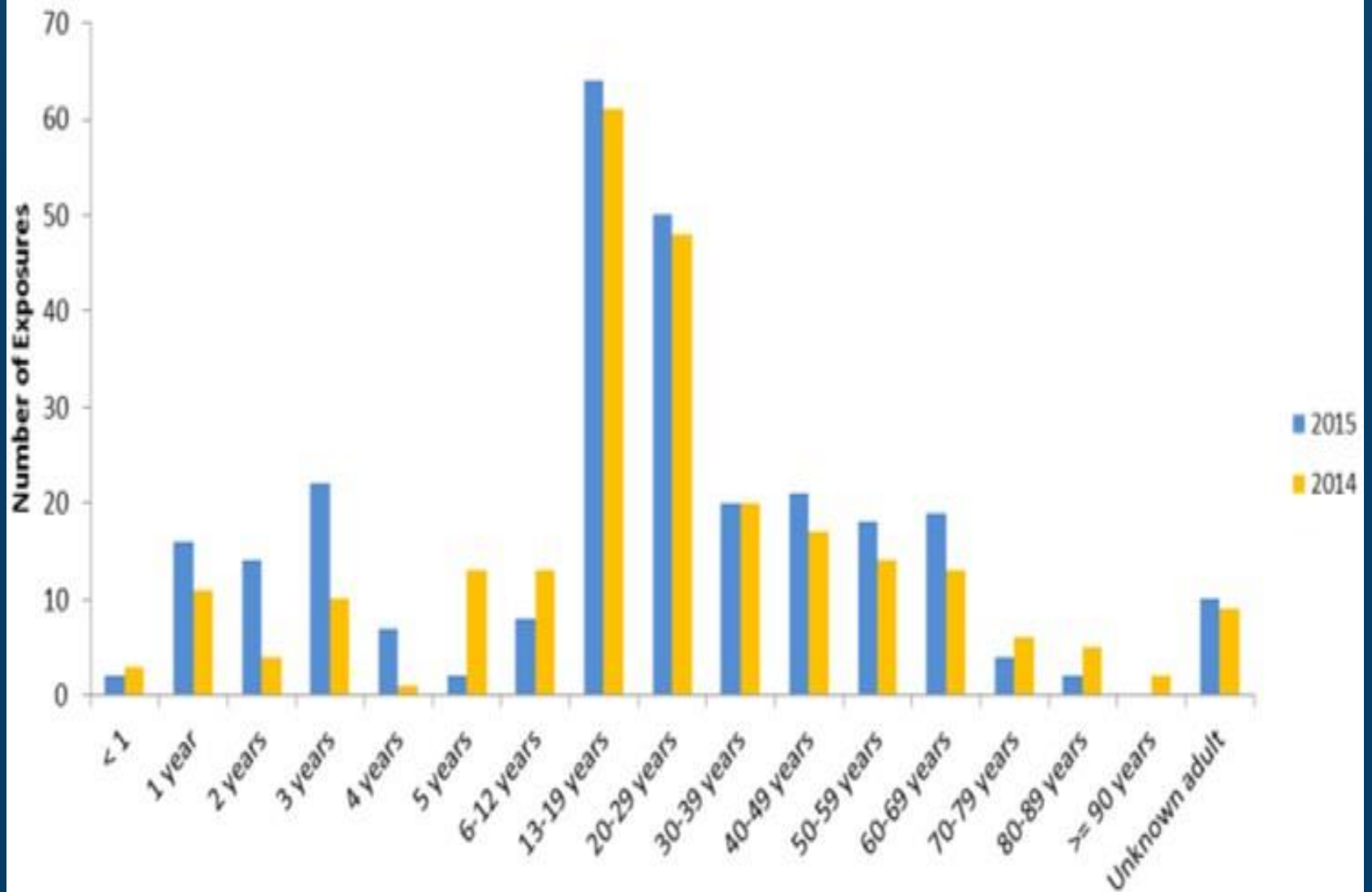
**SO THESE  
ARE THE  
CHANGES  
THE  
BOOMERS  
FROM THE  
1960S AND  
AFTER  
BRING WITH  
THEM INTO  
LATER LIFE**

Proportion of Older Americans Reporting Any Cannabis Use in the Past Year





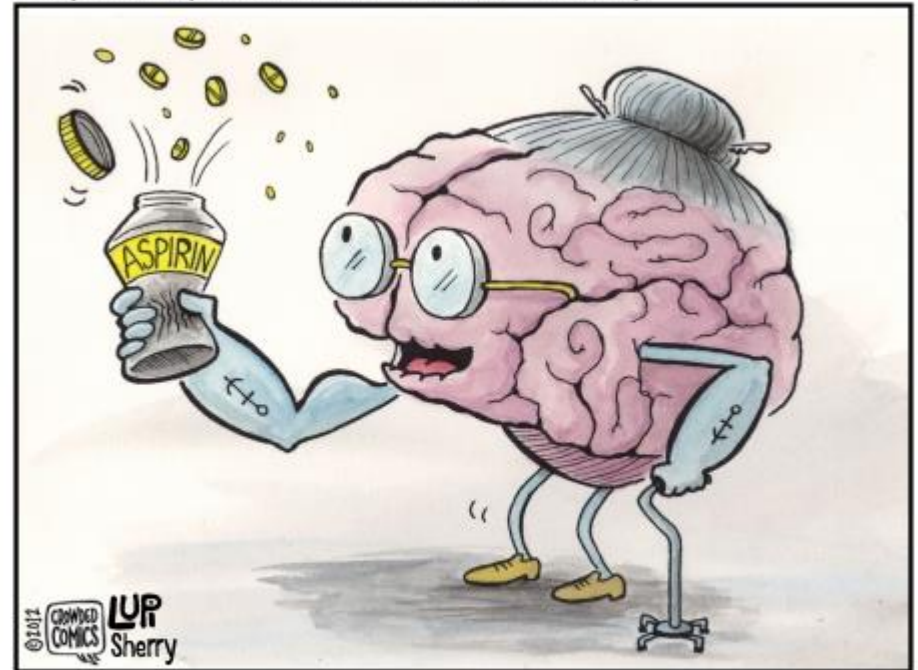
## Marijuana Exposures by Age for 2014 and 2015



# OLDER ADULT BRAIN

- ❖ Short-term memory Impairment in a population in which cognitive decline is already a factor
- ❖ Impairs attention, executive cognitive function & decision making abilities
- ❖ Residual cognitive effects of Marijuana last 12 to 24 hours after smoking in younger adults. Little data available regarding residual effects in older adults.

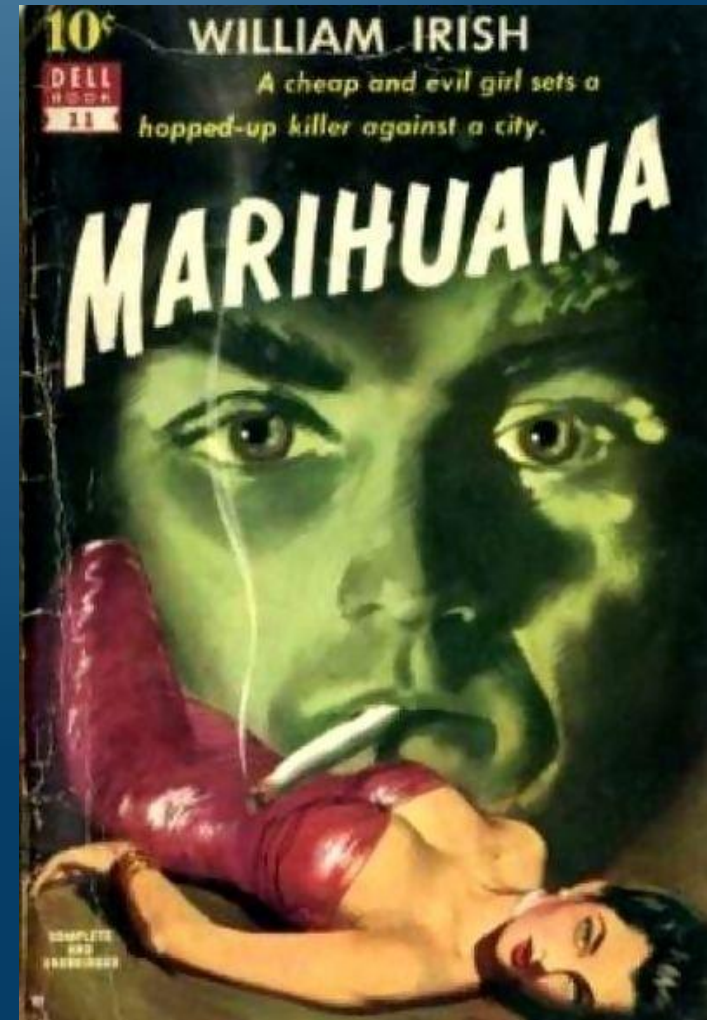
October 5, 2012 | Trending | Sherry  
**Study Finds Aspirin Could Slow Brain Drain in Elderly**



*Senior Jeopardy... here I come!*

# OTHER PHYSICAL FACTORS WITH MARIJUANA FOR OLDER ADULTS

- Greater respirator burden of carbon monoxide and tar compared to smoking regular tobacco. Habitual use in older adults has been linked to airway injury and bronchitis
- Cannabis consumption results in increased heart rate, lesser rates of cardiac output and increased resting BP.
- Cannabis use among older adults has been shown to result in a 4-fold increase in the risk of heart attack after the first hour of smoking
- Risks may be catastrophic in older adults whose cardiovascular system may already be compromised.



Grandma in her dreams



*QUESTIONS??*



# WHAT COMPLICATES IDENTIFICATION OF SUBSTANCE ABUSE IN THE ELDERLY?

- Differential DX
- Short Office Visit with Primary Care Doctor
- Ageism
- Older person reminds the clinician of their own parents or grandparents
- Co-Occurring
- Other chronic health conditions
- Stigma adult children feel
- Older persons' not disclosing the problem

# SO WHAT KIND OF TX WORKS WITH OLDER ADULTS?

- Given that 5 million older adults are predicted to need SUD treatment by 2020, much more research is needed into any differences in treatment efficacy with older adults.

# SO WHAT KIND OF TX WORKS WITH OLDER ADULTS?

- Between 1999 and 2009 only two articles were found that addressed SUD treatment with older adults.
- One meta-analysis of 25 studies were found to be of limited utility as 1) they were methodologically restricted to pre-to-post or post-test only studies, or 2) had an “S” of 15 or less .... Making effects difficult to detect

# TX THAT WORKS WITH OLDER ADULTS?

- ✓ Research, limited as it is, seems to indicate that empathic, supportive, less confrontational, CBT-based, MI and Brief interventions like SBIRT are most effective with older adults ... as well as younger adults.
- ✓ Individual, group and family therapy all appear to be effective
- ✓ Research also indicated that mixed-age groups are as effective as age-specific groups.

# TAKE HOME MESSAGES

➤ YOU DO NOT FIND WHAT YOU DO NOT LOOK FOR

AND

➤ DOCTORS DO NOT LOOK FOR WHAT THEY

CANNOT CURE

AND DO NOT KNOW WHERE OR HOW TO REFER



# SOURCES

- **National Institute of Drug Abuse, National Institutes of Health, Research Report Series, 2008** <http://www.nida.nih.gov/>
- Center for Substance Abuse Treatment. Identifying and Helping Patients With Co-Occurring Substance Use and Mental Disorders: A Guide for Primary Care Providers. *Substance Abuse in Brief Fact Sheet* Fall 2006, Volume 4, Issue 2.
- **National Institute of Drug Abuse, National Institutes of Health, Research Report Series, 2008** <http://www.nida.nih.gov/>
- **Facts About Drugs Website:** <http://www.factsaboutdrugs.com/>
- **National Institute on Drug Abuse (NIDA)**  
<https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/drugs-brain>

# SOURCES

- ▣ **ASAM website for definition:**

<https://www.asam.org/resources/definition-of-addiction>

- ▣ <http://www.samhsa.gov/data/population-data-nsduh>

- ▣ <http://www.samhsa.gov/data/sites/default/files/NSDUH-FFR2-2015/NSDUH-FFR2-2015.htm>

- ▣ <http://www.samhsa.gov/data/sites/default/files/NSDUH-DSM5ImpactAdultMI-2016.pdf>