

# ALCOHOL AND CANNABIS USE DISORDERS AND SUICIDAL BEHAVIOR IN VETERANS

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# Research Questions

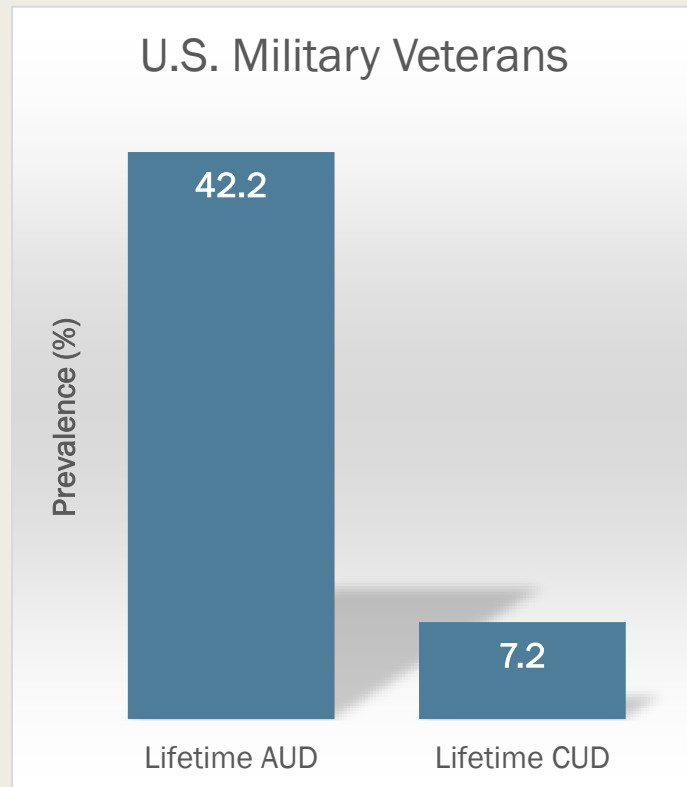
1. What is the prevalence of comorbid alcohol use disorder (AUD) and cannabis use disorder (CUD) in veterans?
2. Are veterans with both AUD and CUD more likely to endorse suicidal behavior than veterans with either disorder alone?

## Outline

1. Describe study background, aims, and hypotheses
2. Review NHRVS sample and current study methods
3. Present results, summarize key findings
4. Open up for questions



# Background & Aims



AUD and CUD each independently predict suicidal behavior

Pharmacokinetic interactions between alcohol and cannabis

AUD and CUD: High comorbidity

Co-use of both substances related to more consumption, depressive episodes, and risky behavior

Aims:

- (1) Examine prevalence of AUD+CUD
- (2) compare associations of AUD only, CUD only, and AUD+CUD with suicide ideation, planning, and attempt(s)

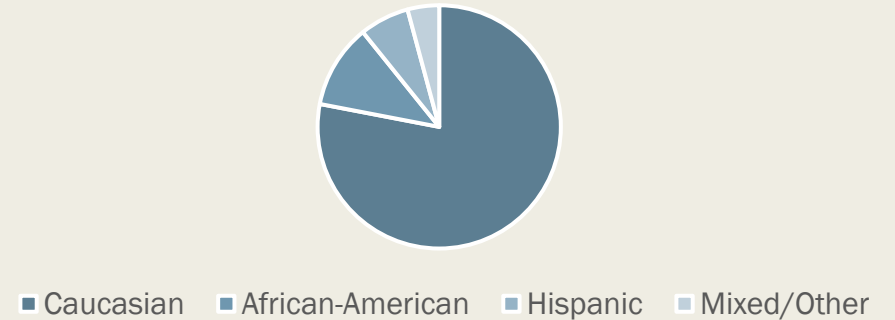
# National Health and Resilience in Veterans Study (2019-2020)

Nationally representative sample: 4,069 veterans

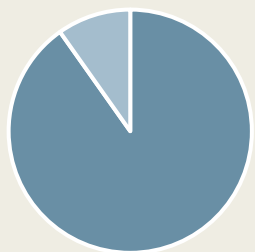
22-99 years old (mean = 62.2; SD = 15.7)

All branches of U.S. military represented

Race/Ethnicity

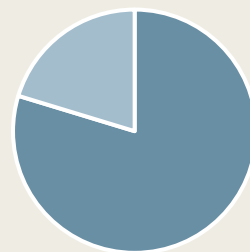


Sex



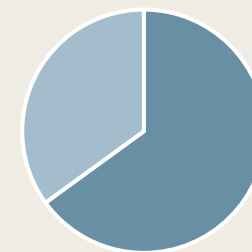
■ Male ■ Female

Enlistment Status



■ Enlisted in Military ■ Did not Enlist in Military

Combat Veteran Status



■ Non-combat Veteran ■ Combat Veteran

# Methods

## ■ Exposures

- *Past-year and Lifetime Alcohol Use Disorder*
- *Past-6-month and Lifetime Cannabis Use Disorder*
- *4 AUD-CUD Groups:*
  - No AUD or CUD (comparison)
  - AUD only
  - CUD only
  - Comorbid AUD+CUD

## ■ Outcomes

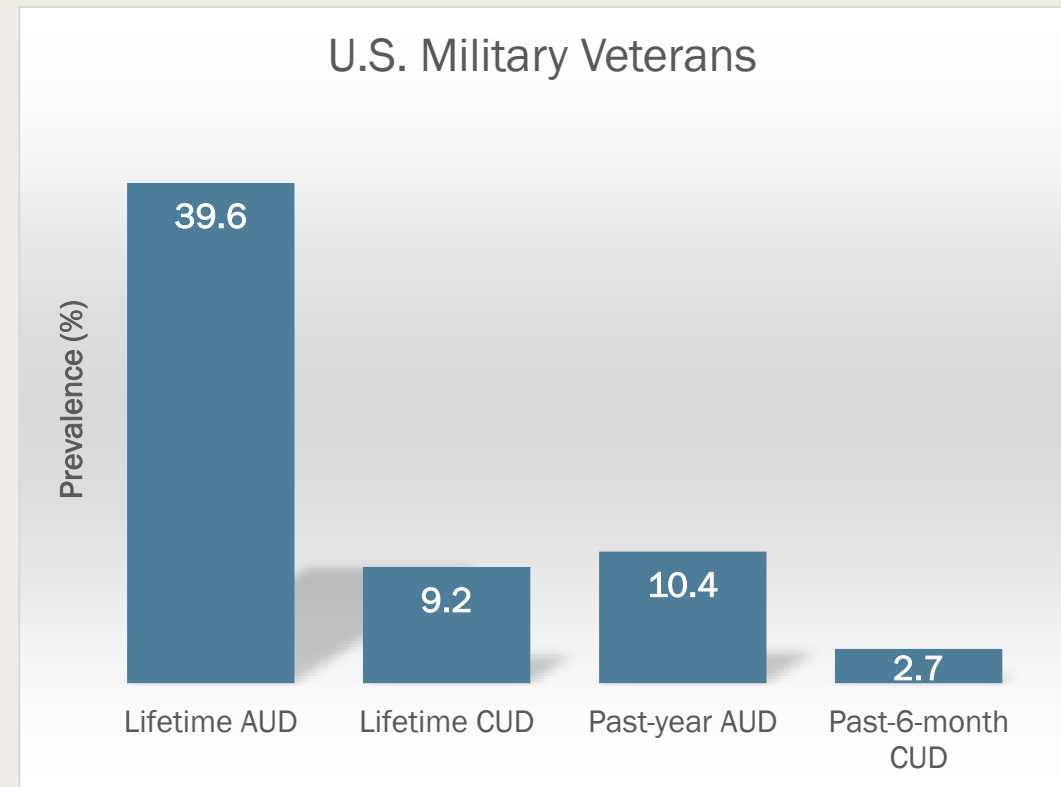
- Past-year suicide ideation (SI)
- Lifetime SI, plan, attempt

## ■ Covariates:

- Sociodemographic
- Military
- Trauma (Cumulative, TBI)
- Psychiatric (MDD, PTSD, tobacco)

# Question 1: Prevalence Results

- 19.2% with lifetime AUD screened positive for CUD
- 82.6% with lifetime CUD screened positive for AUD
- 8.7% of veterans with current AUD had comorbid CUD
- 33.3% of veterans with current CUD had comorbid AUD



# Question 2: Suicidal Behavior Results

Multivariable associations of alcohol use disorder and cannabis use disorder screening status with suicide ideation, plans, and attempts

<b>Current Suicidality</b>	Current AUD vs. Comparison (No AUD or CUD) OR (95% CI)	Current CUD vs. Comparison (No AUD or CUD) OR (95% CI)	Current AUD+CUD vs. Comparison (No AUD or CUD) OR (95% CI)
Past-year presence of suicidal ideation (Yes/No)	1.74 (1.28-2.36)***	3.81 (2.16-6.71)***	5.33 (2.16-13.15)***
<b>Lifetime Suicidality</b>	Lifetime AUD vs. Comparison (No AUD or CUD) OR (95% CI)	Lifetime CUD vs. Comparison (No AUD or CUD) OR (95% CI)	Lifetime AUD+CUD vs. Comparison (No AUD or CUD) OR (95% CI)
Have you ever thought about or attempted to kill yourself?			
Never	[Reference]	[Reference]	[Reference]
Thoughts only	1.93 (1.58-2.37)***	4.14 (2.17-7.89)***	3.37 (2.42-4.69)***
Made plans	1.62 (1.16-2.28)**	8.68 (3.88-19.43)***	2.68 (1.65-4.33)***
Attempted	3.74 (2.33-6.02)***	7.13 (2.36-21.58)**	4.23 (2.25-7.96)***

# Question 2: Suicidal Behavior Results

Multivariable associations of alcohol use disorder and cannabis use disorder screening status with suicide ideation, plans, and attempts

	Current CUD vs. AUD OR (95%CI)	Current AUD+CUD vs. AUD OR (95%CI)	Current AUD+CUD vs. CUD OR (95%CI)
<b>Current Suicidality</b>			
Past-year presence of suicidal ideation (Yes/No)	2.36 (1.15-4.83)*	3.31 (1.13-9.69)*	6.04 (0.70-52.30)
<b>Lifetime Suicidality</b>	Lifetime CUD vs. AUD OR (95%CI)	Lifetime AUD+CUD vs. AUD OR (95%CI)	Lifetime AUD+CUD vs. CUD OR (95%CI)
Have you ever thought about or attempted to kill yourself?			
Never	[Reference]	[Reference]	[Reference]
Thoughts only	2.58 (1.33-5.01)**	1.93 (1.38-2.71)***	0.93 (0.43-2.03)
Made plans	6.12 (2.64-14.19)***	1.72 (1.05-2.82)*	0.24 (0.08-0.70)**
Attempted	2.58 (0.83-7.97)	1.04 (0.57-1.91)	0.48 (0.12-1.94)



# Summary of Key Findings

- 1 in 3 veterans with CUD had comorbid AUD; 1 in 10 with AUD had comorbid CUD
- Suicide ideation and plans more prevalent in veterans with AUD+CUD than AUD only
- CUD only group also reported more suicide ideation and planning than AUD only
  - *Perhaps due to strong associations of cannabis with depressive symptoms, cannabis prospectively predicts depression (Lev-Ran, 2014)*
  - *SI could also be characteristic of veterans with CUD, shared liability*
- CUD is a strong indicator of suicidal behavior in veterans with and without AUD



# THANK YOU!

Questions?

# Bivariate Results

Table 2. Bivariate associations of alcohol use disorder and cannabis use disorder screening status with suicide ideation, plans, and attempts

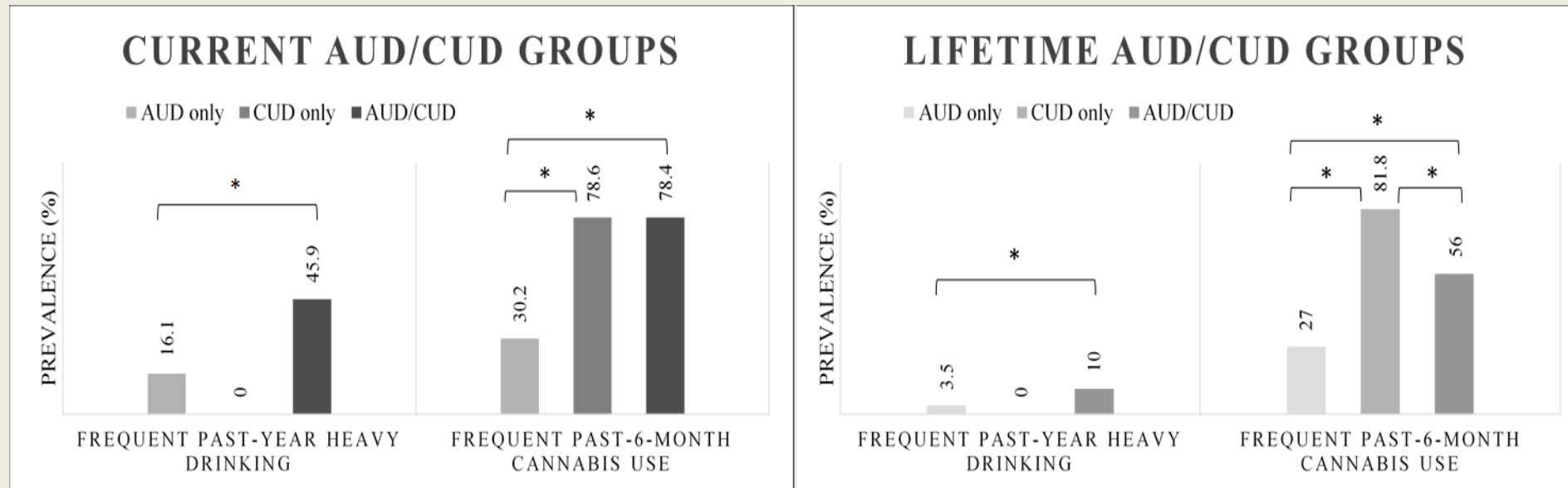
	Comparison group (1) (No Current AUD or CUD) N=3,593 weighted 87.8% N (weighted %)	Current AUD only (2) N=332 weighted 9.5% N (weighted %)	Current CUD only (3) N=48 weighted 1.8% N (weighted %)	Current AUD/CUD (4) N=23 weighted 0.9% N (weighted %)	Bivariate analysis  X <sup>2</sup> , p	Pairwise contrasts
<b>Current suicidality</b>						
Past-year presence of suicide ideation (Yes/No)	299 (9.6%)	65 (24.0%)	13 (42.9%)	8 (54.1%)	195.14, <.001	3,4>2>1
	Comparison group (1) (No Lifetime AUD or CUD) N=2,362 weighted 56.4% N (weighted %)	Lifetime AUD only (2) N= 1,239 weighted 32.0% N (weighted %)	Lifetime CUD only (3) N= 62 weighted 1.6% N (weighted %)	Lifetime AUD/CUD (4) N=251 weighted 7.6% N (weighted %)	Bivariate analysis  X <sup>2</sup> , p	Pairwise contrasts
<b>Lifetime suicidality</b>						
Have you ever thought about or attempted to kill yourself?					309.87, <0.001	
Never	1,892 (80.4%)	783 (63.4%)	26 (43.8%)	102 (41.4%)		1>2>3,4
Thoughts only	323 (13.4%)	292 (22.6%)	22 (29.7%)	90 (31.9%)		4>2>1; 3>1
Made plans	97 (4.6%)	89 (8.2%)	7 (18.8%)	38 (17.3%)		3,4>2>1
Attempted	29 (1.7%)	65 (5.8%)	7 (7.8%)	20 (9.5%)		2,3,4>1

*Note.* AUD=Alcohol use disorder. CUD=Cannabis use disorder. Weighted prevalence estimates are within the NHRVS subsample of veterans with AUD only, CUD only, co-occurring AUD/CUD, or neither AUD nor CUD.

# Post-hoc analyses: Alcohol and cannabis consumption

Frequent heavy drinking = 6+ drinks daily or almost daily

Frequent cannabis use = using 4+ times per week



Note. \* $p < .05$ . AUD=Alcohol use disorder. CUD=Cannabis use disorder.

# Limitations

- Cross-sectional data, can't make causal inferences
- Self-report, screening measures
- Older, white men make up large proportion of veterans and NHRVS sample
  - *Need to determine generalizability in younger, diverse samples*
- Didn't measure simultaneous versus concurrent alcohol and cannabis use
  - *Simultaneous use more strongly linked to negative behavioral consequences*