



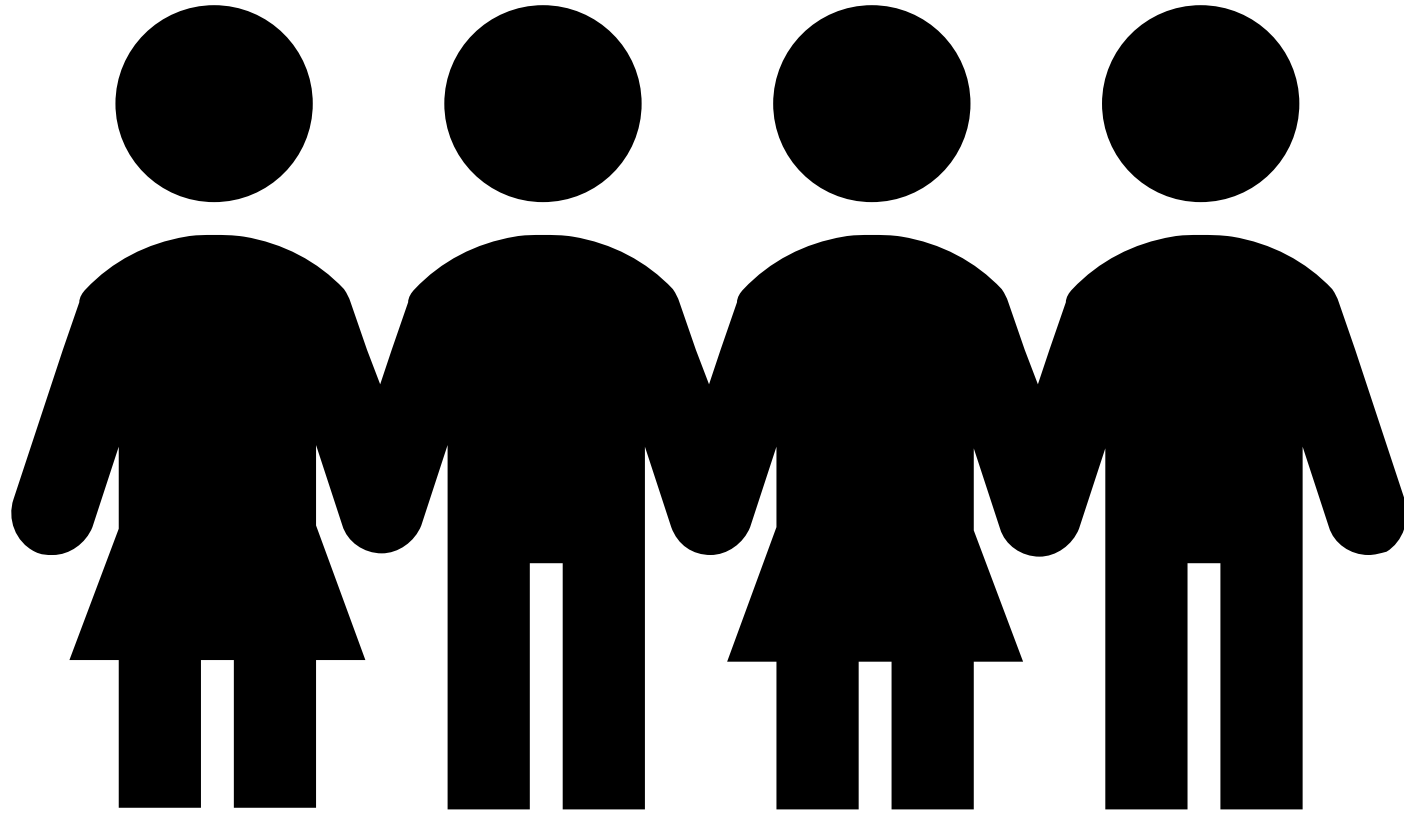
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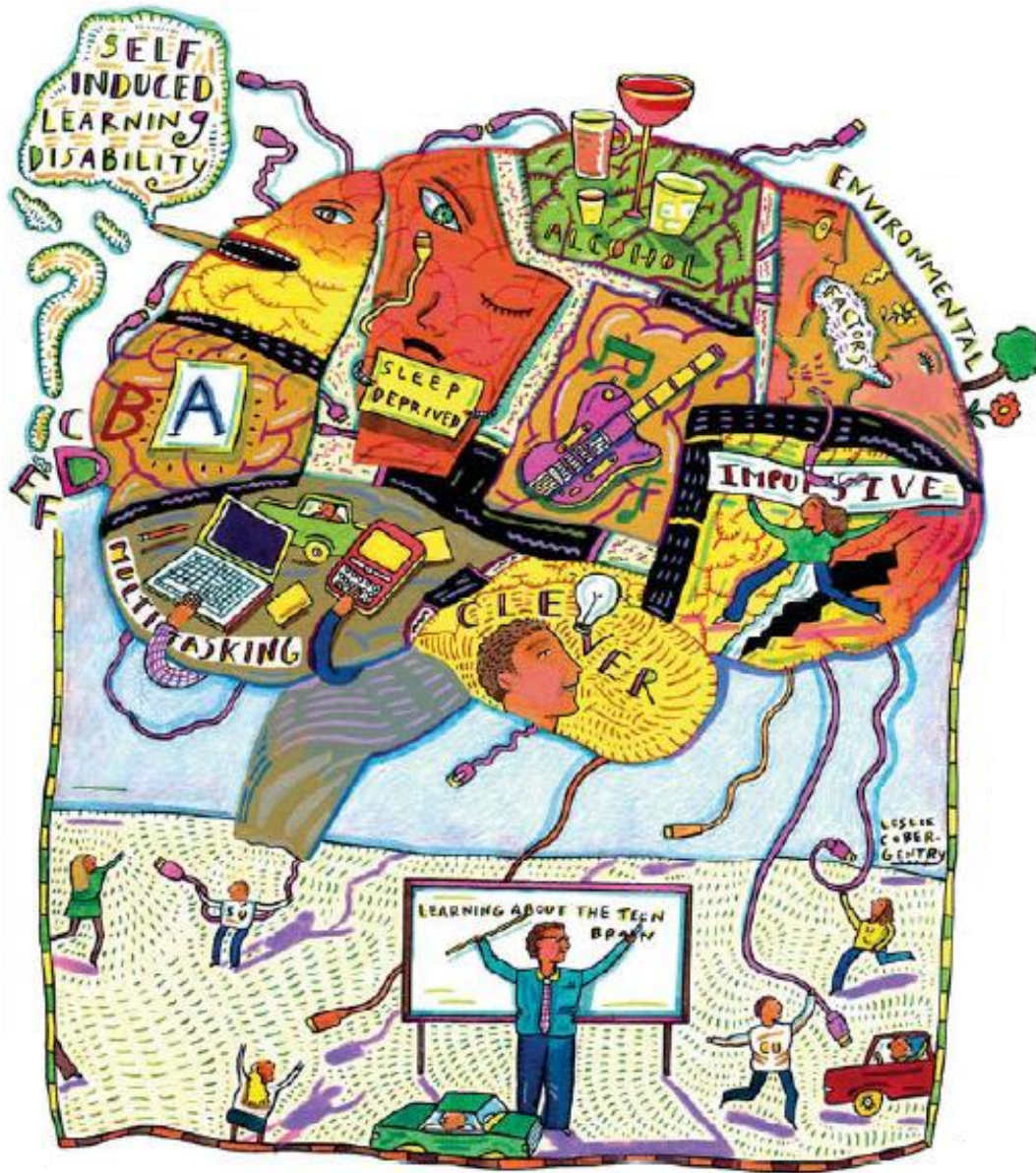
Cannabis and Mental Health

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Cannabis Use
and Chronic
Mental
Illnesses are
Developmental
Phenomena



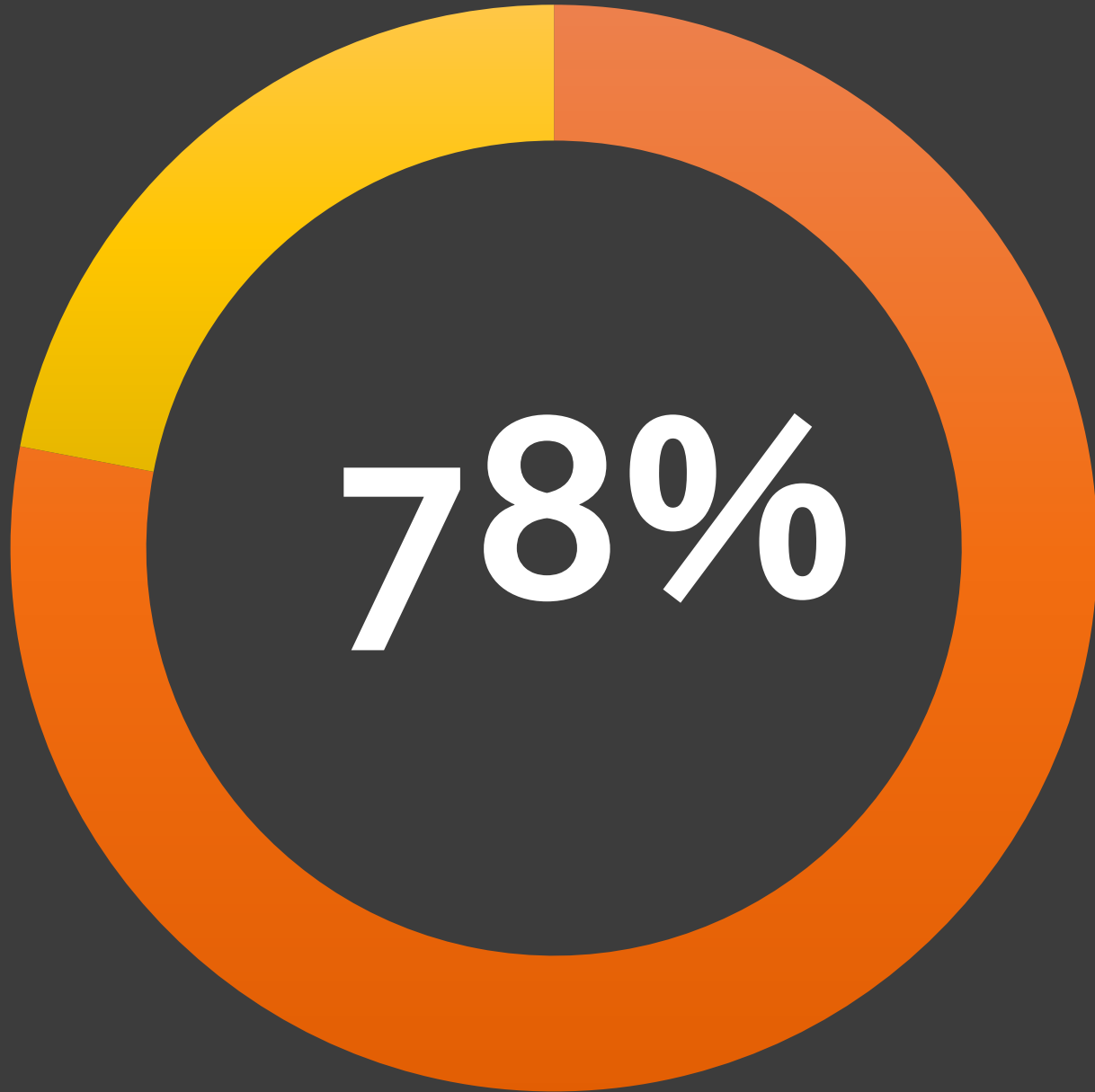
Poor impulse control

Risk taking

Executive dysfunction

Emotion regulation

The Adolescent Brain



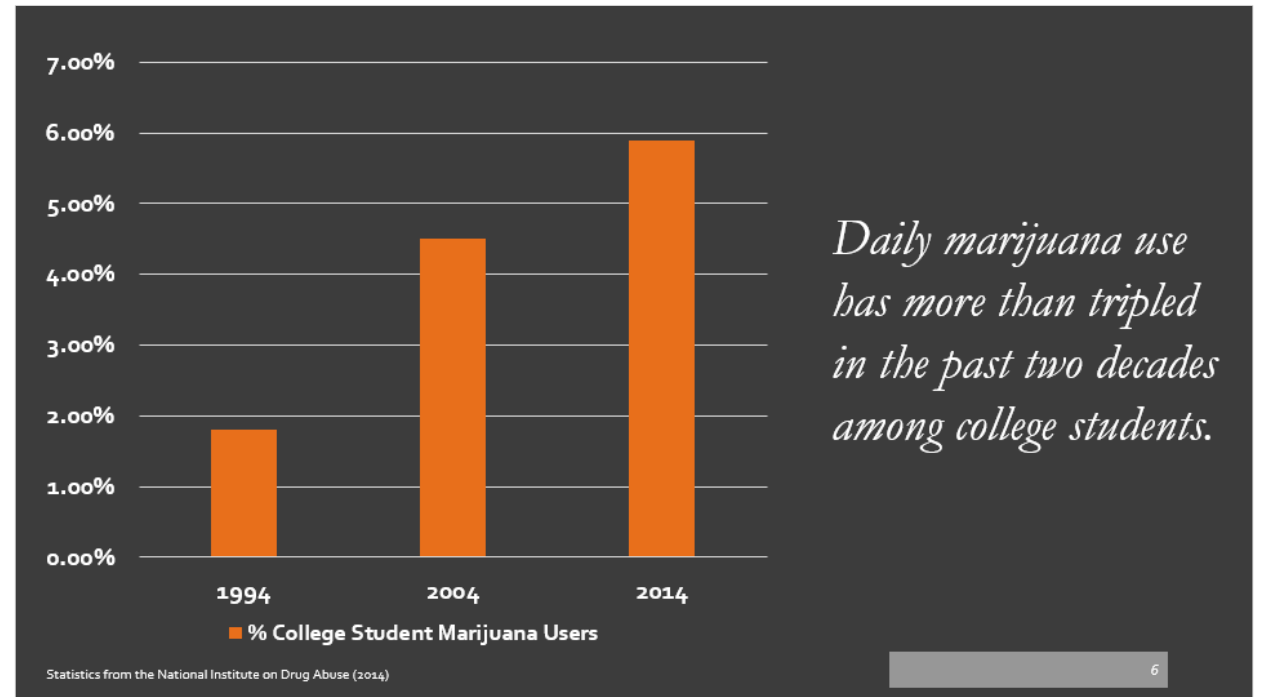
ADOLESCENTS & MARIJUANA USE

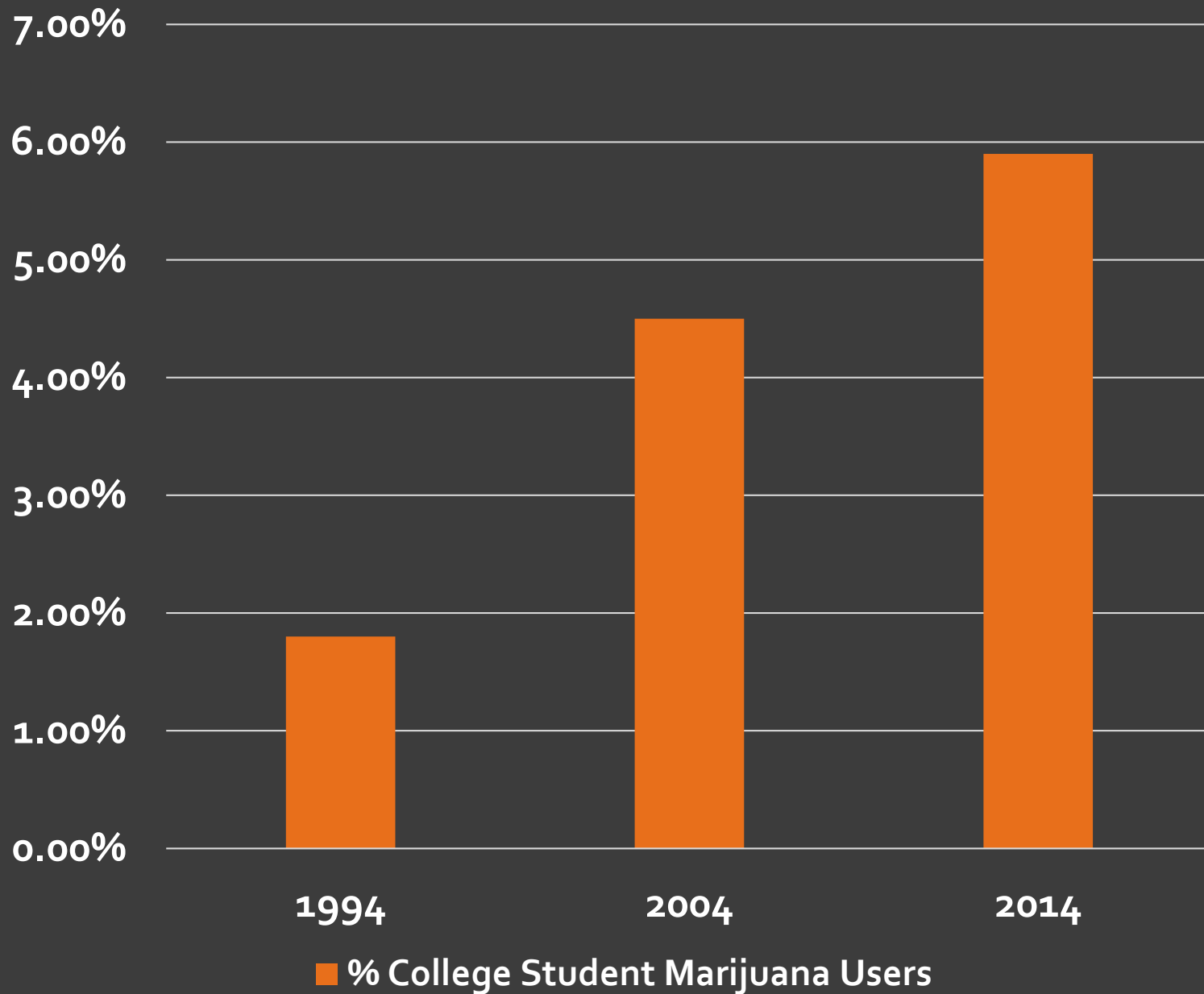
Of the 2.4 million people who began using in the last year were aged 12-20.

Increased Cannabis Use Among Youth

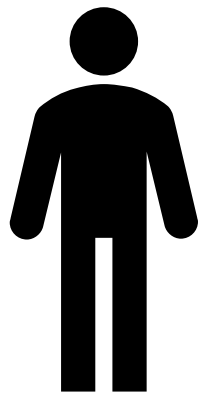
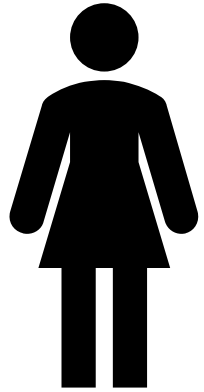
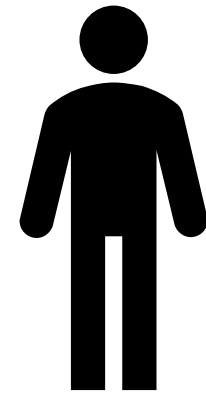
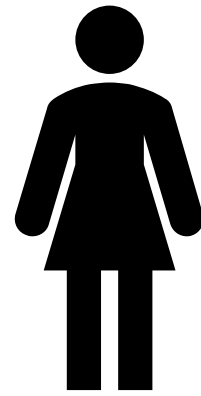
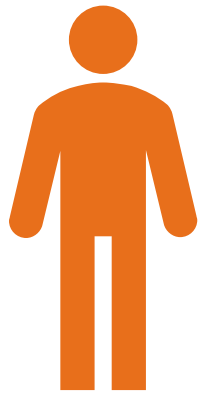
2015 SAMHSA Substance Abuse Treatment Admissions in Washington

- » Marijuana is the second most treated illicit substance behind heroin.
- » 58.4% of marijuana users admitted into treatment are aged 12-20 years.
- » Adolescents and young adults/college students represent a large portion of the at risk population for marijuana usage.





Daily marijuana use has more than tripled in the past two decades among college students.



20% of youth ages 13-18 live with a mental health condition

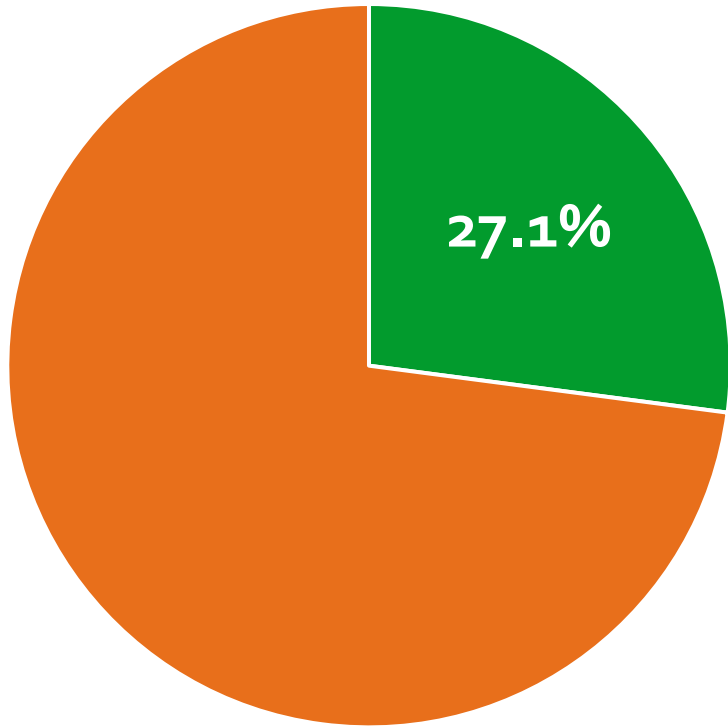


Statistics from the National Institute of Mental Health (2016)

75% of all lifetime cases of mental illness begin by age 24

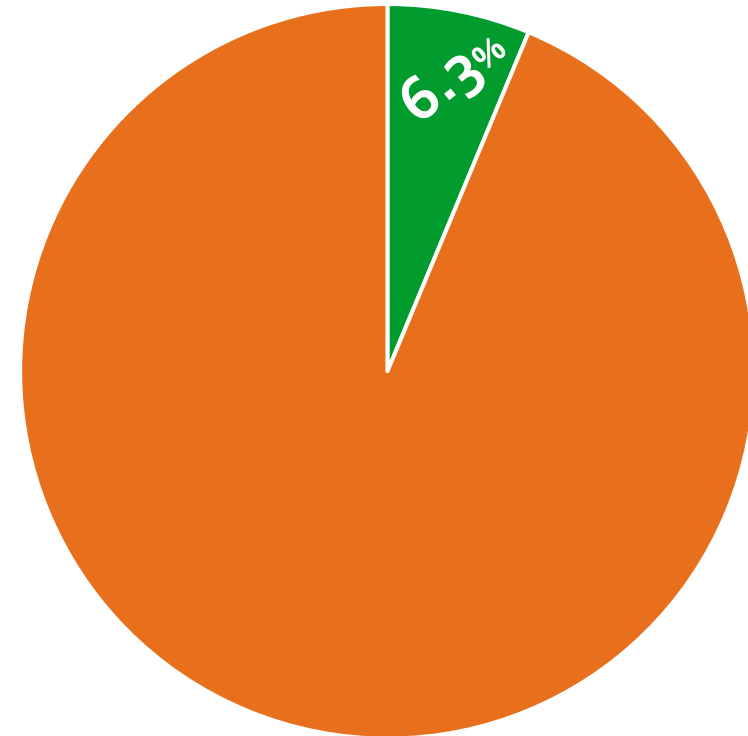
Rates of Cannabis Use & Use Disorders (CUD) in Persons with Schizophrenia

Median Lifetime Rate of CUD
Among Persons with Schizophrenia



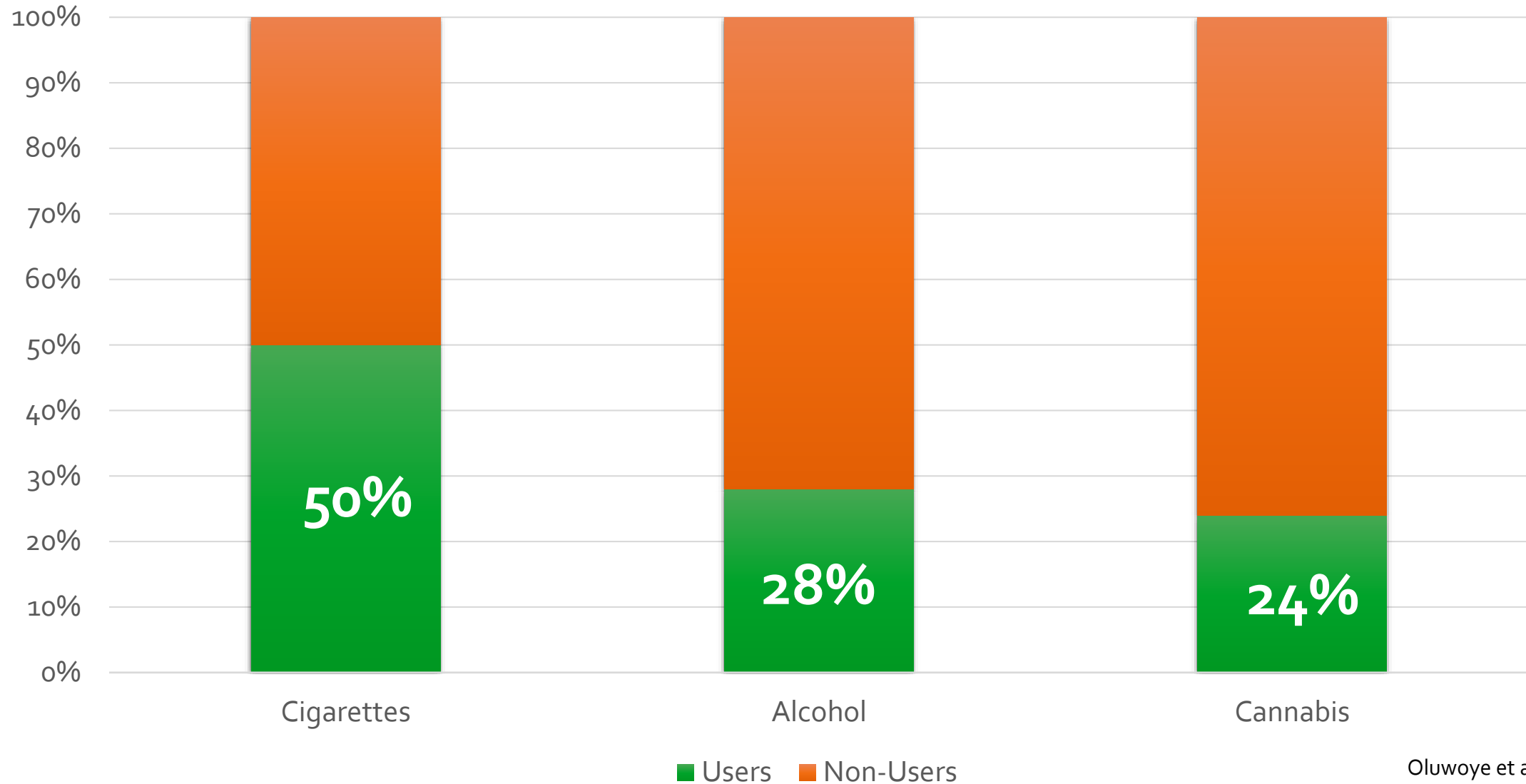
■ Cannabis User ■ Non Cannabis User

Median Lifetime Rate of CUD
Among General Population



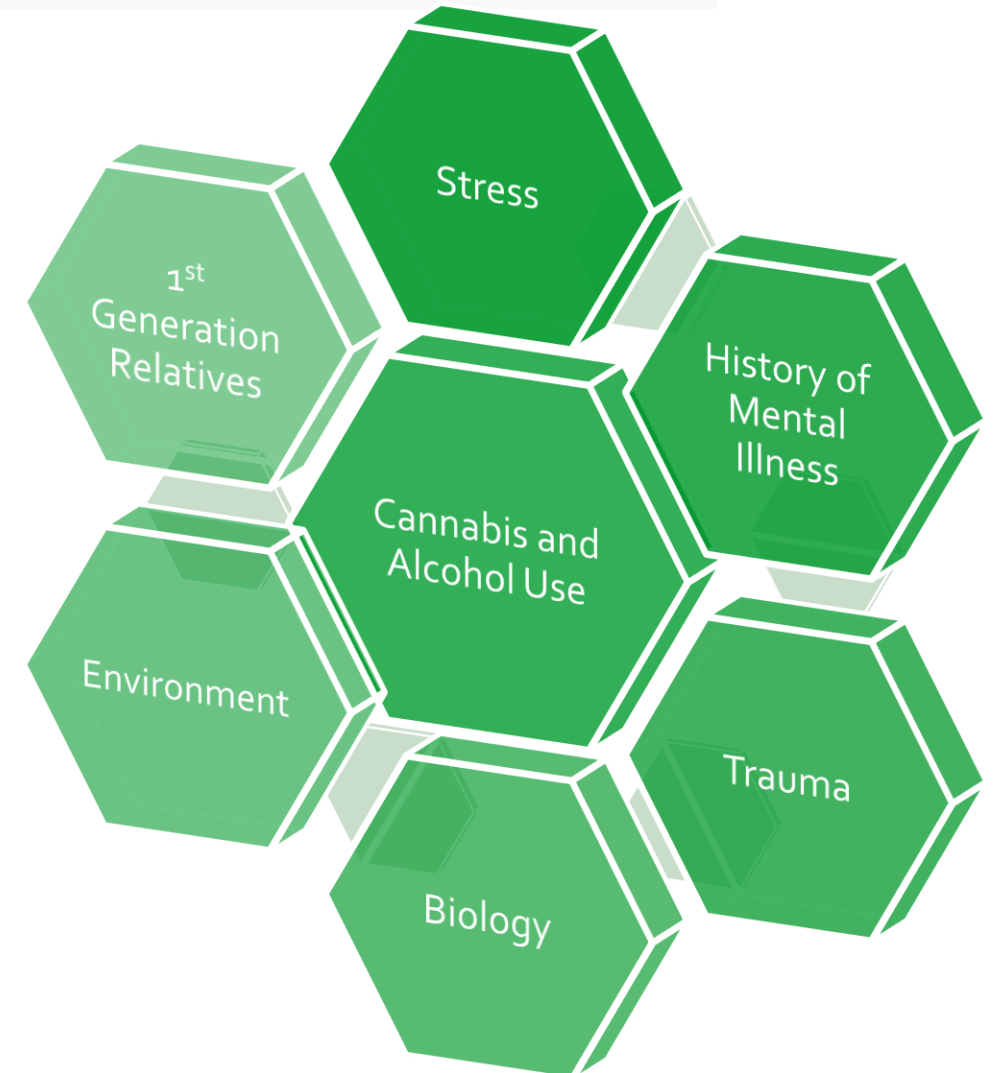
■ Cannabis User ■ Non Cannabis User

Tobacco, Alcohol, and Marijuana Use Among First Episode Psychosis (FEP) Individuals



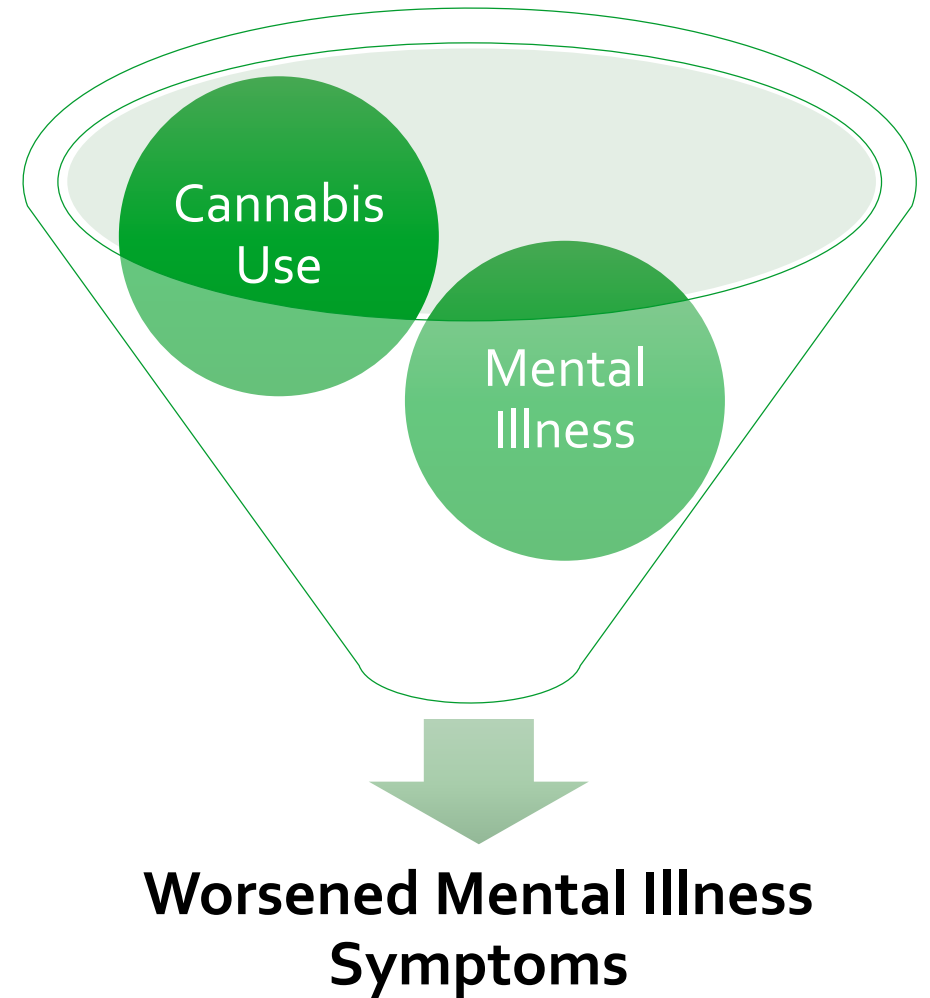
Does Cannabis Increase Risk for Mental Illness?

- » Marijuana use is a risk factor for psychosis (Schizophrenia Commission, 2012)
- » Heavy cannabis users are 4 times more likely to develop psychosis (meta-analysis, Marconi et al. 2016)
- » Cannabis use likely interacts with genetics and other environmental factors (e.g., trauma)



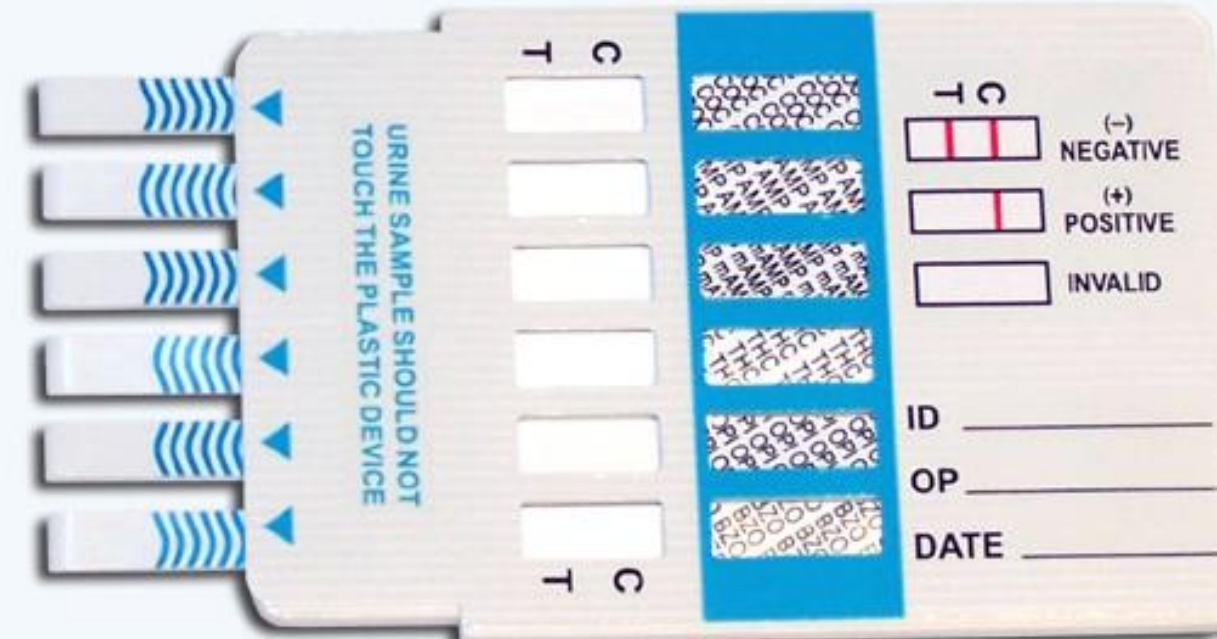
Does Cannabis Make Mental Illness Worse?

- » In patients with schizophrenia, **THC has a dose dependent relationship with psychotic symptoms** (D'Souze et al., 2004)
- » Cannabis use is associated with increased risk of **hospitalizations** (Colizzi et al., 2018)
- » In a national treatment study, **Cannabis users (21.9 vs. 20.41) had significantly higher psychotic symptom scores relative to non-cannabis users** (Kane, J.M. et al., 2015)



Marijuana Use in Alcohol Dependent SMI Patients

Skalisky, J., Leickly, E., McPherson, S.M., Srebnik, D., Roll, J.M., Ries, R.K., McDonell, M.G. (2017)



- 57% of patients tested submitted at least one positive marijuana sample
- No association with alcohol treatment outcomes

Could Cannabis Treat Mental Illness?

- » **Cannabidiol (CBD) has been shown to have antipsychotic effects in humans.**
- » **Studies suggest that a single dose of CBD may normalize dysfunction in the striatum, medial temporal cortex, and midbrain.**
- » **Additional studies are needed to determine the neurocognitive mechanisms that underlie the therapeutic effects of CBD on psychosis.**

Bhattacharyya, S. et al., (2018). Effect of Cannabidiol on Medial Temporal, Midbrain, and Striatal Dysfunction in People at Clinical High Risk of Psychosis: A Randomized Clinical Trial. *JAMA Psychiatry*.



Summary

- » Cannabis use and chronic mental illnesses, such as schizophrenia begin in adolescence and young adulthood
- » Must be studied as co-developing co-occurring disorders or problems
- » Cannabis use is associated with increased risk of psychosis
- » Cannabis use is associated with poor mental health outcomes in people with schizophrenia
- » CBD may stabilize functioning in areas of the brain associated with psychosis

Next steps...

- » Need new models that conceptualize these two developmental issues in combination
- » Must understand how issues like THC/CBD concentrations and frequency and patterns of use impact mental health
- » Cannabis is just the latest of many psychosis risk factors. More research is needed to understand how it interacts with these risks
- » More sophisticated epidemiological studies are needed
- » Basic science, including work focused on the endocannabinoid system is needed

THANK YOU!
Questions?

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