

## Figure Descriptions

**Slide 7:** Here is data for the year 2022 from the National Survey on Drug Use and Health breaking it down by overall substance use disorder, alcohol use disorder and illicit drug use disorder as well as age category. The 12-17 group hovers at about 8.7% for an SUD and 27.8% for young adults, and this is excluding tobacco use disorder.

**Slide 8:** These two figures reflect the high co-occurrence specifically with depression. Adolescents who have experienced a major depressive episode in the past year are more likely than those without a past year major depressive episode to use almost every substance, with statistically higher rates of cannabis use, binge drinking, nicotine use and illicit drugs. You can see about 1 in 5 adolescents who have had a past year MDE also met criteria for a substance use disorder.

**Slide 9:** By the 12<sup>th</sup> grade, nearly 1 in 3 students report having vaped some type of substance whether it be nicotine, cannabis or flavoring in the last 30 days. This data is from Monitoring the Future.

**Slide 25:** This is an illustration of the relationship between the PFC and the striatum or reward center, and their representation as hot and cold spots. Activation in these areas is relatively equal in childhood, but during adolescence the reward centers become particularly active, prior to maturation of the PFC, which is that top-down control that tells someone to think through their actions and consider the long-term consequences. Hence, a high-risk period for substance use. Then in adulthood the two become more evenly matched again.

**Slide 27:** Adolescents under the age of 13 who begin drinking have almost a 50% chance of developing an alcohol use disorder in their lifetime, and this is compared to a 9% chance in those who waited until they were 21 or older. This study looked at over 43,000 adults using NESARC data for those familiar with it.

**Slide 28:** Here you see a cannabis psychosis persistence model. Risk never returns to baseline and only increases with subsequent use once you develop even subclinical psychotic symptoms affiliated with cannabis. This was a longitudinal prospective study of 1,923 individuals in Germany ages 14-24. Assessments were conducted at three different time points.