Prevention and the 18-25 year old population

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Take Home Message #1

- Though adolescence may be the most vulnerable time for addiction, 18-25 year olds still technically have “developing brains”.
Take Home Message #2

- The brain chemistry is no different
Opioid Use Disorder = A Disease of the Brain

1. Humans have brain systems that motivate us to seek out pleasure, avoid distress, and learn behaviors that help us do these things.
2. Addictive substances hijack these basic systems by activating them more powerfully than natural experiences.
3. Addiction involves long-term changes in the brain that decrease pleasure, increase distress, and impair decision-making.
4. Adolescent and young adult brains have enhanced susceptibility.
Opioid Use Disorder = A Disease of the Brain

Positive reinforcement

- cells in the brainstem release dopamine in the nucleus accumbens
- liking and wanting
- seek out and do more

Negative reinforcement

- cells in the amygdala are stimulated (by sensations, thoughts, memories)
- anxiety, fear, distress
- avoid things that cause, do things that relieve

Attention, thinking, and judgment use the prefrontal cortex

Volkow et al 2016
Wise and Koob 2014
Take Home Message #3

- Keep in mind, 18-25 year olds didn’t just start down the pathway to SUD when they turned 18.
Hub & Spoke Evaluation: Participants

**TYPICAL SUBSTANCE USE HISTORY OF PARTICIPANTS**

- **Tobacco, Alcohol, and Cannabis**
  - *Age 13-14*

- **Stimulant (Cocaine and Amphetamine)** and Benzodiazepine
  - *Age 19-21*

- **Illicit Opioids (Heroin/Fentanyl)**
  - *Age 25*

- **Hallucinogens**
  - *Age 17*

- **Prescription Opioid without a Prescription**
  - *Age 21*

- **Illicit Addiction Medication (Buprenorphine or Methadone)**
  - *Age 27*
What I am worried about with 18-25 year olds

- Those **not** in college – who is concerned about them? Who notices them?
- Until primary prevention really takes off, many will not have benefited from the prevention we are focused on from birth->grade school-> high school. They will be a vulnerable population for many years.