



University of California
San Francisco

Substance Use Disorder

What causes it, how do we treat it, and what can we do to prevent it?

Soraya Azari, MD
Diana Coffa, MD
Scott Steiger, MD

Janice



Janice



Janice



Janice



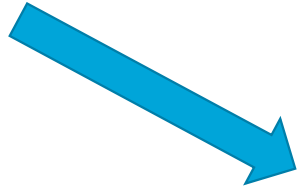
Question

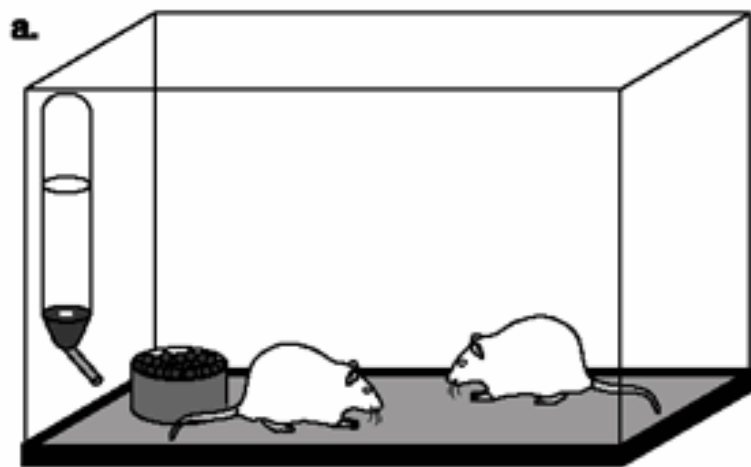
- What features of Janice's life so far put her at risk for developing a substance use disorder?

Question

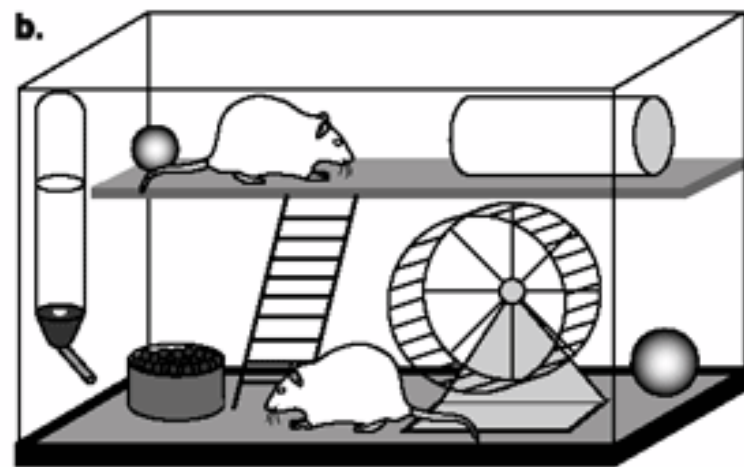
- What features of her life so far protect her?

Environment





standard cage

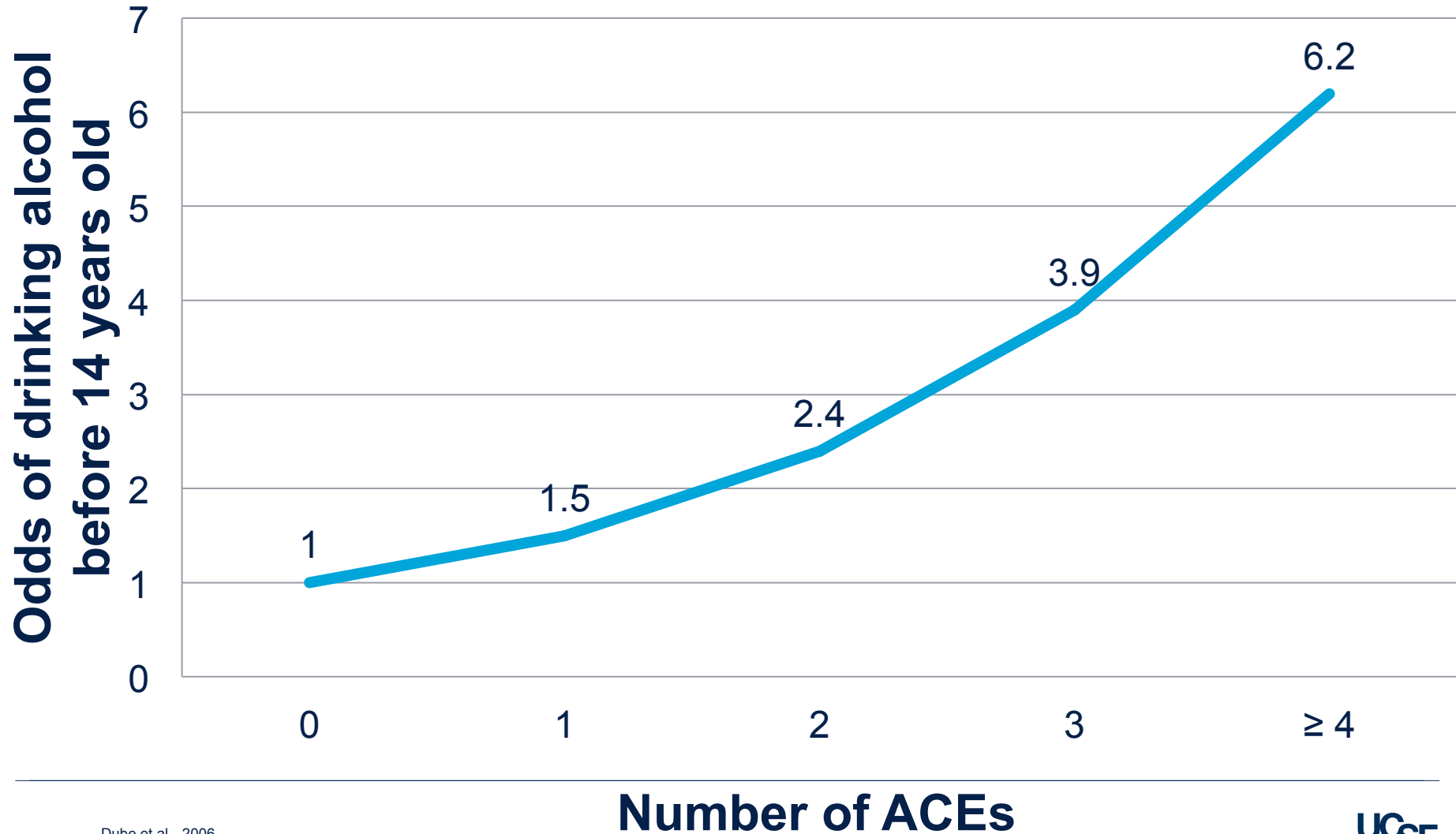


enriched cage

What puts someone at risk for early onset drug or alcohol use?

- Adverse Childhood Experiences
 - Physical (1.8), emotional (1.6) , or sexual (2.0) abuse
 - Emotional (1.9) or physical (1.1) neglect
 - Violence in the home (1.6)
 - Substance use in the household (2.4)
 - Household mental illness (1.7)
 - Parental separation or divorce (1.8)
 - Incarcerated household member (1.7)

Adverse Childhood Experiences Have a Cumulative Effect



Additional Risk Factors for Early Onset Use

- Peer substance use
- Drug availability and cost
- Low perceived risk
- High perceived reward or normalcy
- Low parental supervision
- Low socioeconomic status
 - Probably partially mediated by access to “substance free enjoyable activities”
- Neighborhood residential instability
- White or mixed race

Protective factors

- Adult role model
- Parental discussion of risks
- Engagement in enriching activities
 - Participation in sports
 - Participation in clubs
- Academic achievement
- Sense of connectedness at home, school, or community

Janice



Janice's Family History

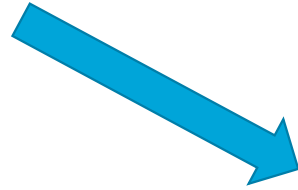


Question

- How much does Janice's family history impact her risk of developing an alcohol use disorder?

Environment

Person



Personal Factors

- Genetics
- Temperament and psychology
- Age

Heritability of Substance Use Disorders

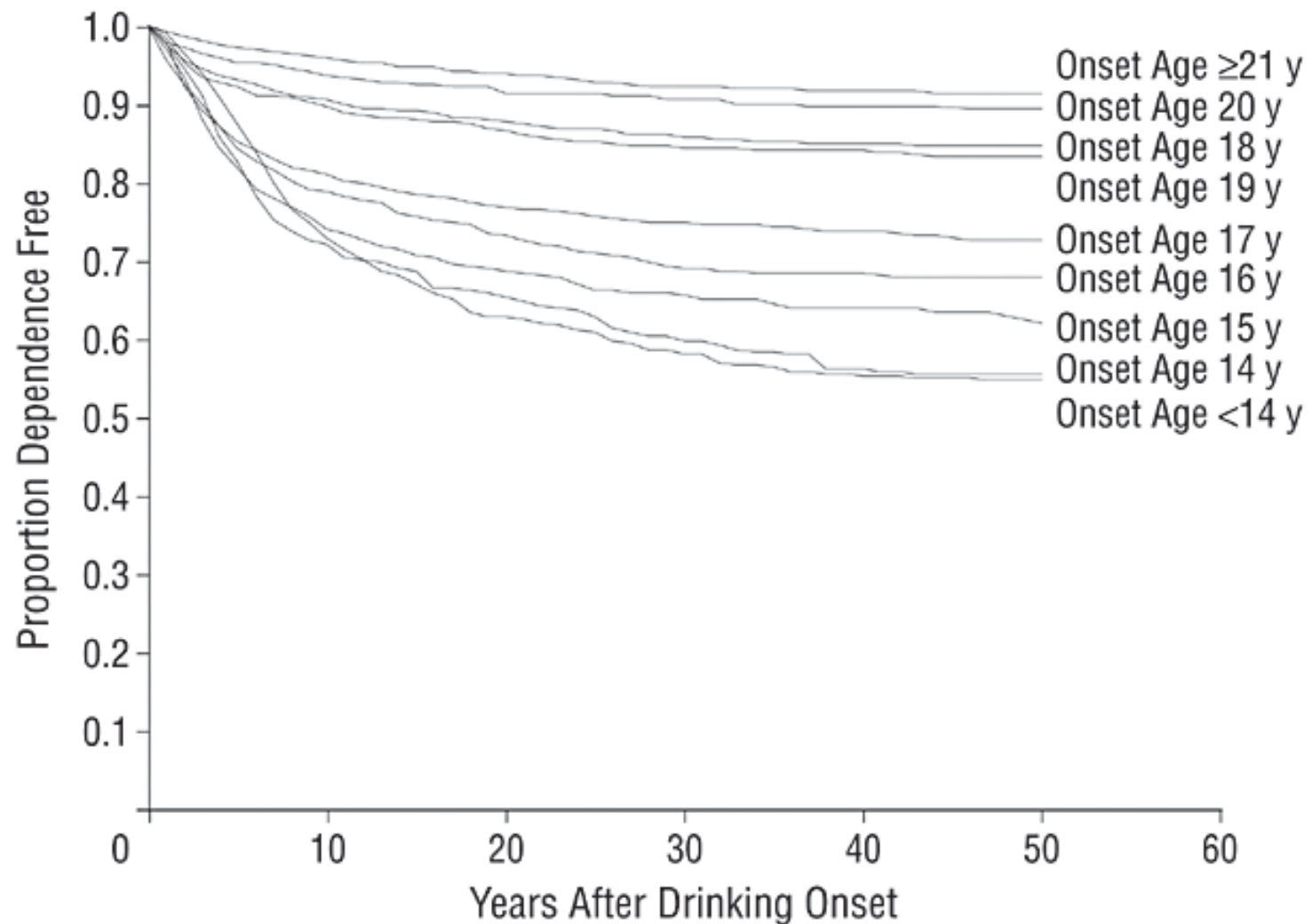
- Alcohol use disorder: 50-60%
- Other substance use disorder: 45-79%



Temperamental Features Associated with SUD

- Impulsivity
- Hyperactivity
- Novelty seeking

Risk of developing dependence is inversely related to age at first use





9 OUT OF 10

**PEOPLE WITH SUBSTANCE
PROBLEMS STARTED USING
BY AGE 18**

National Center for Addiction and Substance Abuse

11/6/17

Janice



Janice



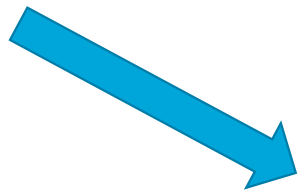
Janice



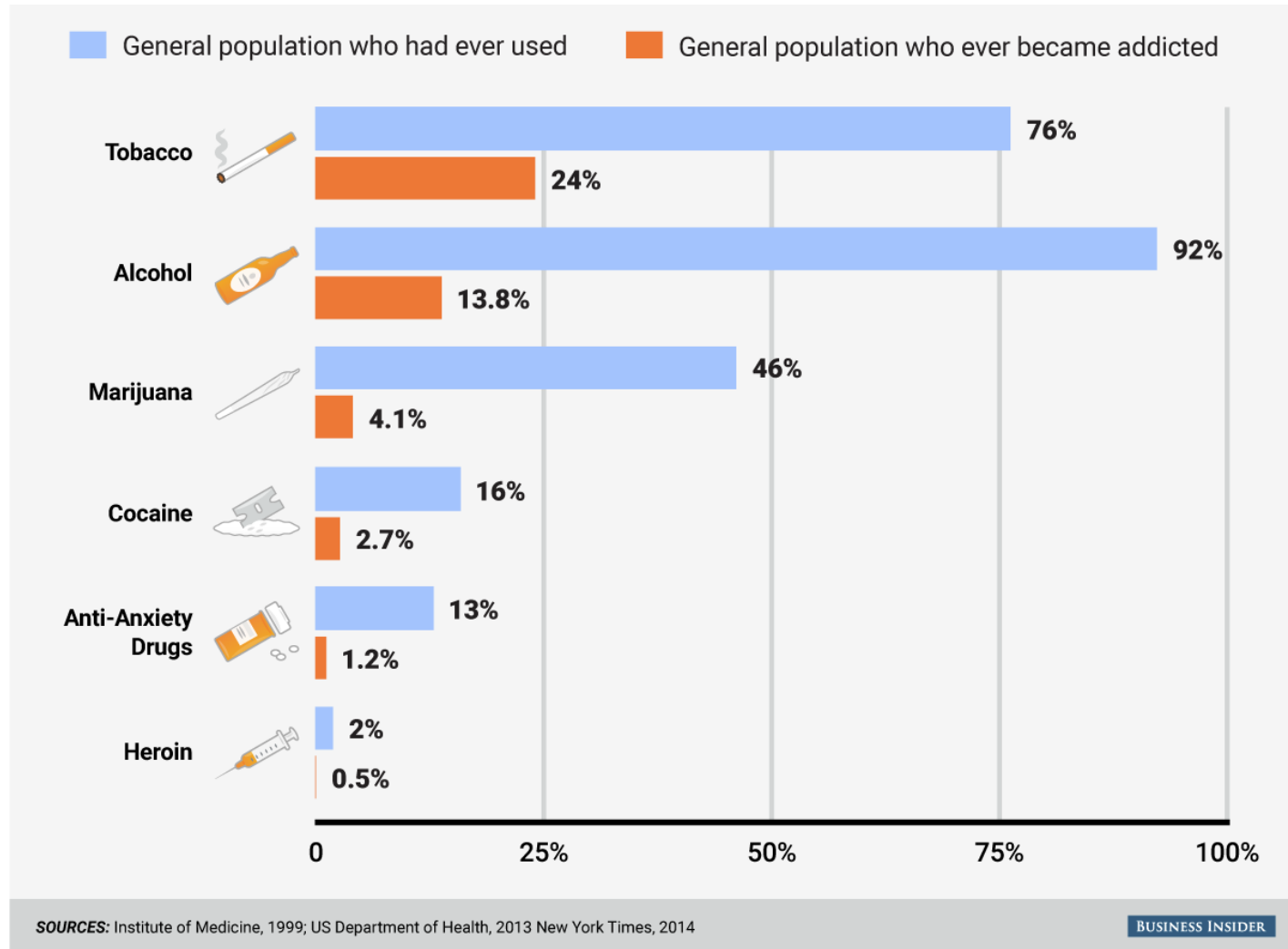
Environment

Person

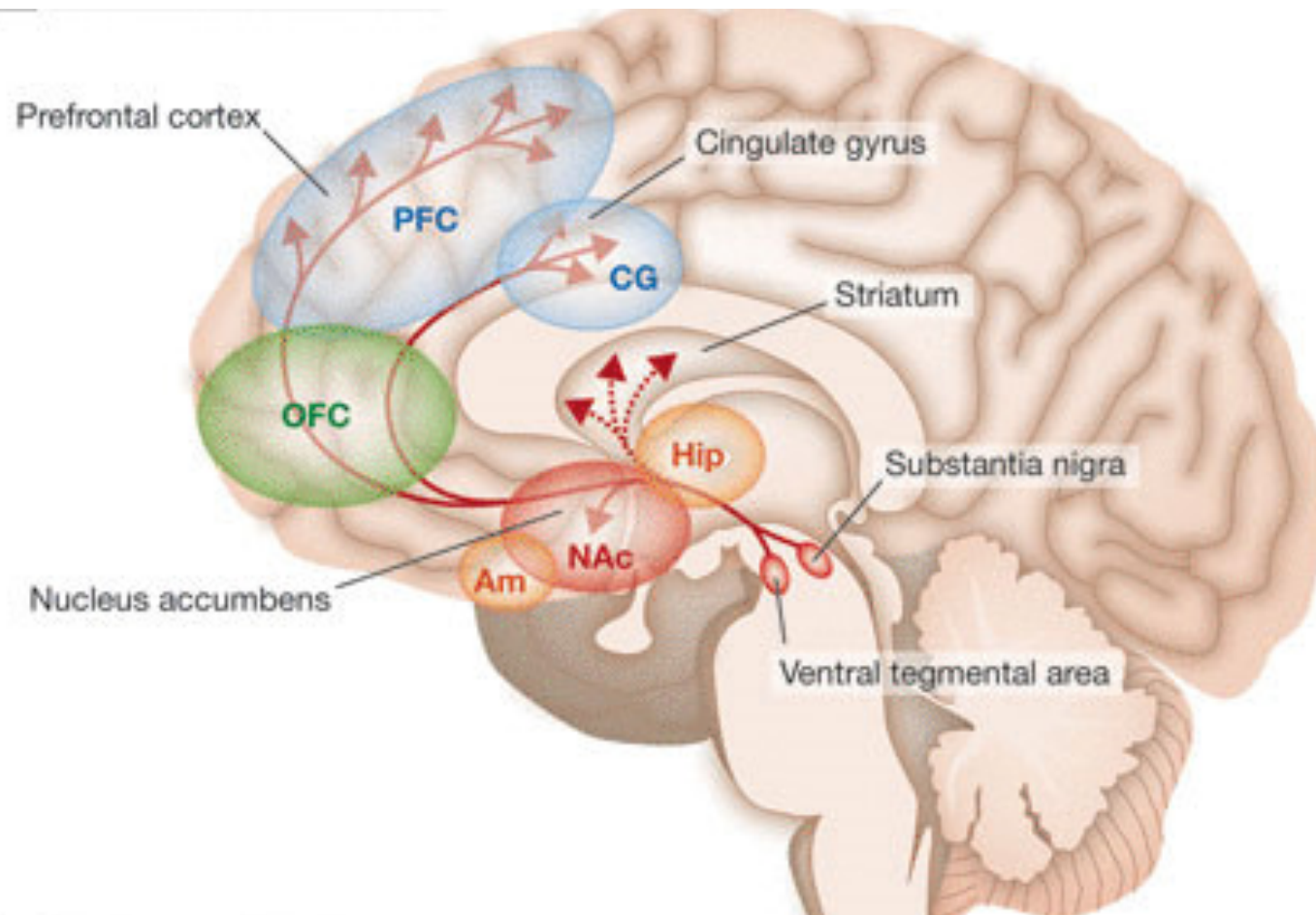
Drug



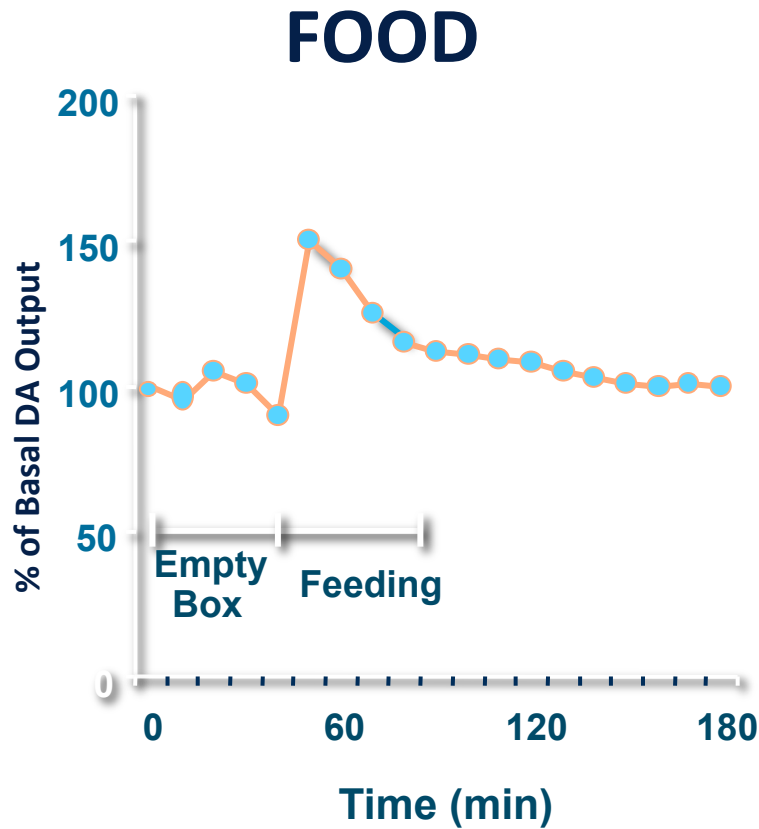
Drugs have different risk profiles



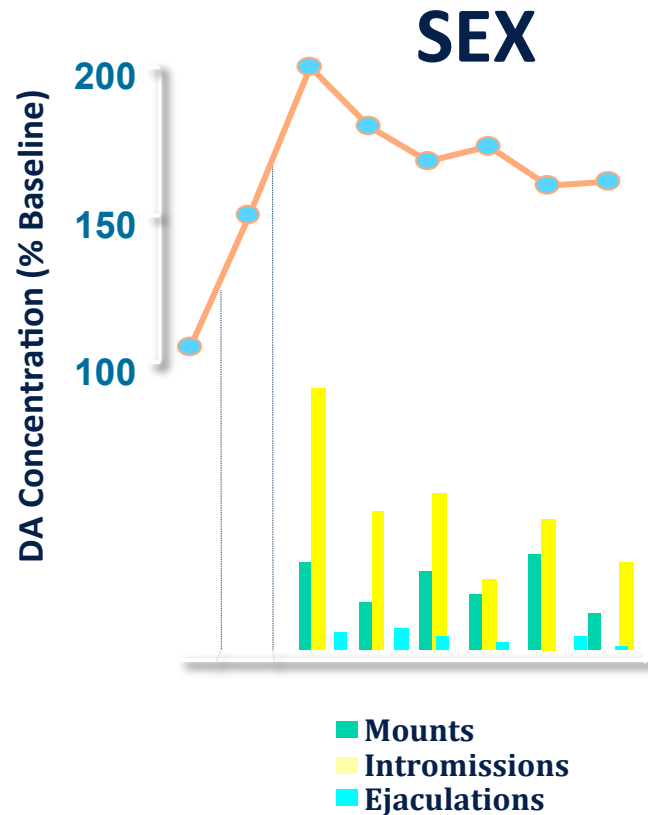
Brain circuits involved in drug use disorder



Natural rewards elevate dopamine levels

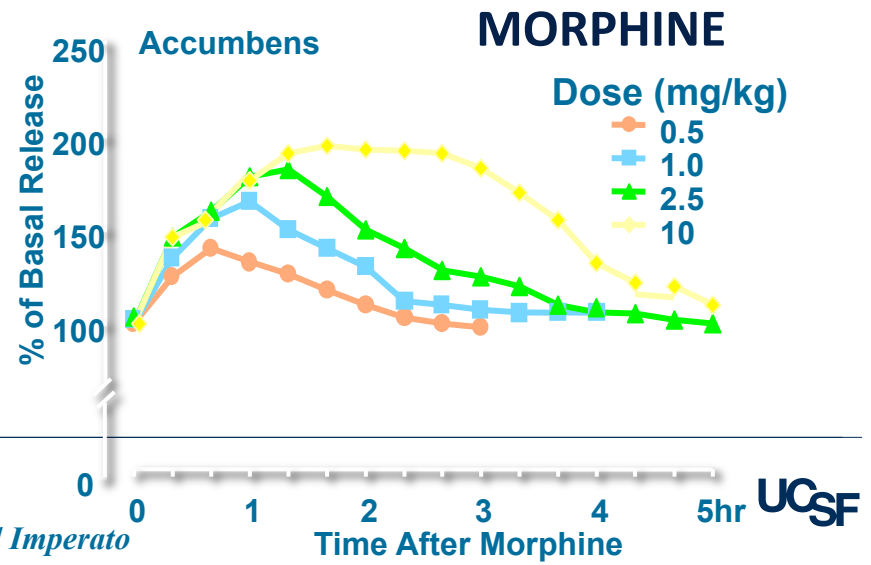
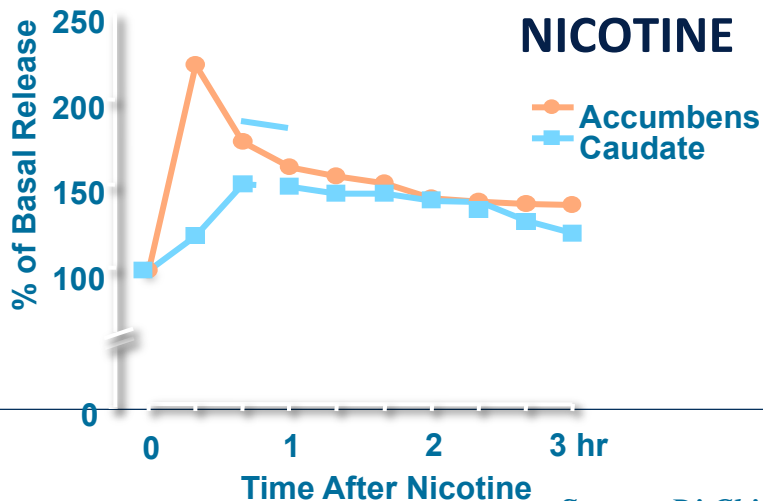
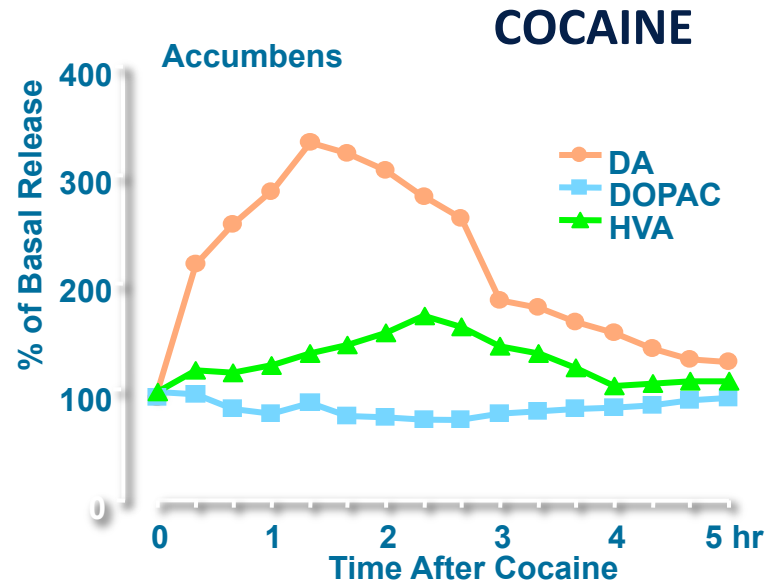
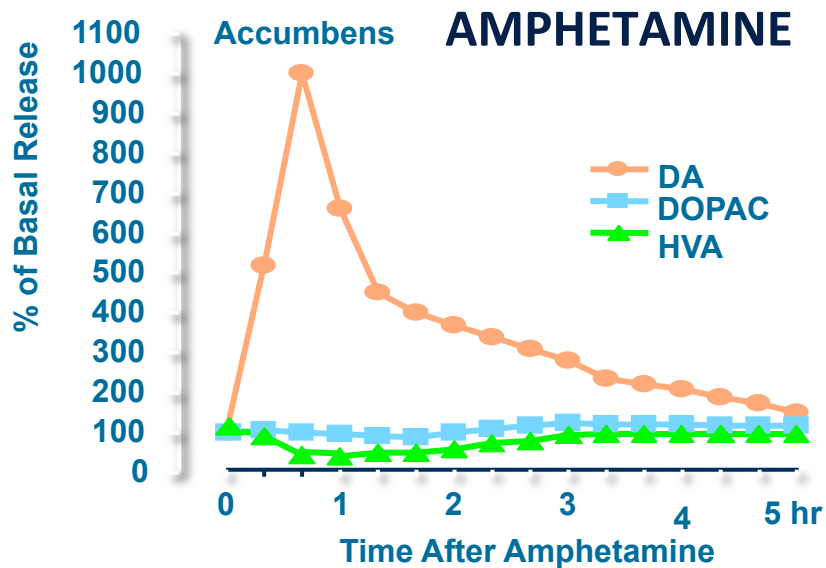


Source: Di Chiara et al.

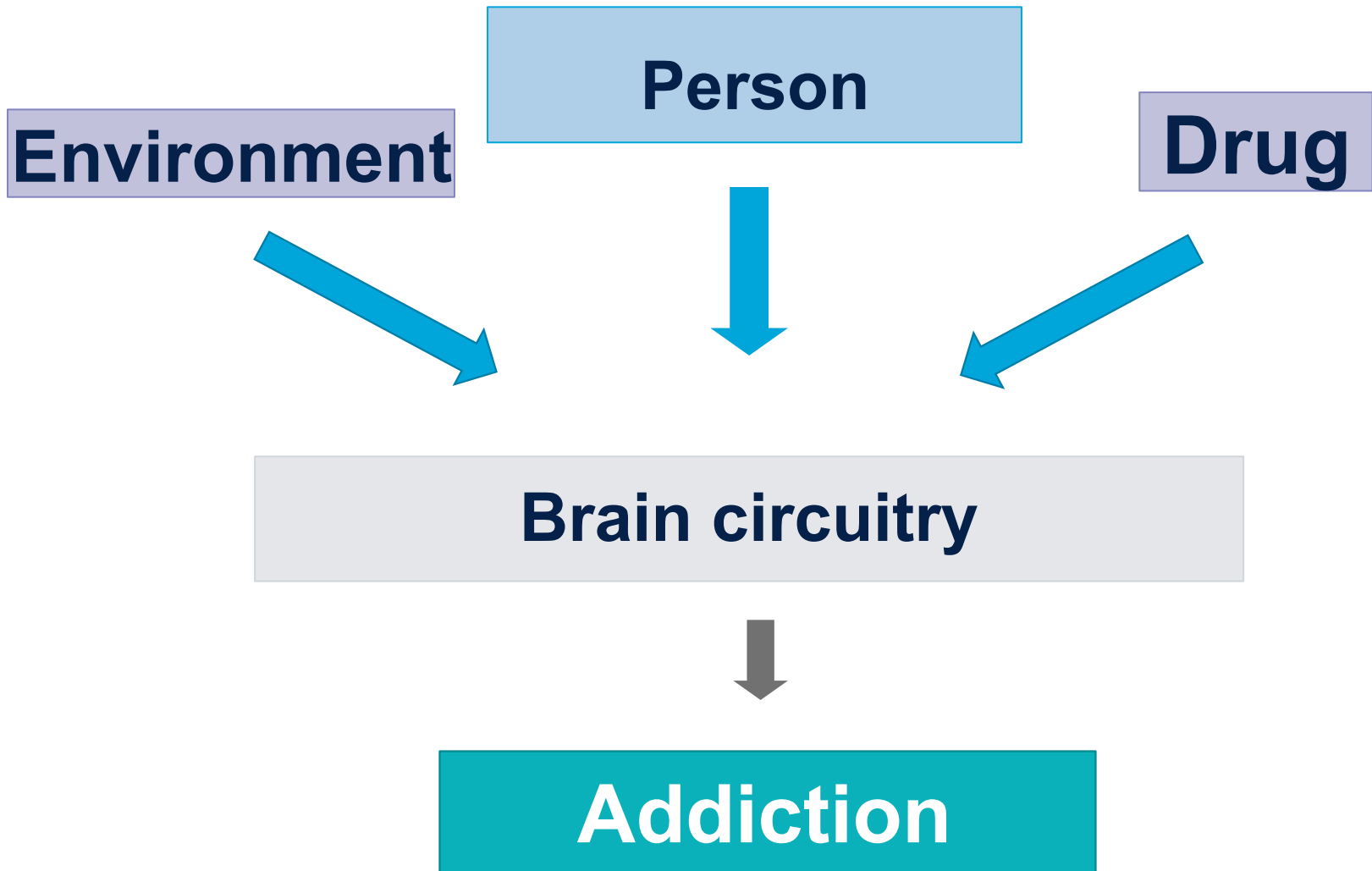


Source: Fiorino and Phillips

Effects of drugs on dopamine release



Source: Di Chiara and Imperato



Janice



Diagnosis

- DSM-5

- 4 Rs
 - Risk of bodily harm
 - Relationship trouble
 - Role failure
 - Repeated attempts to cut back
- 4 Cs
 - Loss of Control
 - Continued use despite harm
 - Compulsion (time & activities)
 - Craving
- Withdrawal and tolerance



Mild: 2-3 criteria

Moderate: 4-5

Severe: 6+

Language

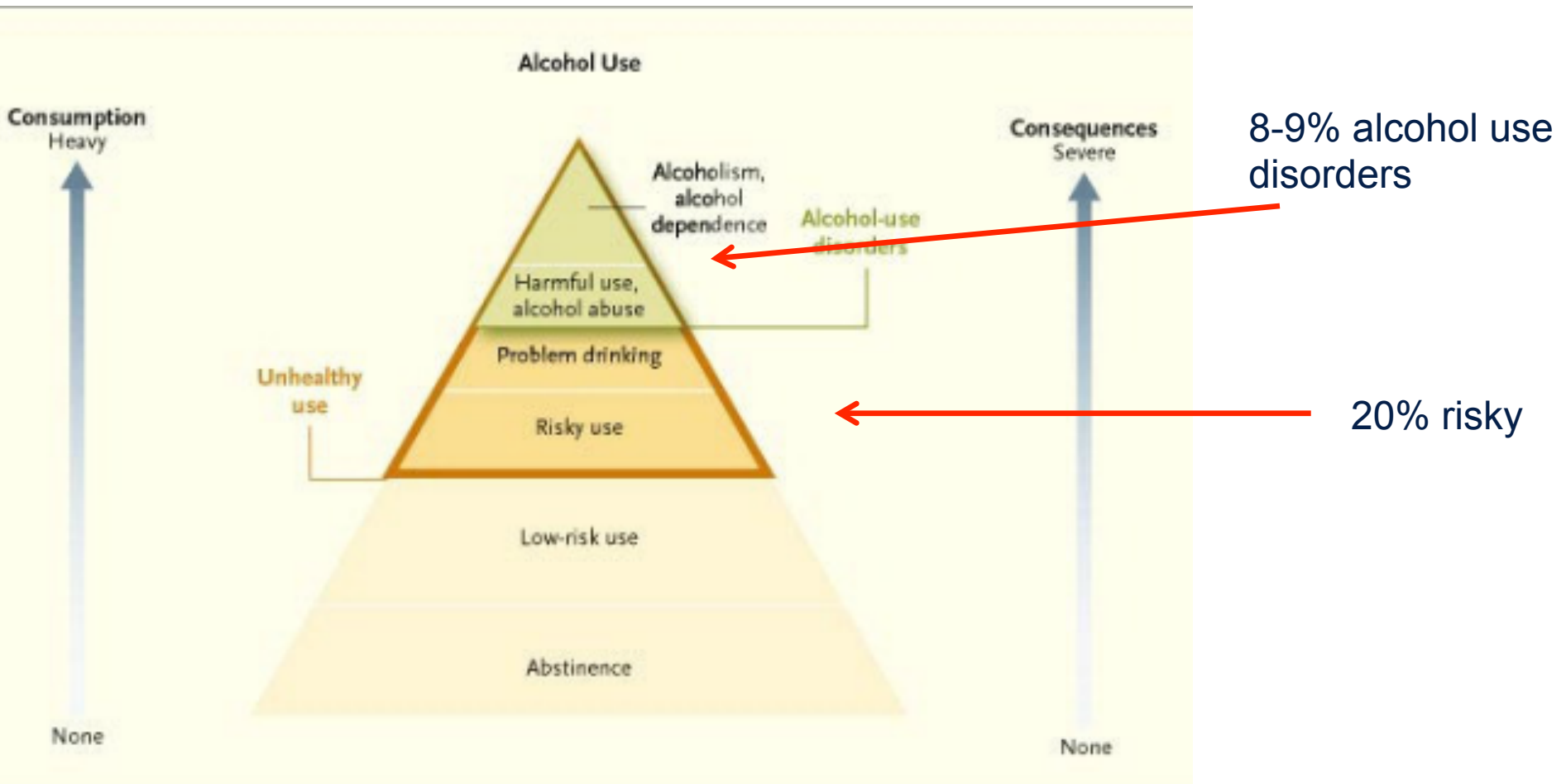
- Substance use disorder

- Substance Abuse
 - Substance Dependency
- 

How Well Do We Detect & Diagnose?

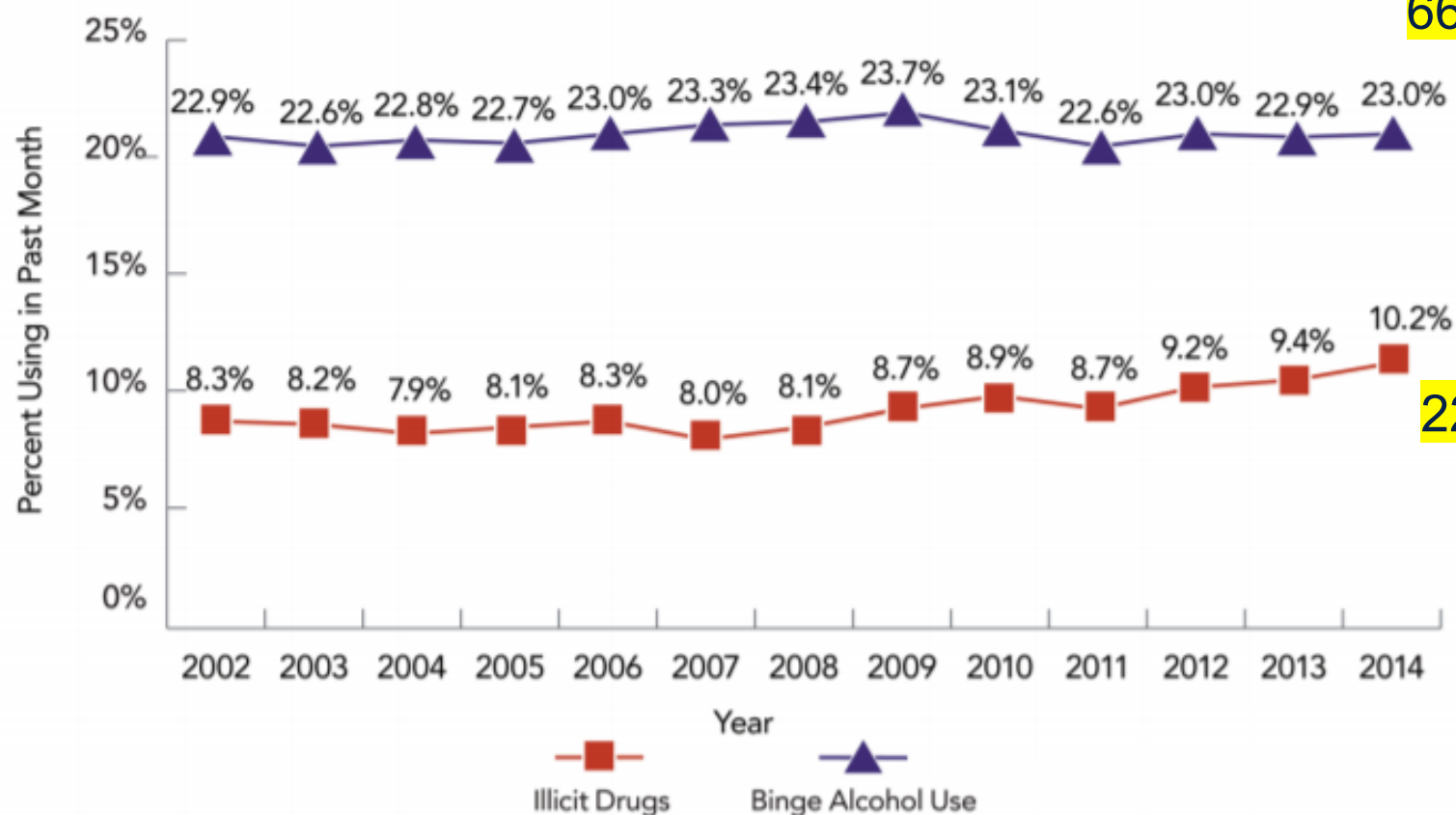
- In the hospital:
 - 64% detected of the time
- In the clinic:
 - <50% of patients screened
- Physicians are less likely to detect alcohol problems:
 - When screening tools are not used universally
 - In patients who they do not expect to have alcohol problems (women, white, higher SES)

How Common?



How Common Are Substance Use Disorders?

Figure 1.1: Past Month Rates of Substance Use Among People Aged 12 or Older: Percentages, 2002-2014, 2014 National Survey on Drug Use and Health (NSDUH)



How Do We Treat Our Patients?

- Stigma by MDs toward patients
 - 81% of providers will not offer HCV treatment to current PWID
 - Being cared for by a provider with negative attitudes toward PWID decreased the chance of being offered ARVs for HIV (13% v. 36%)
- Patient experience
 - 60% - felt treated unfairly
 - 46% - felt others are afraid of them
 - 45% - felt family gave up on them



Trainee Attitudes

Table 4.—Mean Attitude Scores by Category and Year of Training

	Mean Attitude Scores in 4 Areas			
	Character Weakness*	Prognosis*	Nature of Disease*	Treatability†
Third-year students (N = 63)	1.18	1.80	1.93	3.34
Fourth-year students (N = 103)	1.72	1.76	1.80	3.31
House staff (N = 126)	2.62	2.64	2.59	2.49
F statistic	65.23	132.99	68.88	58.8
P value	<<.01	<<.01	<<.01	<<.01

*Negatively worded items, so the higher the score the more negative the attitude.

†Positively worded items, so the higher the score the more positive the attitude.

HIGHER SCORE == MORE NEGATIVE ATTITUDE

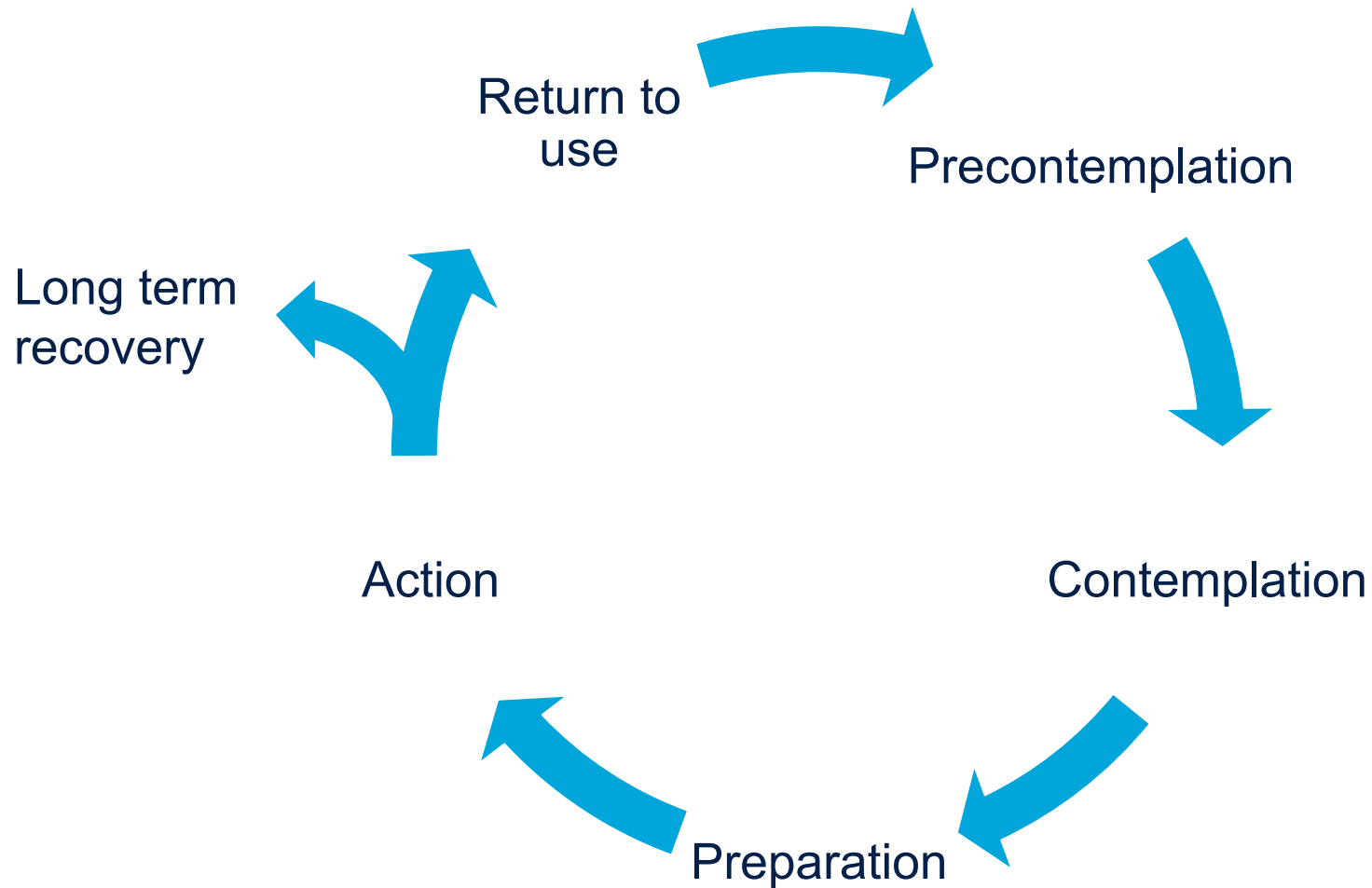
At some point, it became culturally acceptable to treat all conditions in a patient except addiction. It's a diagnosis still frequently and falsely regarded as untreatable — a convenient assumption driven by the stigma against people with this disease.

Janice



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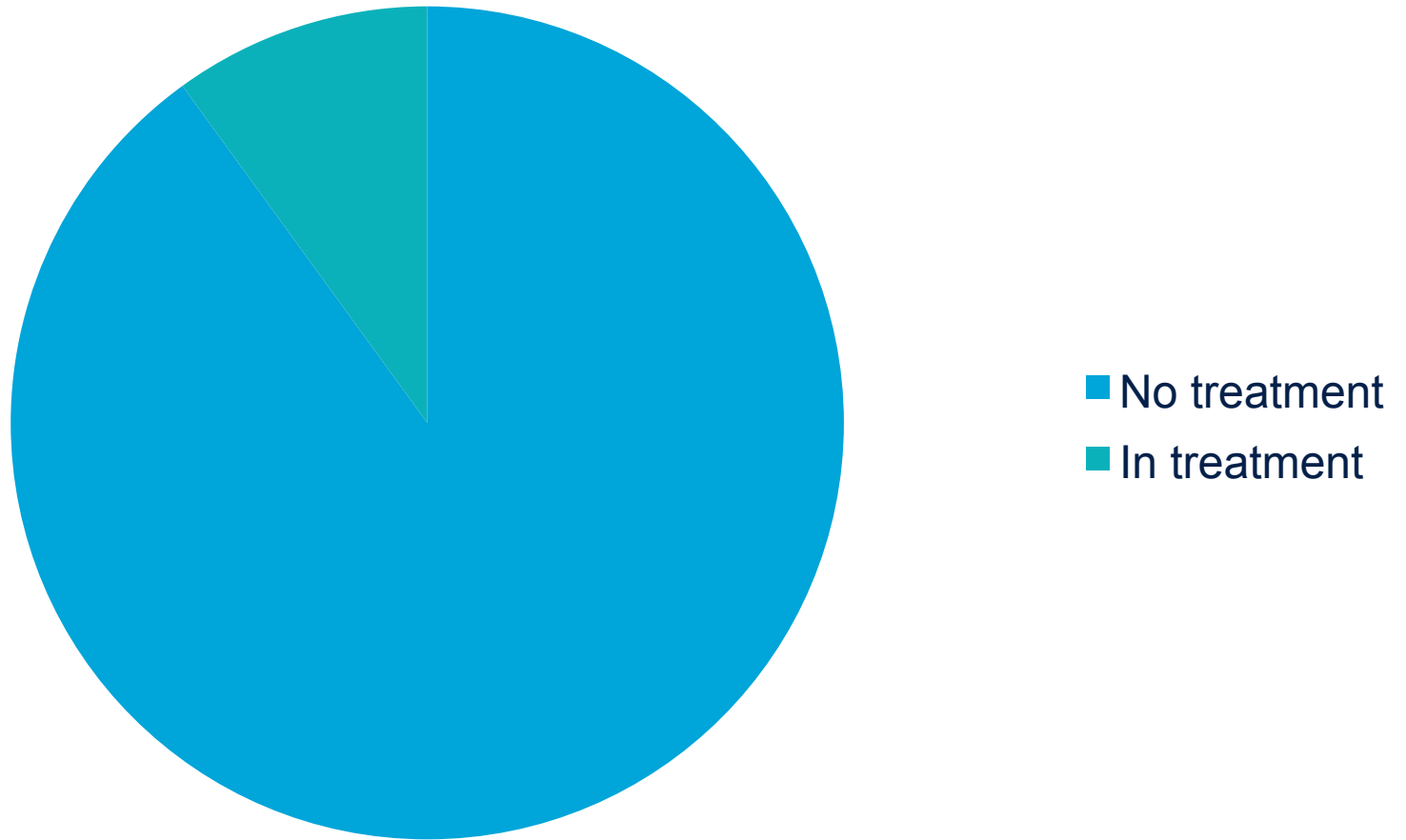
Janice

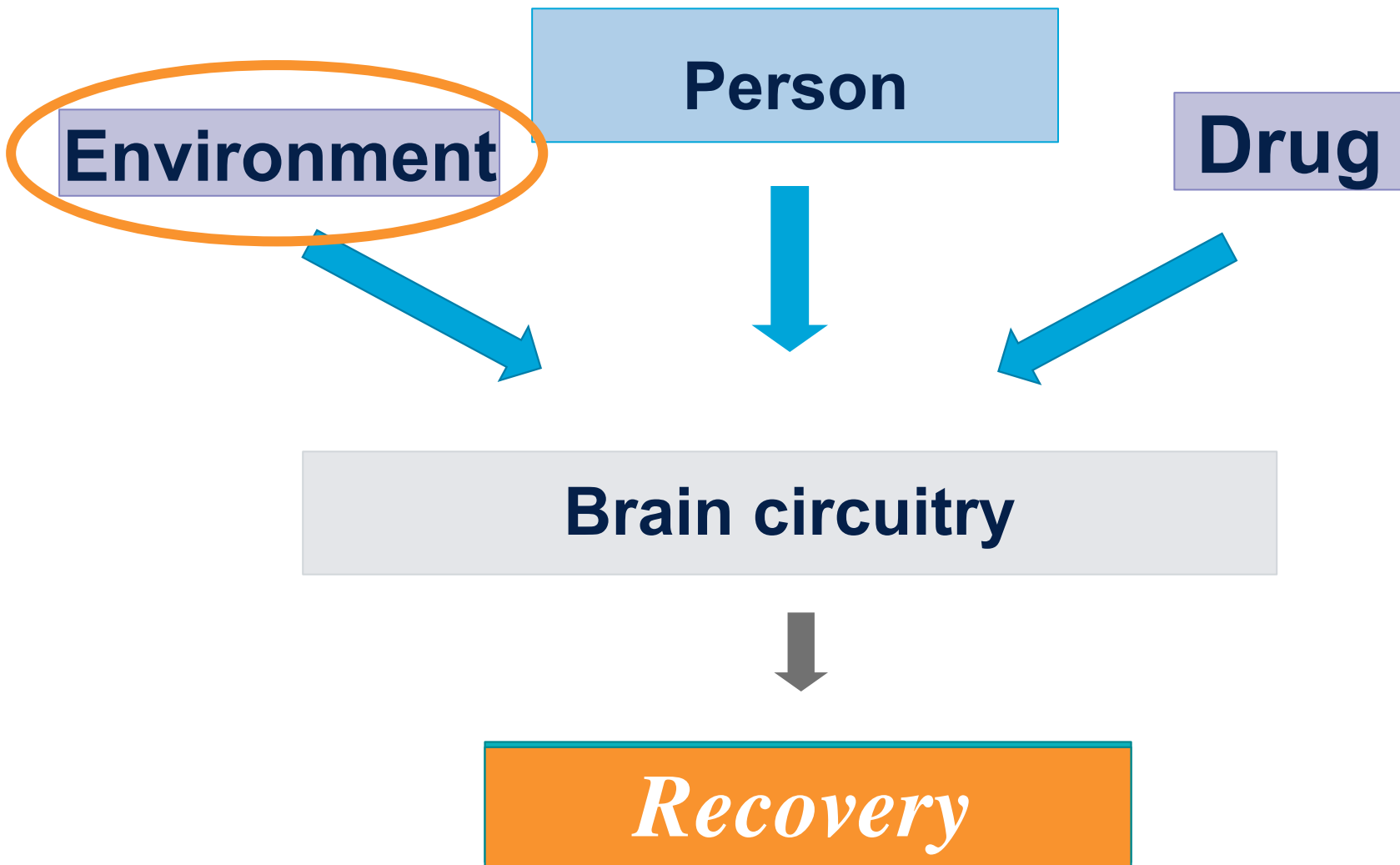


11/6/17

Treating addiction

People with substance use disorders in the US







Social support for recovery

- AA/12-step
 - www.aasf.org
 - <http://Y12sr.com/about>
- Self-Management and Recovery Training
 - www.smartrecovery.org
- Buddhist
 - www.refugerecovery.org
- Mindfulness-based relapse prevention
 - www.sfmindfulnessfoundation.org

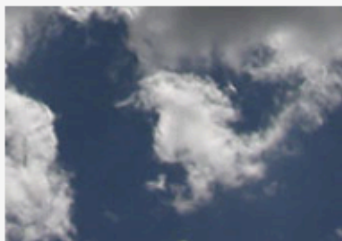


Intercounty Fellowship of Alcoholics Anonymous
serving San Francisco and Marin Counties

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AA Meetings



[San Francisco AA Meetings](#)

[Marin AA Meetings](#)

[Key for Meeting Codes \[pdf\]](#)

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[Trusted Servant Registration](#)

[Download SF Schedule \[pdf\]](#)

[Download Marin Schedule \[pdf\]](#)

PDA & Smartphones:
<http://www.aasf.org/m>

Comments? Suggestions?
[Email the Web Committee](#)

San Francisco Meeting Schedules

Next 20 San Francisco Meetings. May you find them now!

[Monday](#) | [Tuesday](#) | [Wednesday](#) | [Thursday](#) | [Friday](#) | [Saturday](#) | [Sunday](#)

Designation Zip Area
Day Time Meeting Name

[Map It!!](#) View a map of your selected meetings...

[Create PDF of Selected Meetings](#): Can be used with Acrobat Read Out Loud feature.

My Meetings: Check Meeting Names to select, then [\[View My Meetings: #0\]](#). [More Info...](#)

Found 3 meetings in SF.

Day	Time	Area	Meeting Name <input type="checkbox"/>	Location (Click for Map)	Details
Tue	10:00 PM	Marina	Frisco Rocks <input type="checkbox"/>	2118 Greenwich St at Fillmore St The Dry Dock	Daily, Speaker/Discussion
Tue	10:00 PM	Mission	Looney Toons <input type="checkbox"/>	2900 24th St at Florida St Mission Fellowship	Speaker/Discussion
Tue	11:59 PM	Inner Sunset	Any Midnight (on time) <input type="checkbox"/>	1320 7th Ave. at Irving Gratitude Center	Discussion, Wheelchair Access

www.smartrecovery.org



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SMART Recovery - Self Management for Addiction Recovery

"Discover the Power of Choice!"™

SMART Recovery is the leading self-empowering addiction recovery support group. Our participants learn tools for addiction recovery based on the latest scientific research and participate in a world-wide community which includes free, self-empowering, science-based mutual help groups.

The SMART Recovery 4-Point Program® helps people recover from all types of addiction and addictive behaviors, including: drug abuse, drug addiction, substance abuse, alcohol abuse, gambling addiction, cocaine addiction, prescription drug abuse, sexual addiction, and problem addiction to other substances and activities. SMART Recovery sponsors [face-to-face meetings around the world](#), and [daily online meetings](#). In addition, our [online message board](#) and 24/7 chat room are excellent forums to learn about SMART Recovery and obtain addiction recovery support. If you're new to SMART Recovery, [get started with our introduction here](#).

MAKE A DIFFERENCE:

DONATE

Help us provide science-based support for addiction recovery to those struggling with addiction – and to their families.

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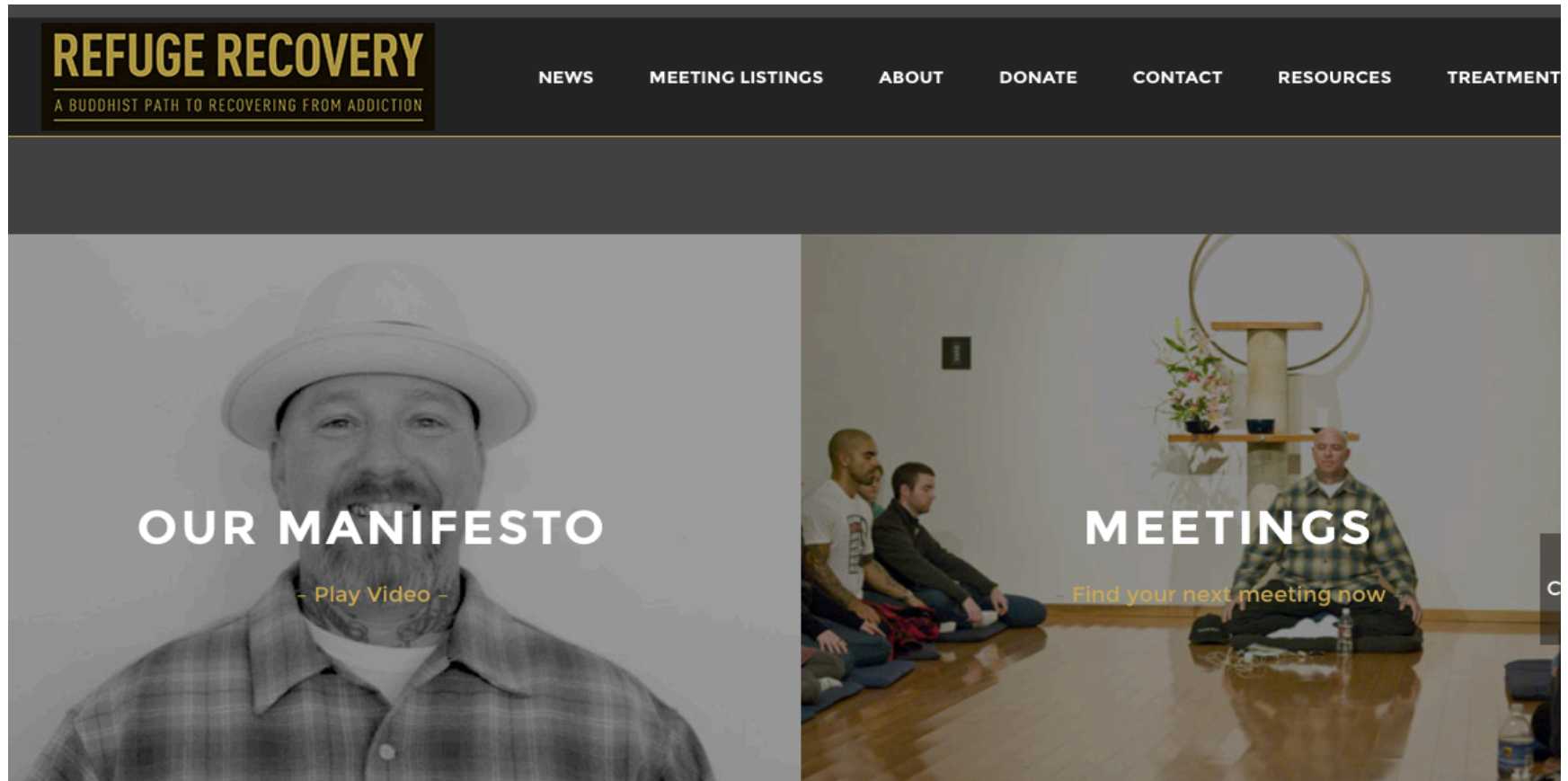
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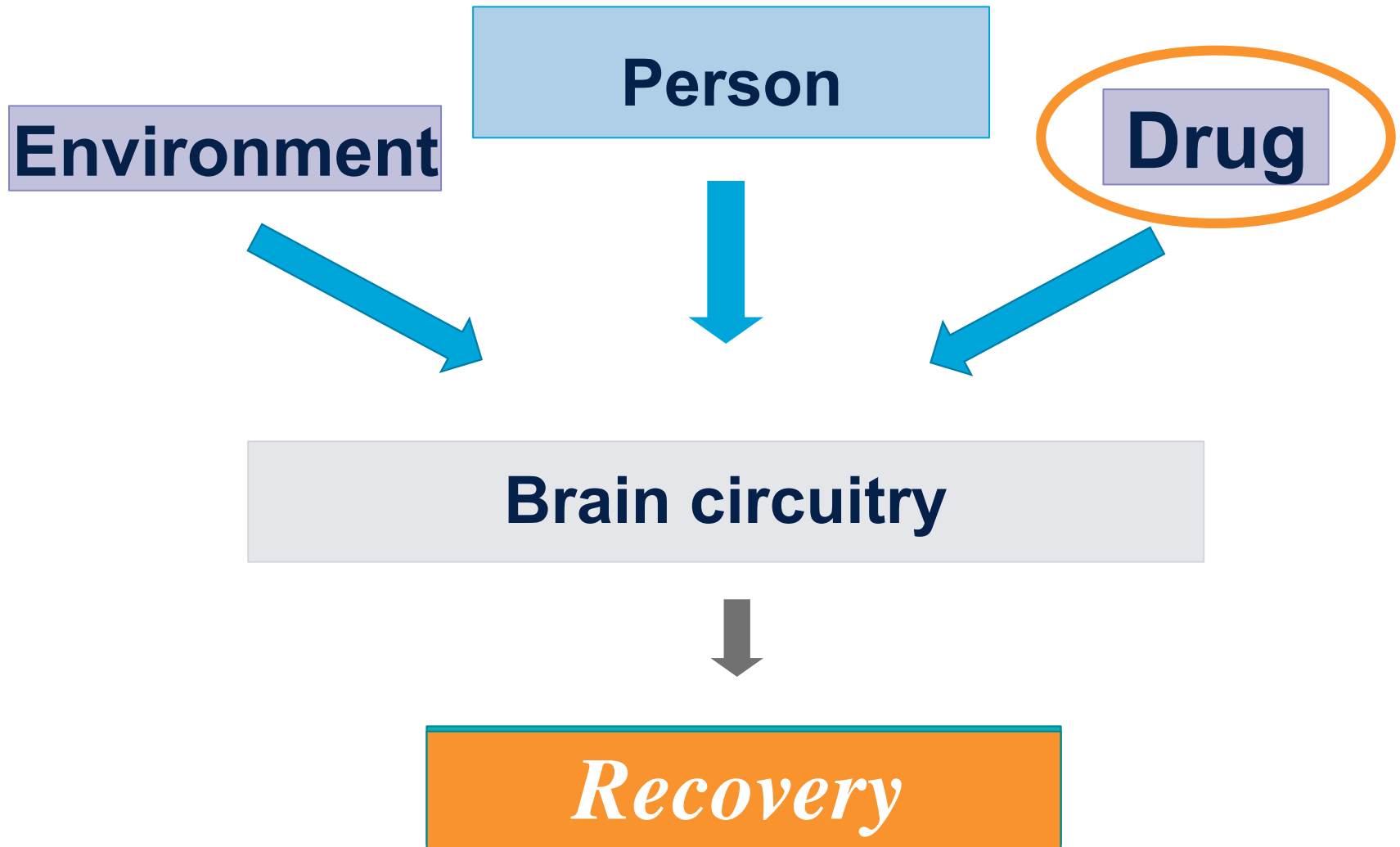
Quick Links

[Introduction to SMART Recovery](#)

[Family & Friends](#)

www.refugerecovery.org





Medication necessary to treat opioid use disorder

~~“Abstinence only”~~

Naltrexone

Methadone maintenance

Buprenorphine maintenance

Diacetylmorphine maintenance*

Hydromorphone maintenance*

*not yet legal in the US

Medications prevent return to drinking

Maintain abstinence

- Acamprosate
- ?naltrexone
- Gabapentin*
- Disulfiram**

Decrease binges

- Naltrexone
- Gabapentin*
- Topiramate*
- Baclofen*
- Ondansetron*
- Varenicline*

*not FDA-approved

**in highly structured environment only

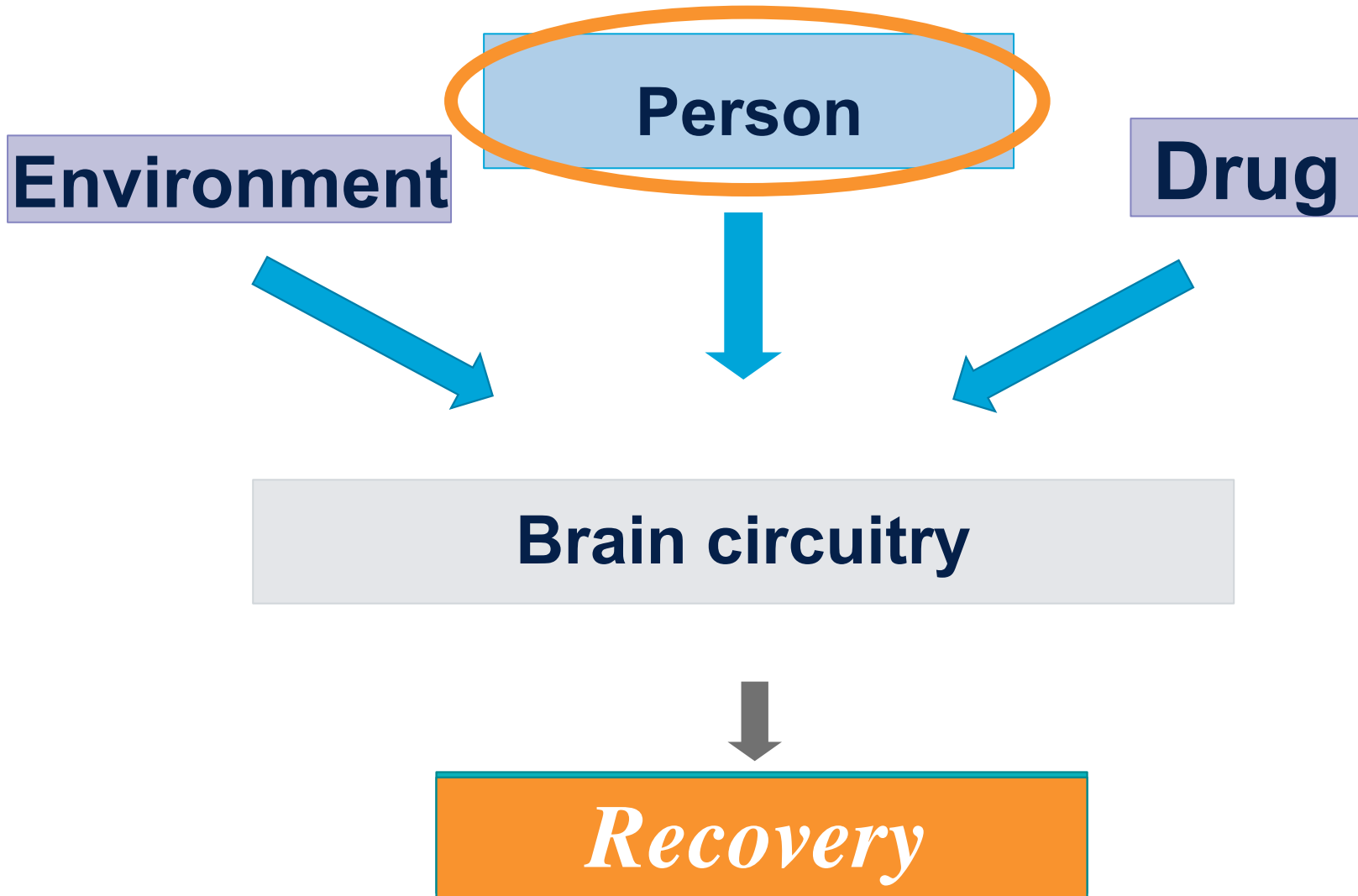
Medications improve tobacco quit rates

- Nicotine replacement therapy
 - Patches
 - Gum
 - Lozenges
 - inhaler
- Bupropion
- Varenicline

Medications less helpful for stimulant use disorder

...but we keep trying!

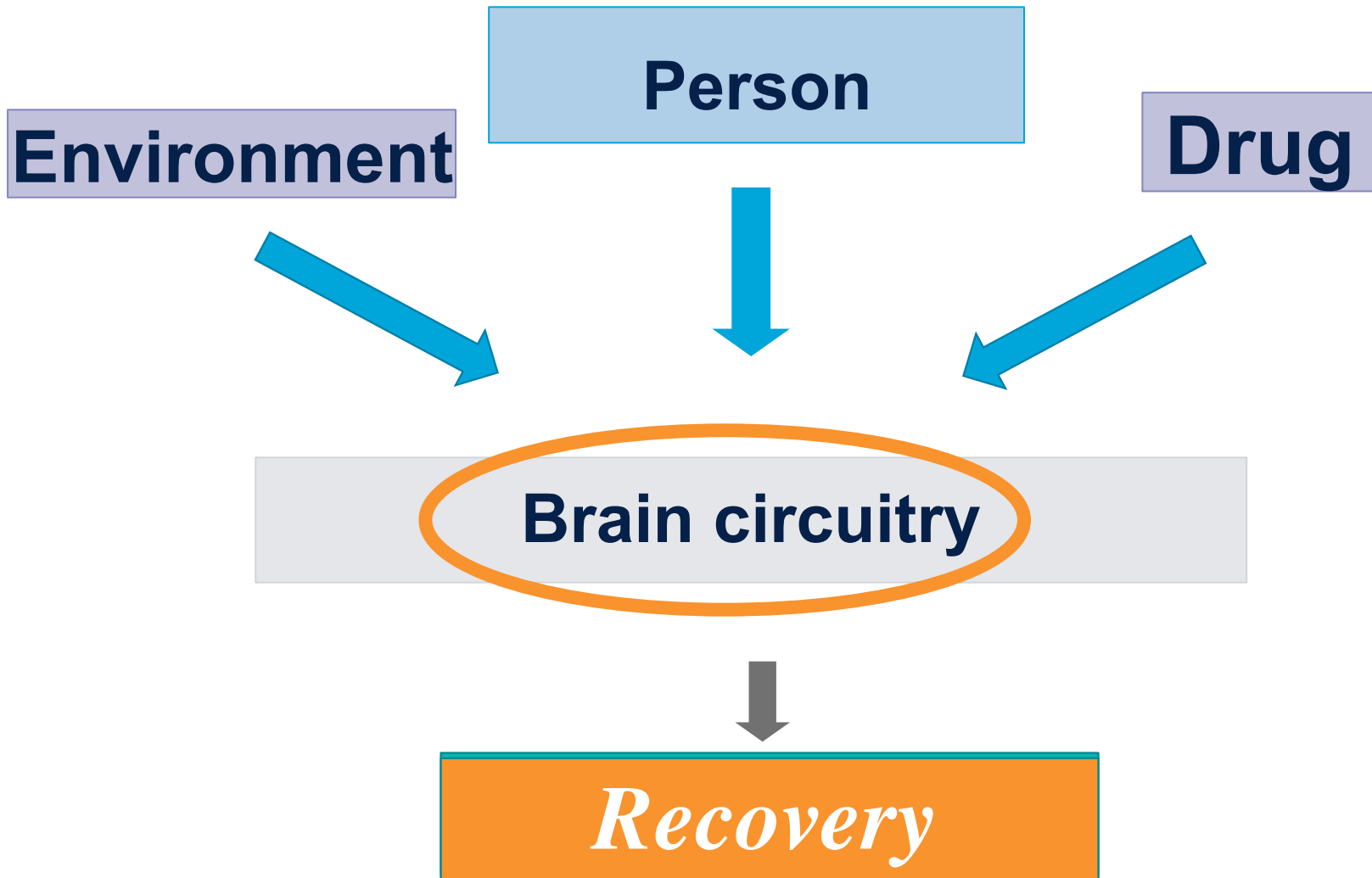
- Amphetamines (prescribed)
- Antidepressants
- Antiepileptic drugs
- Disulfiram
- Non-amphetamine stimulants
- Opioids (morphine, buprenorphine)
- Opioid antagonists (naltrexone)



No genetic therapy for addiction

Immunotherapy for prevention is a very active area of research





“Interventional Psychiatry” is a nascent field

...but treatments remain experimental




Behavioral approaches do improve

Effects are not always durable

- Contingency management can eliminate stimulant use
- Cognitive behavioral therapy can reduce drinking
 - In-person
 - App-based

www.sfmindfulnessfoundation.org/events




San Francisco Mindfulness Foundation

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Feeling Trapped in a cycle of addiction?

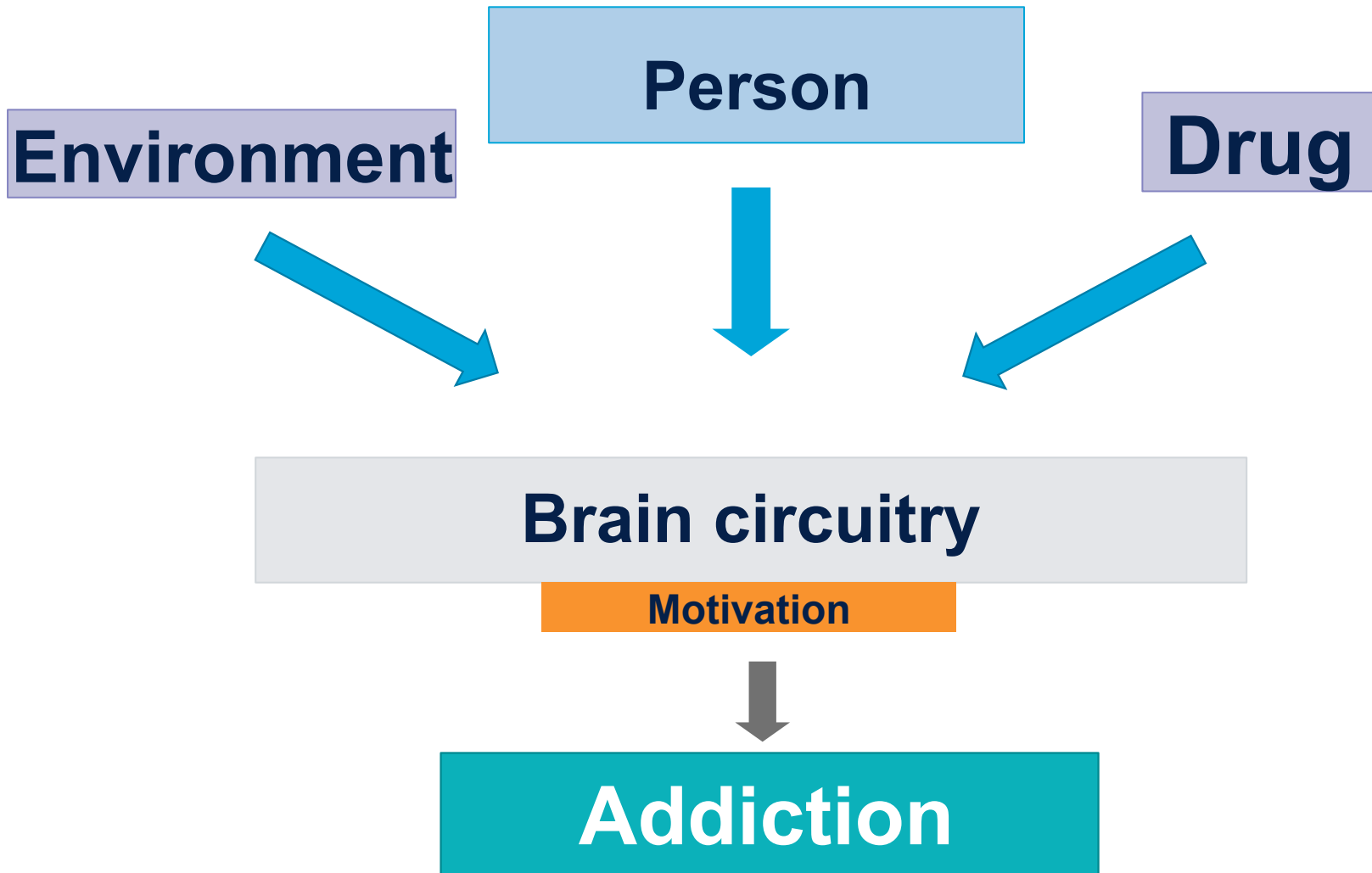


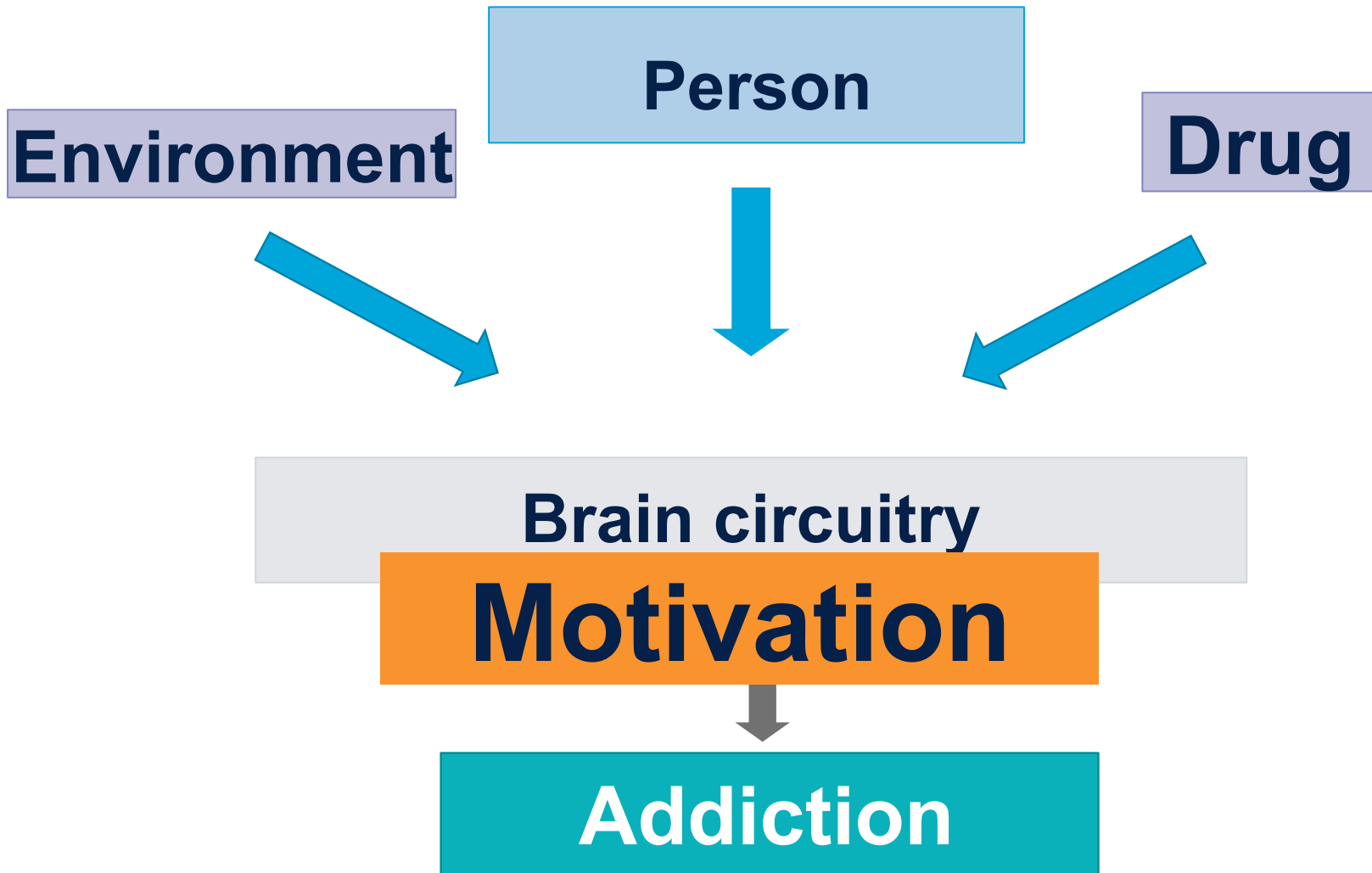
Mindfulness-Based Relapse Prevention
Enrolling Soon - Group Format
8-Week Course

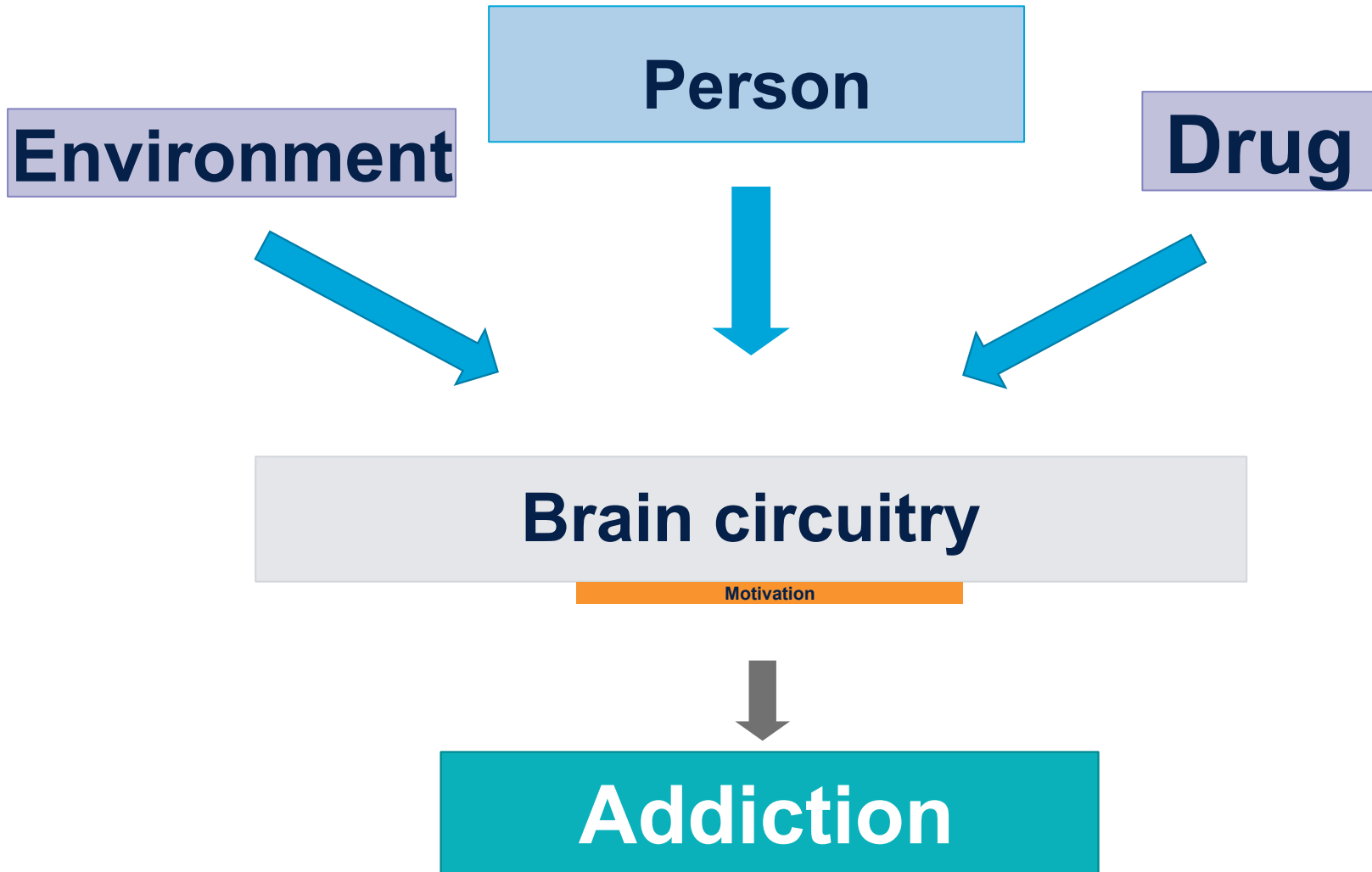
Next Course Start Date:
To Be Announced

What is MBRP?
Mindfulness-Based Relapse Prevention is a program designed to teach individuals suffering from addictions to use mindfulness practices to cultivate an increased awareness of triggers, habitual patterns, and "automatic" reactions that seem to control their lives.

.html







Harm reduction keeps people alive and healthy

- Wear a helmet when you ride a bike.
- Wearing a seatbelt when you get in a car.
- Taking a taxi when you drink.
- Smoking 3 cigarettes a day instead of a pack.
- college sororities having a “sober sister” accompany her friends to the bar to prevent unwanted sexual contact.
- Syringe exchange programs reduce Hep C and HIV
- Naloxone distribution reduce death from opioid OD

Harm reduction saves lives



Harm reduction also saves money!

Original Contribution

FREE

April 1, 2009

Health Care and Public Service Use and Costs Before and After Provision of Housing for Chronically Homeless Persons With Severe Alcohol Problems

Mary E. Larimer, PhD; Daniel K. Malone, MPH; Michelle D. Garner, MSW, PhD; [et al](#)

» [Author Affiliations](#) | [Article Information](#)

JAMA. 2009;301(13):1349-1357. doi:10.1001/jama.2009.414

- Before: median costs of \$4066 per person per month
- 6 months after housing: \$1492 per month
- 1 year after housing: \$958 per month

Janice



Environment

Drug



The Personal is Political

- Reduce stigma
 - Person-first language
- Talk to affected loved ones about what you see, offer hope (treatment is effective)
- Support harm reduction in your neighborhood, city, state, and nation
- Prevent the repeal of critical healthcare coverage for these disorders

Bill to allow safe injection sites for drug users fails in California Senate



Trending Articles

Tenants find stability under Eviction Protections 2.0

'Neighborway' at Golden Gate Park entrance to reduce nearby car traffic by half

12-cent California gas tax increase takes effect

The SFMTA makes me want to smoke crack

Rec and Park's bait-and-switch at McLaren Park



SF EXAMINER DECISION MAKER

Do you support the impeachment of U.S. President Donald Trump?

SAN FRANCISCO

SAFE INJECTION SERVICES TASK FORCE



2017

FINAL REPORT

<https://www.sfdph.org/dph/files/SISTaskforce/SIS-Task-Force-Final-Report-10-20-17.pdf>