

Substance Use Disorders Phenomenology and Treatment

Epidemiology

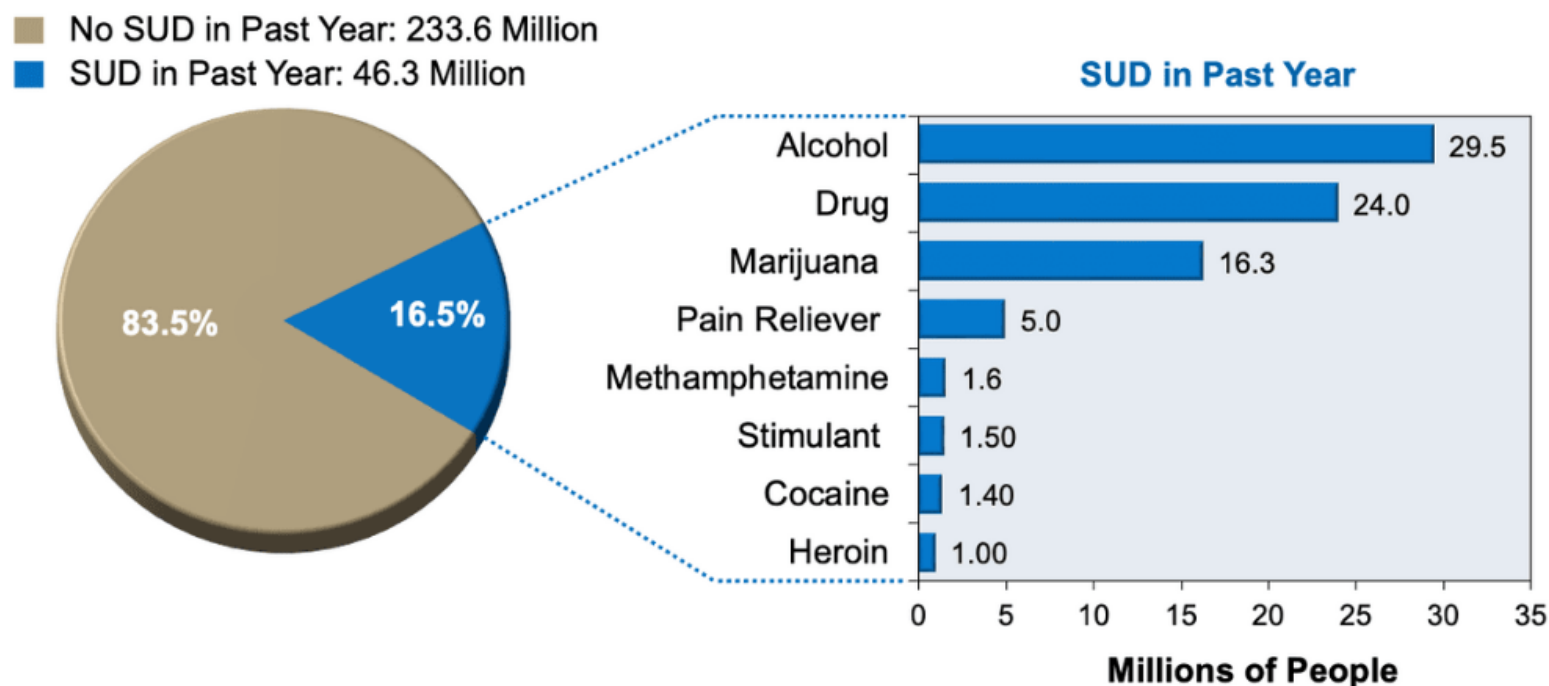


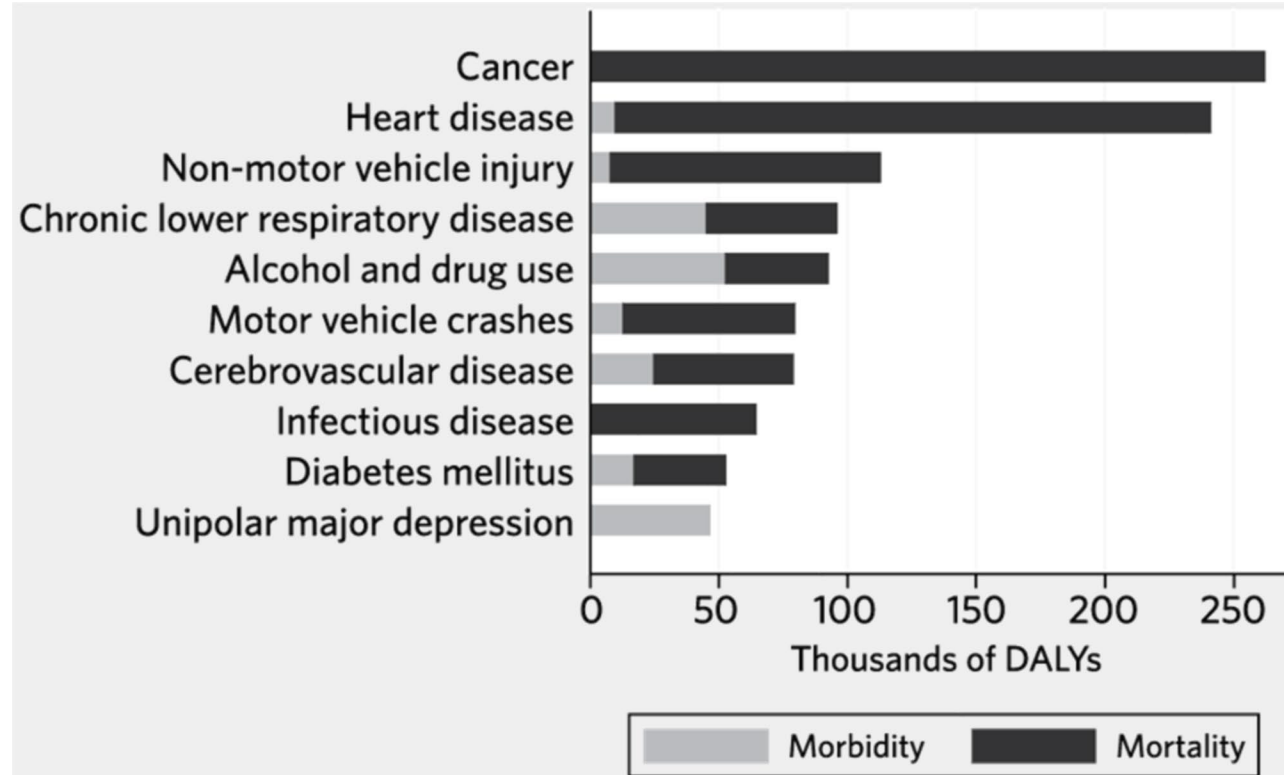
Figure 1 - Number of Persons Age 12 and Older with a Past Year Substance Disorder, United States, 2021

Abbreviations: SUD = substance use disorder; Rx denotes medical prescription

Note: SUD refers to dependence or abuse in the past year related to the use of alcohol or illicit drugs in that same period.

Source: Substance Abuse and Mental Health Services Administration. (2022). Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. December 2022.

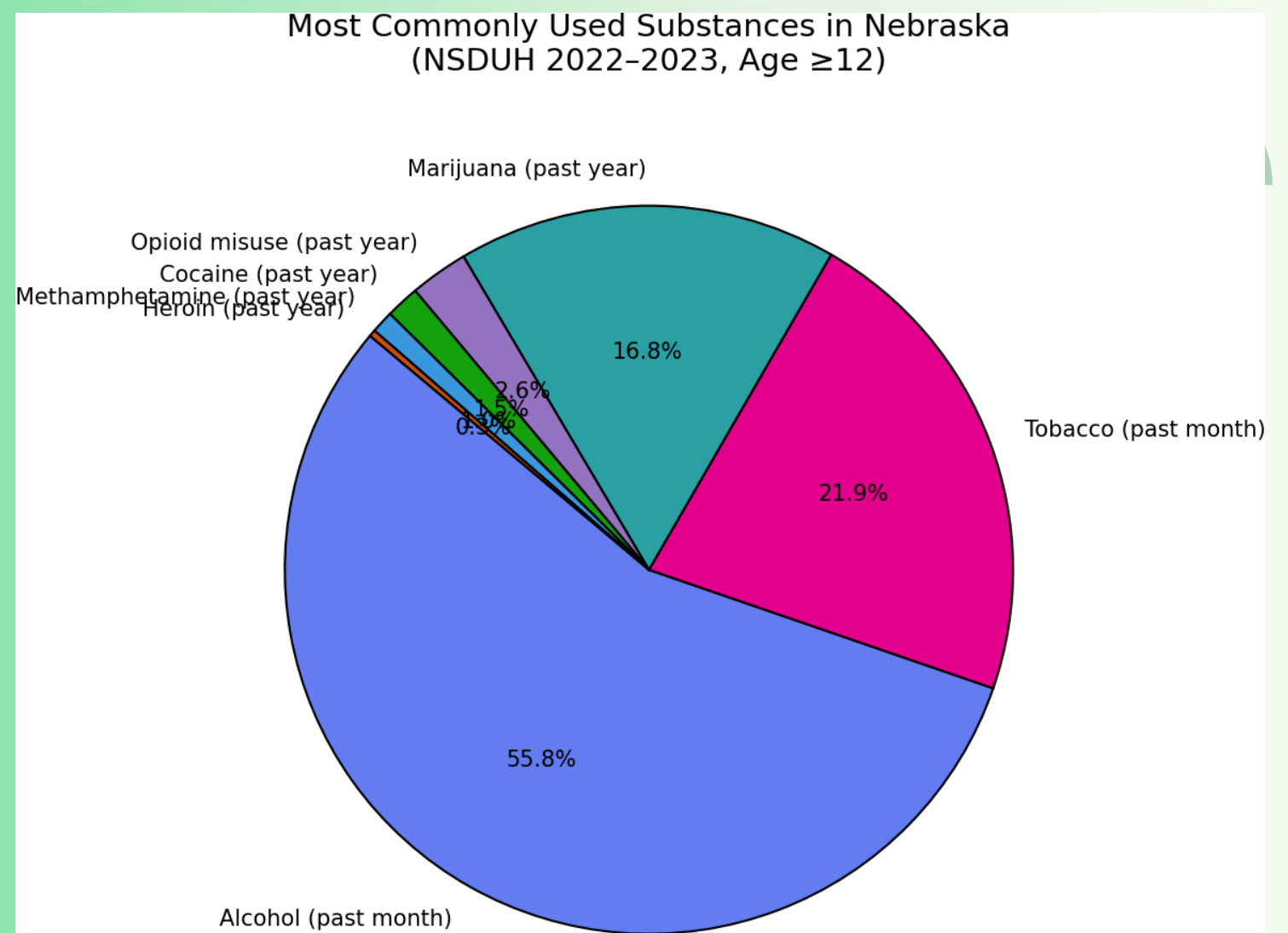
Substance Use Disorders and Disability



Source: North Carolina Institute of Medicine. Internal analysis of North Carolina Vital Statistics (2005 mortality file); Michaud CM, McKenna MT, Begg S, et al. The burden of disease and injury in the United States 1996. *Popul Health Metr.* 2006;4:11; and NCIOM literature review of underlying causes of death and disability for each leading cause.

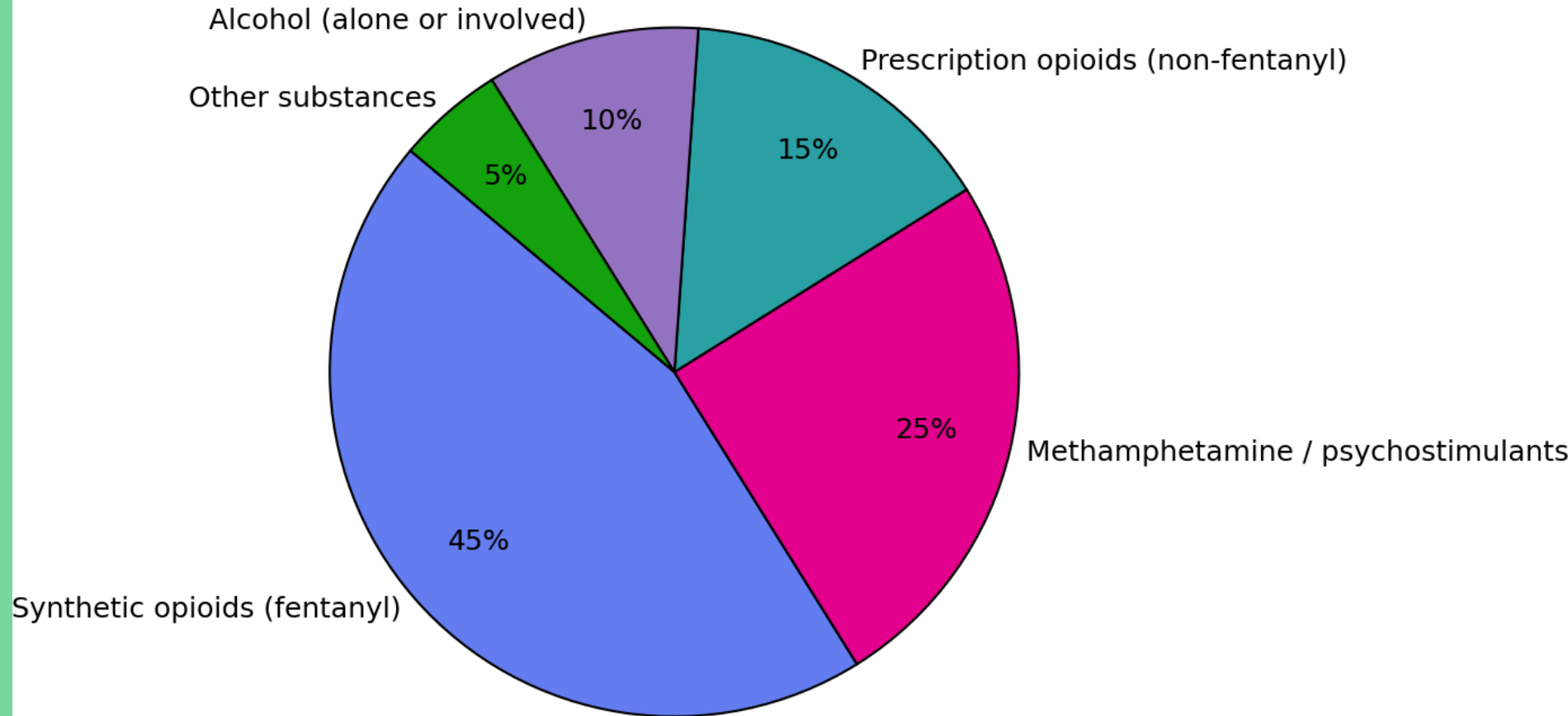
Notes: Infectious disease includes pneumonia and influenza. Non-motor vehicle injury includes unintentional and intentional injuries.

Nebraska



Nebraska

Overdose Deaths in Nebraska by Substance Category (Approximate Distribution)



Source: Nebraska DHHS & CDC SUDORS overdose surveillance data (2021-2023)
Percentages rounded for teaching purposes

Diagnosis



A. Substance Use Disorders Criteria:

There are 11 symptoms for each substance class (except for caffeine) that are used to make a substance use disorder diagnosis.

The diagnosis is made along a continuum—mild, moderate, or severe—based on the number and severity of the symptoms.

Specify current severity based on the following guidelines:

Mild: Presence of 2 or 3 symptoms

Moderate: Presence of 4 or 5 symptoms

Severe: Presence of 6 or more symptoms

Symptoms include:

1. Substance is taken in larger amounts or over longer periods than was intended.
2. There is a persistent desire or unsuccessful effort to cut down or control substance use.
3. A great deal of time is spent in activities necessary to obtain substance, use substance, or recover from its effects.
4. Craving, or a strong desire or urge to use substance.
5. Recurrent use of the substance is resulting in a failure to fulfill major role obligations at work, home, or school.

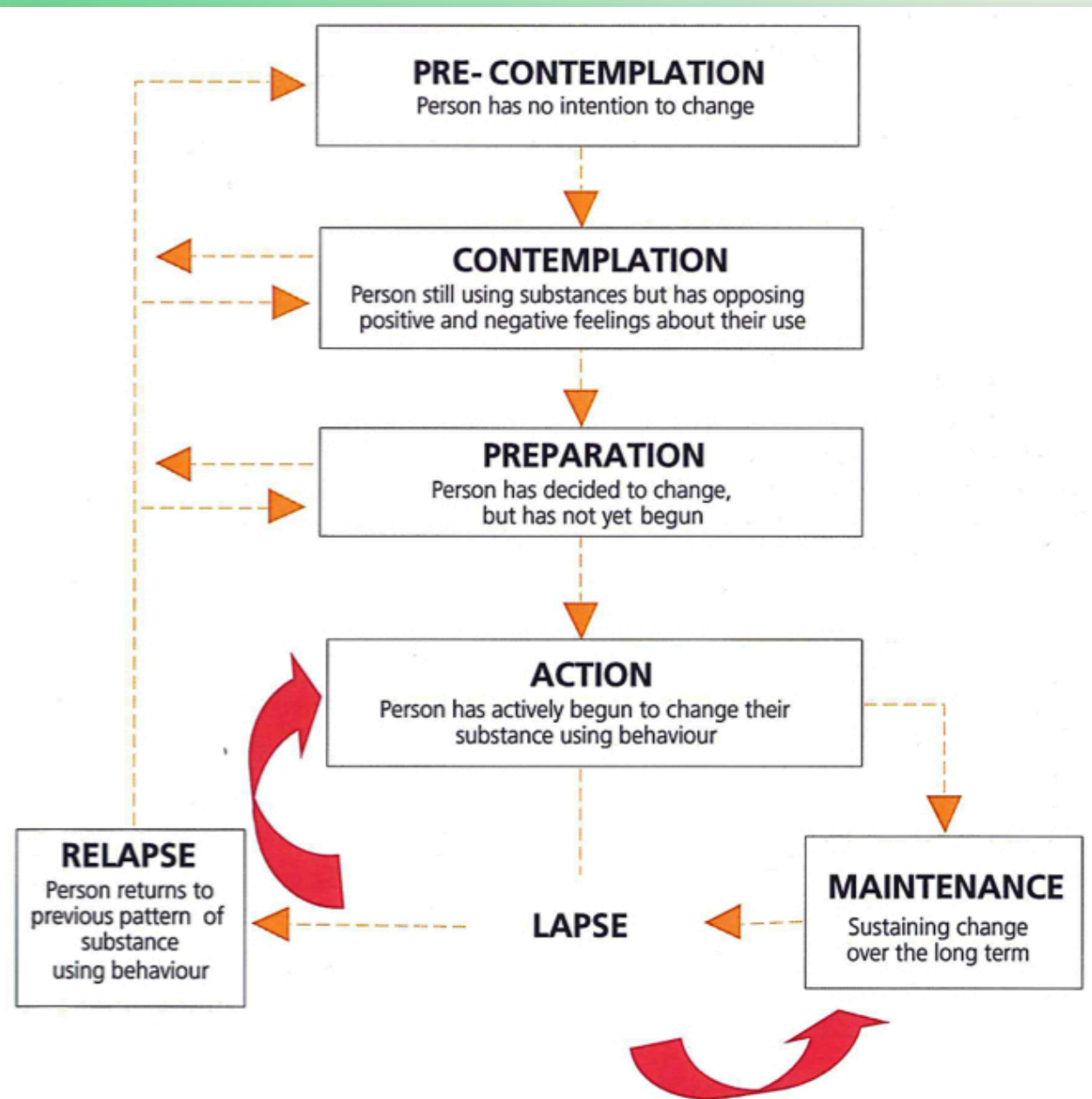
Diagnosis



6. Continued use of substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.
7. Important social, occupational, or recreational activities are given up or reduced because of substance use.
8. Recurrent substance use in situations in which it is physically hazardous.
9. Substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
 - A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
 - A markedly diminished effect with continued use of the same amount of the substance.
11. Withdrawal, as manifested by either of the following:
 - The characteristic withdrawal syndrome for that substance (see additional criteria in DSM-5).
 - The substance is taken to relieve or avoid withdrawal symptoms.

Key Places on the Decision Tree

- Are we treating SUD or are we dealing with SUD while treating other things?
- What is the potential for withdrawal?
- How are they otherwise medically?
- How are their supports?
- Where is the patient in terms of their understanding of the disorder and their desire to change?



Alcohol



Intoxication	Withdrawal
Slurred speech	Tremors (“shakes”)
Poor coordination / unsteady gait	Anxiety, nervousness, irritability, agitation
Impaired judgment / Slowed reaction time	Sweating and/or fever
Reduced inhibition / risk-taking behavior	Nausea and vomiting
Drowsiness, sedation, confusion	Headache, Sensitivity to light or sound
Flushed skin	Insomnia or disturbed sleep
Nausea or vomiting	Rapid heart rate (tachycardia), elevated BP
Memory impairment / blackouts	Hallucinations (visual, auditory, or tactile)
Blurred or double vision, nystagmus	Seizures or Delirium tremens (severe)
Hypoglycemia (especially in diabetics)	
Respiratory depression (severe cases)	
Loss of consciousness or coma (severe cases)	

Cannabis



Intoxication	Withdrawal
Euphoria or feeling “high”	Irritability or anger
Relaxation	Anxiety or nervousness
Altered perception of time	Restlessness
Impaired attention and concentration	Insomnia
Short-term memory impairment	Vivid or unpleasant dreams
Poor coordination / slowed reaction time	Decreased appetite
Increased appetite (“munchies”)	Weight loss
Dry mouth	Headache
Red, bloodshot eyes	Sweating
Tachycardia	Depressed mood
Anxiety or panic	Cravings for cannabis

Opioids



Intoxication	Withdrawal
Euphoria	Dysphoria (low or irritable mood)
Analgesia (pain relief)	Muscle aches
Sedation or drowsiness	Restlessness
Constricted pupils (miosis)	Dilated pupils (mydriasis)
Slowed reaction time	Anxiety
Impaired attention or judgment	Insomnia
Slurred speech	Yawning and rhinorrhea
Nausea or vomiting	Nausea or vomiting
Constipation	Diarrhea
Itching (pruritus)	Abdominal cramping
Respiratory depression	Tachycardia

Stimulants (Cocaine; Methamphetamine)



Intoxication	Withdrawal
Euphoria	Dysphoria or depressed mood or suicidality
Increased energy	Fatigue
Increased alertness	Psychomotor slowing
Decreased appetite	Increased appetite
Insomnia	Hypersomnia
Talkativeness	Social withdrawal
Anxiety or agitation	Anxiety
Paranoia	Irritability
Psychosis (hallucinations or delusions)	Vivid, unpleasant dreams
Tachycardia and hypertension	Bradycardia or fatigue-related low energy
Dilated pupils (mydriasis)	Cravings for stimulants
Hyperthermia	

Hallucinogens



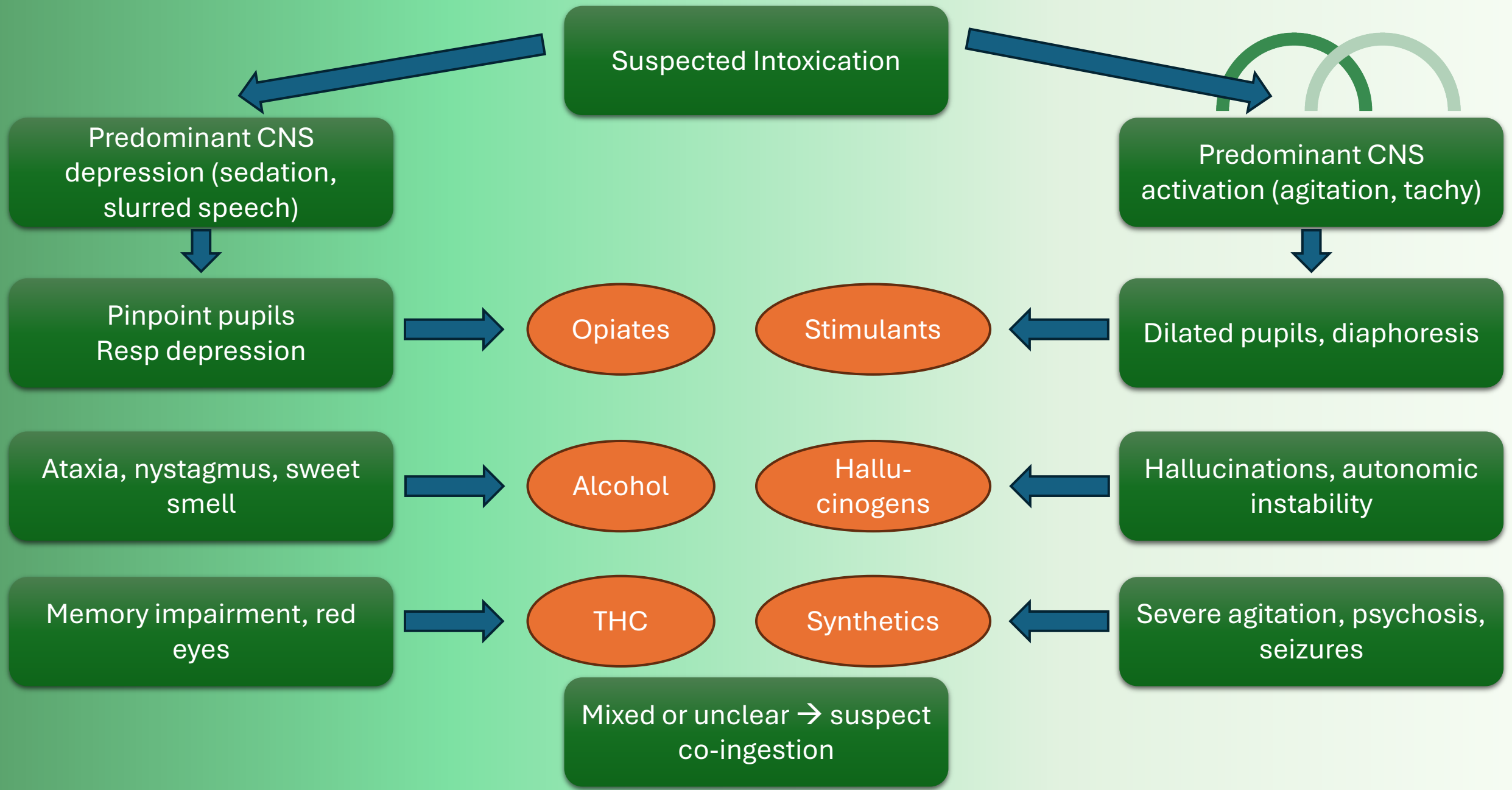
Intoxication	Withdrawal
Altered perception (visual or auditory)	Fatigue and insomnia
Visual hallucinations	Depressed mood
Distorted sense of time	Anxiety and irritability
Euphoria	Poor concentration
Anxiety or panic	Anhedonia
Paranoia	Headache
Synesthesia (blending of senses)	Decreased appetite
Impaired judgment	Cravings (psychological)
Pupillary dilation (mydriasis)	Flashbacks (HPPD*)
Tachycardia and hypertension	Depersonalization or derealization
Nausea	Generally no severe physical withdrawal
Psychosis (especially PCP or high doses)	

Synthetic cannabinoids

- Synthetic cannabinoids are far more potent and unpredictable than natural cannabis
- Intoxication commonly causes severe psychiatric and neurologic symptoms, including seizures and psychosis
- Withdrawal does occur, unlike classic cannabis, and can resemble sedative-hypnotic or stimulant withdrawal
- Management is primarily supportive, often requiring benzodiazepines and close monitoring

Kratum

- What: Herbal product (*Mitragyna speciosa*)
- MOA: Partial μ -opioid agonist (+ adrenergic/serotonergic)
- Unique features: Low dose = stimulant, high dose = opioid-like
- Intoxication: Euphoria, analgesia, sedation, N/V, tachycardia
- Withdrawal: Mild opioid-like $\rightarrow$ dysphoria, insomnia, aches, diarrhea
- Key Pearls:
 - Not on routine UDS and Minimal respiratory depression alone but increased risk with opioids, benzos, alcohol
 - Opioid-like symptoms + negative UDS $\pm$ stimulant features $\rightarrow$ think KRATOM



Medications: Acamprosate

- Class: Glutamate Multi-Modal
- Dosing (Adult):
 - Starting and maintenance dose of 666mg three times daily
 - In patients with creatinine clearance between 30 and 50, use 333mg three times daily
 - Do not use in patients with creatinine clearance less than 30 mL/min
- Side Effects (common): diarrhea (transient), weakness, anxiety, insomnia, depression, peripheral edema
- Side Effects (rare): suicidality, cases of renal failure reported
- Monitor: creatinine clearance and adjust or stop medication per dosing guidelines

Medications: Naltrexone

- Class: mu-Opioid Receptor Antagonist
- Dosing (Adult):
 - Start 50 mg daily and increase to maximum 100 mg daily in minimum one week if tolerable and clinically indicated.
 - IM: Start and maintain dose of 380 mg IM every 4 weeks. Inject gluteally and alternate sides month to month
- Side Effects (common): headache, nausea, vomiting, somnolence, anorexia, injection site reactions (IM formulations only)
- Side Effects (rare): hepatocellular injury, eosinophilic pneumonia, serious injection site reactions (IM formulations only)
- Monitor: Check LFTs prior to administration; contraindicated with acute elevations in LFTs (3x upper limit of normal); Black box warning for hepatocellular injury

Medications: Disulfiram

- Class: Aldehyde Dehydrogenase Inhibitor
- Dosing (Adult):
 - Patient must be abstinent from alcohol for a minimum of 12 hours prior to starting
 - Start 250-500 mg/day
 - Maintenance is between 250 mg or 500 mg daily
- Side Effects (common): skin eruptions, sedation, metallic taste, flushing, headache, tachycardia
- Side Effects (rare): hepatic toxicity, MI, CHF, respiratory depression
- Monitor: Inform patient to avoid using medications containing alcohol or foods containing ethanol. Use only in highly motivated patients with strong support/ psychotherapeutic treatment.

Excellent opportunity to try...



<https://wacoguide.org/all-tools>