Best Practices in Alcohol Use Disorder and Alcohol Withdrawal

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Disclosures

- The speaker has received honorarium for presentations on buprenorphine products through Indivior Pharmaceutical and Master Clinician Alliance.
- The speaker has been on an advisory board to Indivior Pharmaceutical on the topic of opioid use disorder.
- The speaker is an employee of Women's College Hospital and Nurse Educator for META:PHI, whose products will be discussed in this presentation.
- The speaker is a faculty of the University if Toronto, Bloomberg School of Nursing, for the course Mental Health and Addictions for Nurse Practitioners

- The speaker will work to highlight off-label discussion of treatments, and include brand and generic medication names throughout the presentation

Learning objectives

By the end of this session, the learner will be able to:

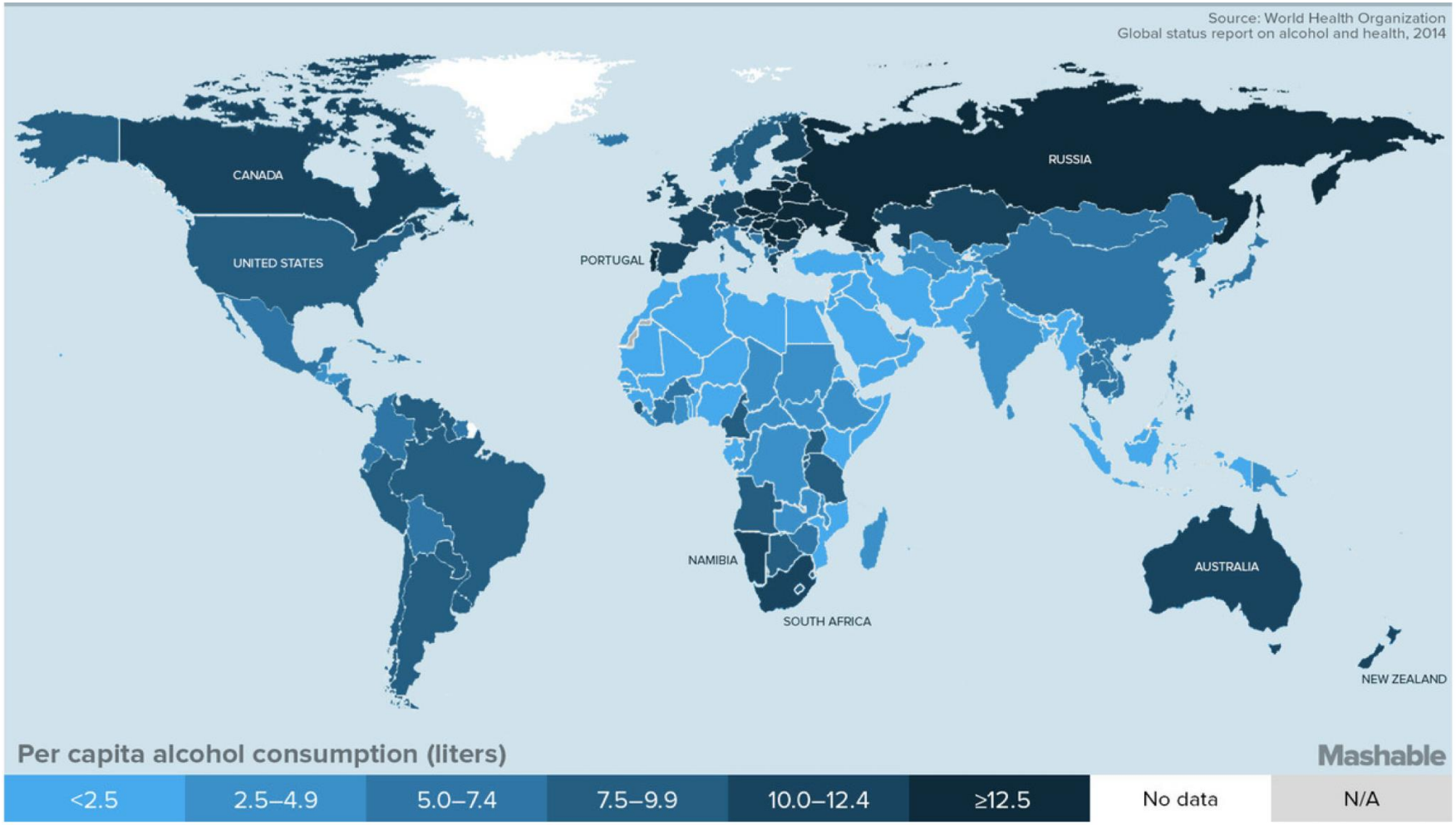
- Utilize brief negotiated interviews to determine patient goals and implement harm reduction principles.
- Recognize patients at risk for complications of alcohol withdrawal and implement preventative care plans.
- Determine the appropriate care setting and treatment for individual presentations of alcohol withdrawal.
- Understand the profiles of various anti-craving medications and make patient-specific recommendations.

Agenda

- Why care about AUD?
- Case studies, with a focus on:
  - Brief negotiated interviews
  - Harm reduction
  - Anti-craving medications
  - Alcohol withdrawal complications
  - Appropriate setting selection
  - Alcohol withdrawal management

The Burden of Alcohol

Global Alcohol Consumption



18% of Canadians will meet the criteria for AUD in their lifetime

50% drink more than the 2023 recommended guides

The top 10% of consumers in North American consume an average of 74 drinks/week

https://www.cpha.ca/sites/default/files/uploads/policy/positionstatements/2022-06-alcohol-consumption-in-canada-e.pdf
Cook, P.J. (2007) Paying the tab, the costs and benefits of alcohol control.
https://www.cmaj.ca/content/195/40/E1364

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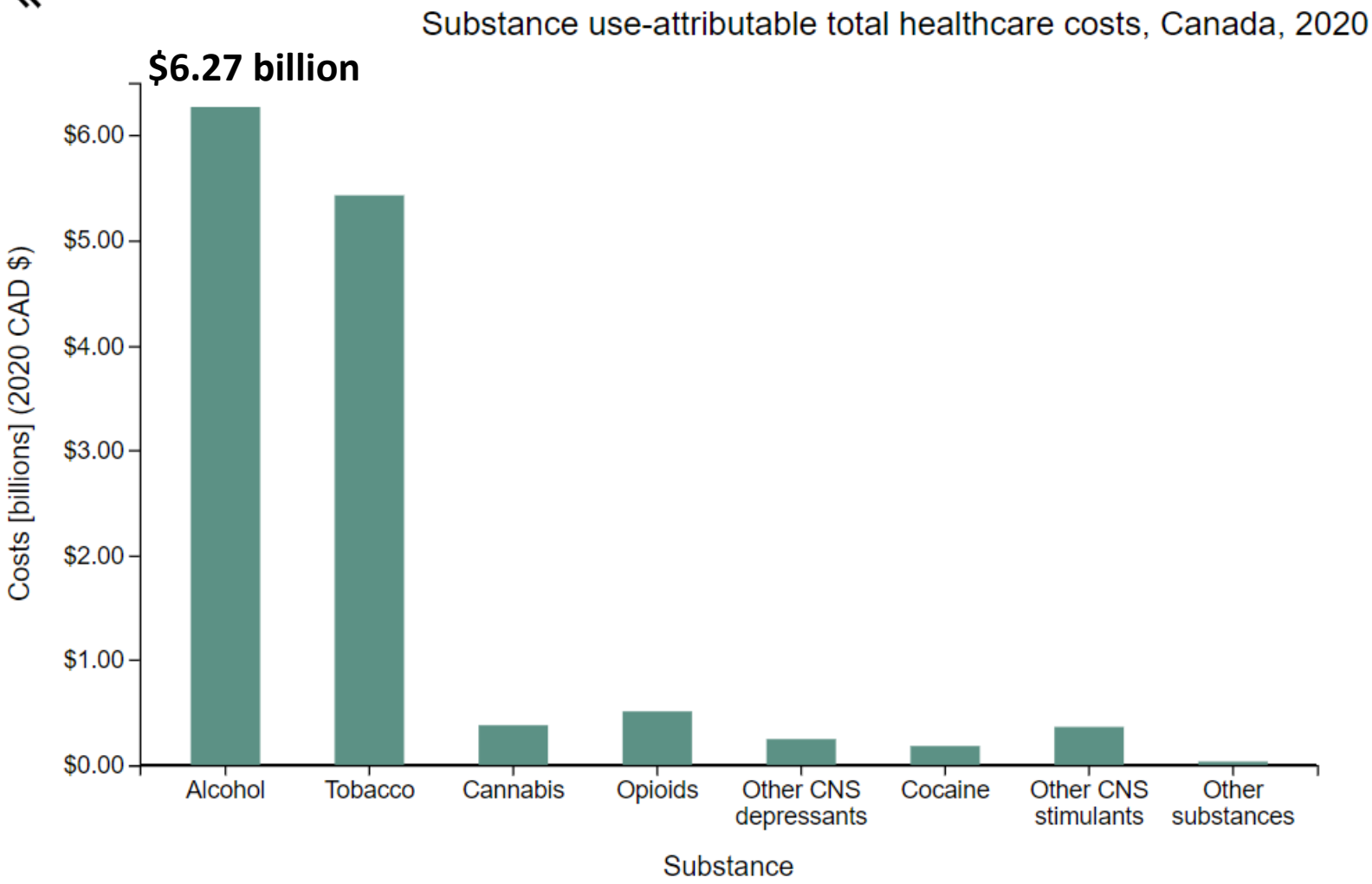
Substance use-attributed healthcare costs in Canada



The Canadian government made **$12.4 billion** per year in income from alcohol sales

That was pre-COVID…
Alcohols sales have risen since then

Canadian Substance Use Costs and Harms https://csuch.ca/explore-the-data/
https://www.cpha.ca/sites/default/files/uploads/policy/positionstatements/2022-06-alcohol-consumption-in-canada-e.pdf

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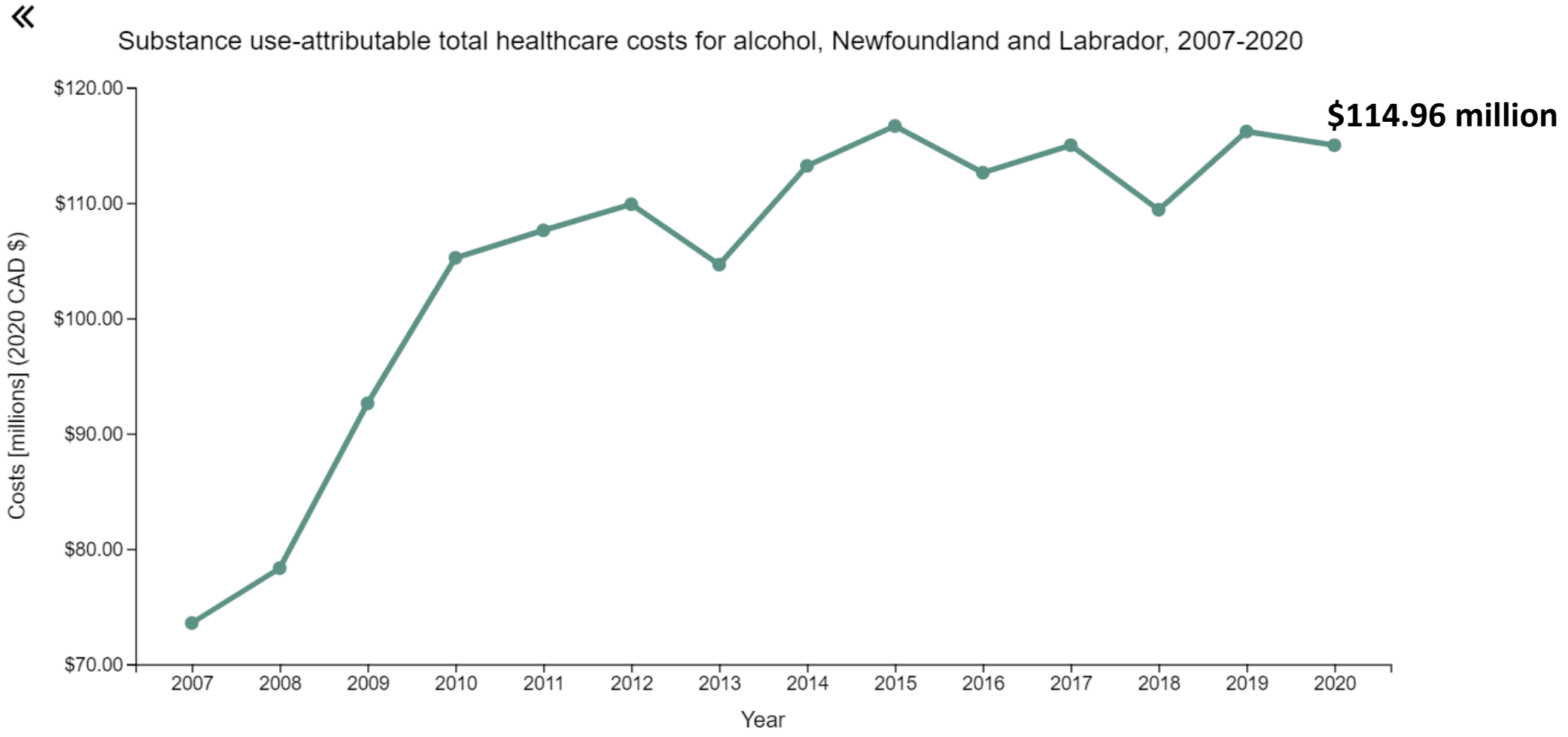
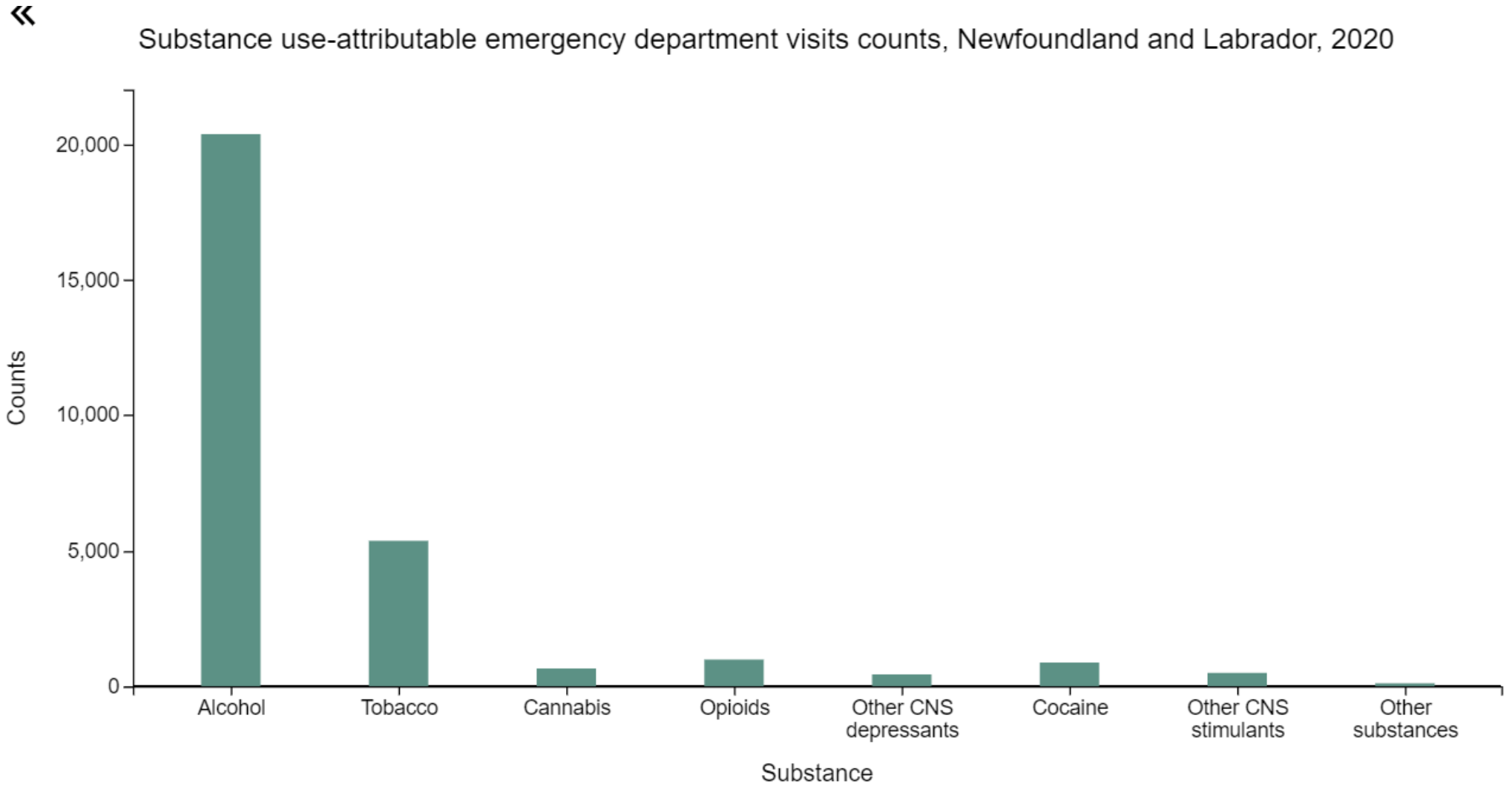
Alcohol attributed healthcare costs in Newfoundland & Labrador



Canadian Substance Use Costs and Harms https://csuch.ca/explore-the-data/

Emergency Department Visits, Newfoundland & Labrador



Canadian Substance Use Costs and Harms https://csuch.ca/explore-the-data/

Increased prevalence and mortality

- ED visits for alcohol-related reasons (ARR) increased by 85% for females and 50% for males from 2003 to 2016

Number of ED visits per year	1-year all cause mortality
1 visit, any cause	0.5%
1 ARR visit	2%
2 ARR visits	5%
5 or more ARR visits	9%
*men 45-59 with 3 ARR visits or more	12%

Brief Negotiated Interviews
Harm Reduction
Anti-craving Medication

Case 1

A patient was just at the Emergency Department requiring stitches after a fall.

The patient's history mentioned alcohol, so they were connected with the substance use navigator, who put them in touch with you.

Meeting the patient, they aren't really sure why they are talking with you…

Brief Negotiated Interviews

For the pre-contemplative patient

Similar goals to ‘Motivational Interviewing’ but a focus on **BRIEF**

1. **Establish rapport** and **ask permission** to discuss alcohol consumption and its possible consequences.

2. Provide **feedback** on the patient’s drinking levels and make a connection to the visit.

3. **Assess motivation** to reduce drinking by asking how ready on a scale of 1–10 the patient is to change any aspect of their drinking.

4. **Negotiate goals** and advise a plan of action.

Brief Negotiated Interviews

https://photos.app.goo.gl/Fx6Se4CeBENBzXVW8

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Harm Reduction

Anti-craving medications AND setting goals WITH psychosocial supports

Example:
Started at 10 beers per day on weekends
Goal: 4 drinks per day max on Friday after work
8 drinks per day max on Saturday, first drink after 1pm
6 drinks per day max on Sunday, first drink after 1pm
Naltrexone 50mg once daily
Counselling with partner once weekly
Individual counselling once weekly

Harm Reduction

- Works well for…
  - Ambivalence
  - Not ready to stop drinking, but looking to reduce harms
  - Multiple attempts at ‘cold turkey’
  - High risk for alcohol withdrawal complications
    - without the capacity for high-acuity management

Case 1

A patient was just at the Emergency Department requiring stitches after a fall.

The patient's history mentioned alcohol, so they were connected with the substance use navigator, who put them in touch with you.

Meeting the patient, they aren't really sure why they are talking with you…

After talking with the them, they agree to set a maximum number of drinks on weekends. They've never heard of anti-craving medications before …

Anti-craving Medications

- Anti-craving medications are effective
  - Naltrexone NNT 12 for reduced drinking days, 20 for abstinence
  - Acamprosate NNT 12 for abstinence
    - Statins have an NNT 39 for heart attack prevention, 125 for stroke prevention over 5 years
    - Antihypertensives have an NNT 60-100 to prevent harm over 5 years

- When choosing one we consider
  - Personal goals e.g. decrease drinking vs. total cessation
  - Concurrent conditions e.g. liver and kidney function
  - Medication profile e.g. taking opioids
  - Coverage

Mong J, Ahamad K, Bach P. Anticraving medication for moderate to severe alcohol use disorder. CMAJ. 2021 May 10;193(19):E695. doi: 10.1503/cmaj.200895. PMID: 33972223; PMCID: PMC8157997.

Naltrexone

- First line treatment for alcohol use disorder
- Mu receptor antagonist – start 7 days post opioid use
- Reduced euphoria experienced with drinking
  - In turn, this will help to decrease cravings/urges over time
- Abstinence not required
- If history of liver concerns, check labs at baseline and one month
  - Discontinue if liver enzymes increase more than 3x base level
- If no history of liver concerns, no need to check labs before starting

Naltrexone 50mg tablets
Half tab (25mg) by mouth once daily before bed for 4 days
Then one tab (50mg) once daily for 30 days

Max dose 150mg once daily. No taper for stop/restart. Can use “pill in pocket” method.

Acamprosate

- First line treatment for alcohol use disorder
- Glutamate antagonist
- Acamprosate relieves subacute withdrawal symptoms (insomnia, dysphoria, cravings)
- Best for patients who have abstinence as a goal
  (but abstinence is not required)
- Not metabolized by the liver – **safe in liver disease**

Acamprosate 333mg
Two tabs (666mg) by mouth three times daily for 30 days

Reduced dose in those with kidney impairment or <60kg (333mg TID)

Gabapentin

- Note: Use of gabapentin for alcohol withdrawal is **off-label**

- Modulates dopamine
- Decreases drinking days & relieves acute and subacute withdrawal symptoms
- Preferred over benzodiazepines for withdrawal because:
  - Can maintain gabapentin as an anti-craving medication, whereas benzodiazepines should be discontinued after a few days
  - Less sedating than diazepam, but still can cause sedation/dizziness, and risk for pedal edema
  - Sometimes also effective for **comorbid anxiety disorders, insomnia, pain, cannabis cravings**

Anti-craving purposes only:

- Start with 300-600mg QHS, increase by 300 mg every 1-2 days
- Maintenance dose is 900-1800 mg per day in divided doses e.g. 600mg TID

Acute withdrawal management:

- 300mg QID +/- 300-600mg QHS
- Taper or maintain

Anti-craving Medications

- **Disulfiram**
  - Aldehyde dehydrogenase inhibitor
    - Causing an increase in acetaldehyde when alcohol is consumed, which is toxic
    - Supports an aversion to alcohol
  - Baseline liver function & repeat at 2 months, due to risks of hepatitis
    - Discontinue if AST or ALT three times more than baseline
    - Avoid in liver cirrhosis
  - Must be compounded
  - Prescribed as 125mg once daily, increase to 250mg if no response

- **Topiramate**
  - Anticonvulsant – off-label use in AUD – some evidence over placebo to reach drinking goals
  - risks of glaucoma, renal stones, weight loss, paresthesia – avoid in pregnancy
  - 25-50mg once daily, increase by 25-50mg daily to a max of 200-300mg

Anti-craving Medications

- **Baclofen**
  - Muscle relaxant –off-label use in AUD – uncertain benefit for drinking, but can be used in cirrhosis
  - Dosing varies (30mg-300mg per day in divided doses)

- **Varenicline**
  - Partial nicotine agonist –off-label use in AUD –some evidence for reducing heavy drinking days – use in those with smoking cessation goals

- **Ondansetron**
  - Serotonin 5-HT3 receptor antagonist –off-label use in AUD
    - Early onset (before 25yo) AUD is associated with serotonin transporter defect (increases dopamine and euphoria experienced with alcohol)
    - 0.5mg once daily (crumbs of 4mg, or get it compounded)

Alcohol Withdrawal

Case 2

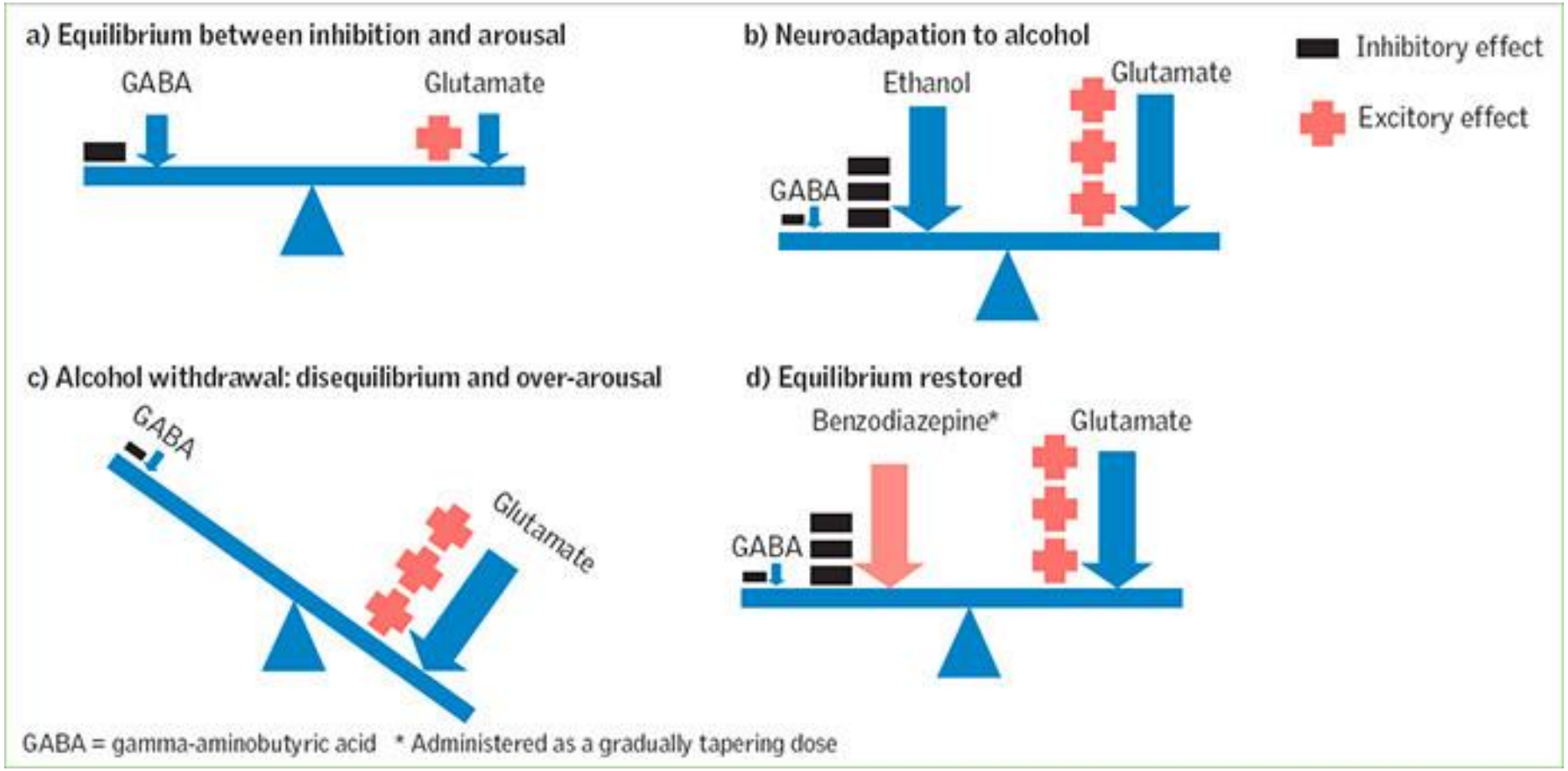
A patient calls into your addiction clinic. They have been drinking 26oz of Vodka daily for over a year now, and want to stop drinking all together.

What do we need to know?

Physiology of alcohol withdrawal

- Alcohol suppresses the NMDA system (neuroexcitatory) and enhances GABA
- Chronic heavy alcohol use causes compensatory increase in number and sensitivity of NMDA receptors and decrease in GABA receptors
- If alcohol abruptly discontinued, the upregulated NMDA system causes autonomic hyperactivity:
  - Tremor, sweating, seizures, DTs etc.

Physiology of alcohol withdrawal



https://journals.rcni.com/nursing-standard/alcoholrelated-liver-disease-ns.28.46.42.e8998

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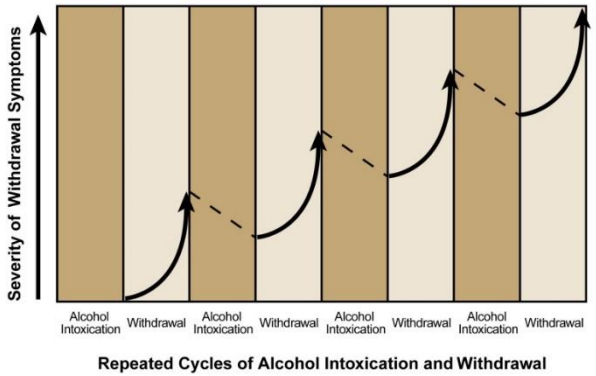
Clinical features of alcohol withdrawal

- Severity of withdrawal is associated with the amount consumed
- Withdrawal is uncommon in people drinking less than five drinks per day for less than one week straight
- Individuals show predictable pattern of withdrawal
  - People with previous withdrawal seizures are at high risk for recurrence

"The term "kindling" refers to the phenomenon that people undergoing repeated cycles of intoxication followed by abstinence and withdrawal will experience increasingly severe withdrawal symptoms with each successive cycle."

from Becker, H.C. (1998). Kindling in Alcohol Withdrawal. Alcohol Health and Research World.



Embers catch faster than dry wood

https://europepmc.org/article/PMC/6761822#id626693

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Clinical features of alcohol withdrawal (2)

- Begins 6–12 hours after last drink
- Acute withdrawal usually resolves within 2–3 days, may last up to 7 days
- **Most reliable signs: Tremor and sweating**
  - If tremor not present, review the diagnosis
  - Postural and intention, not resting
  - Can elicit by having patient hold arms outstretched and hands raised
  - Severity of tremor diminishes as withdrawal resolves
- Other signs: Tachycardia, hypertension, hyperthermia
- Symptoms: Anxiety, nausea, headache

Withdrawal Timeline

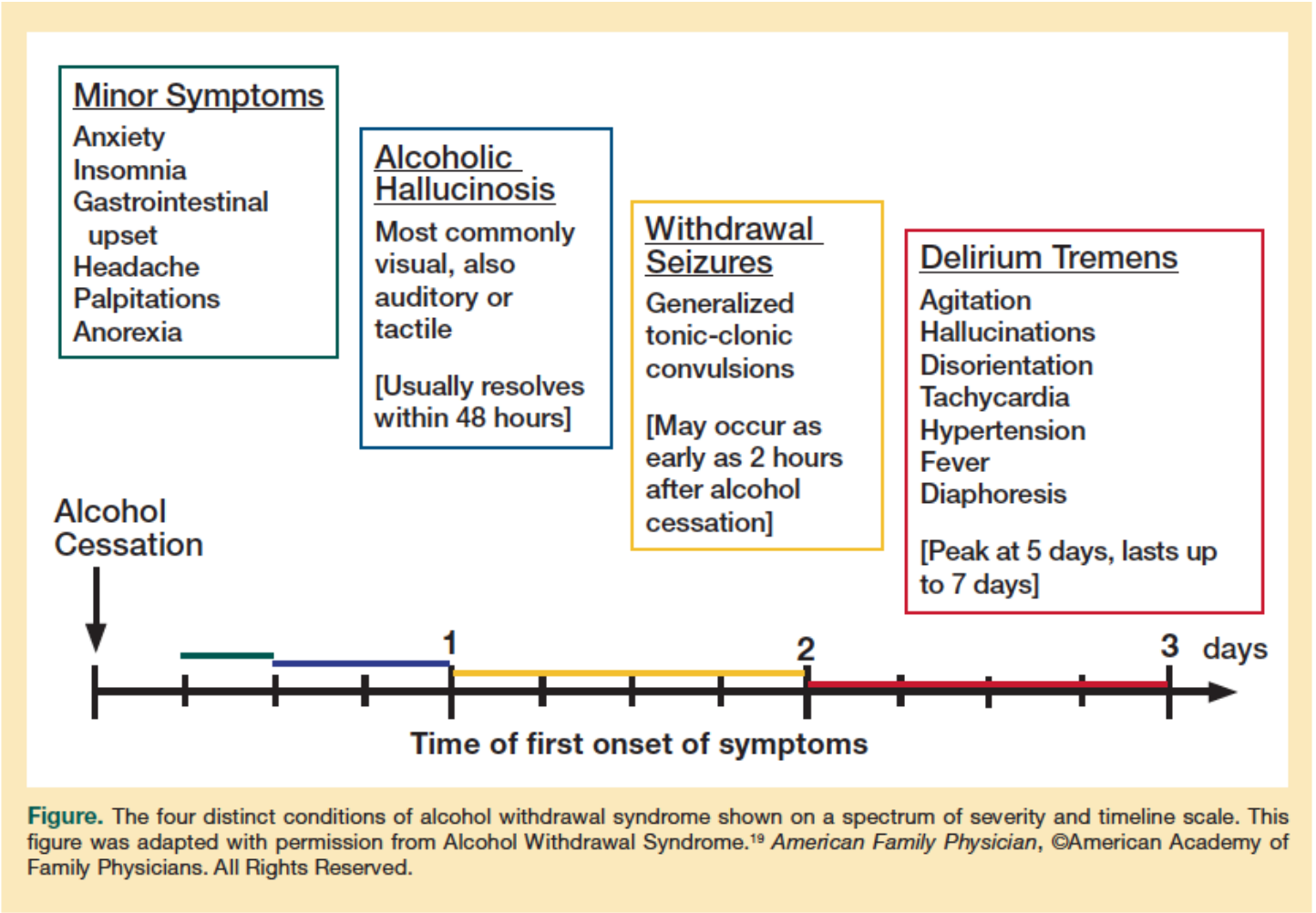
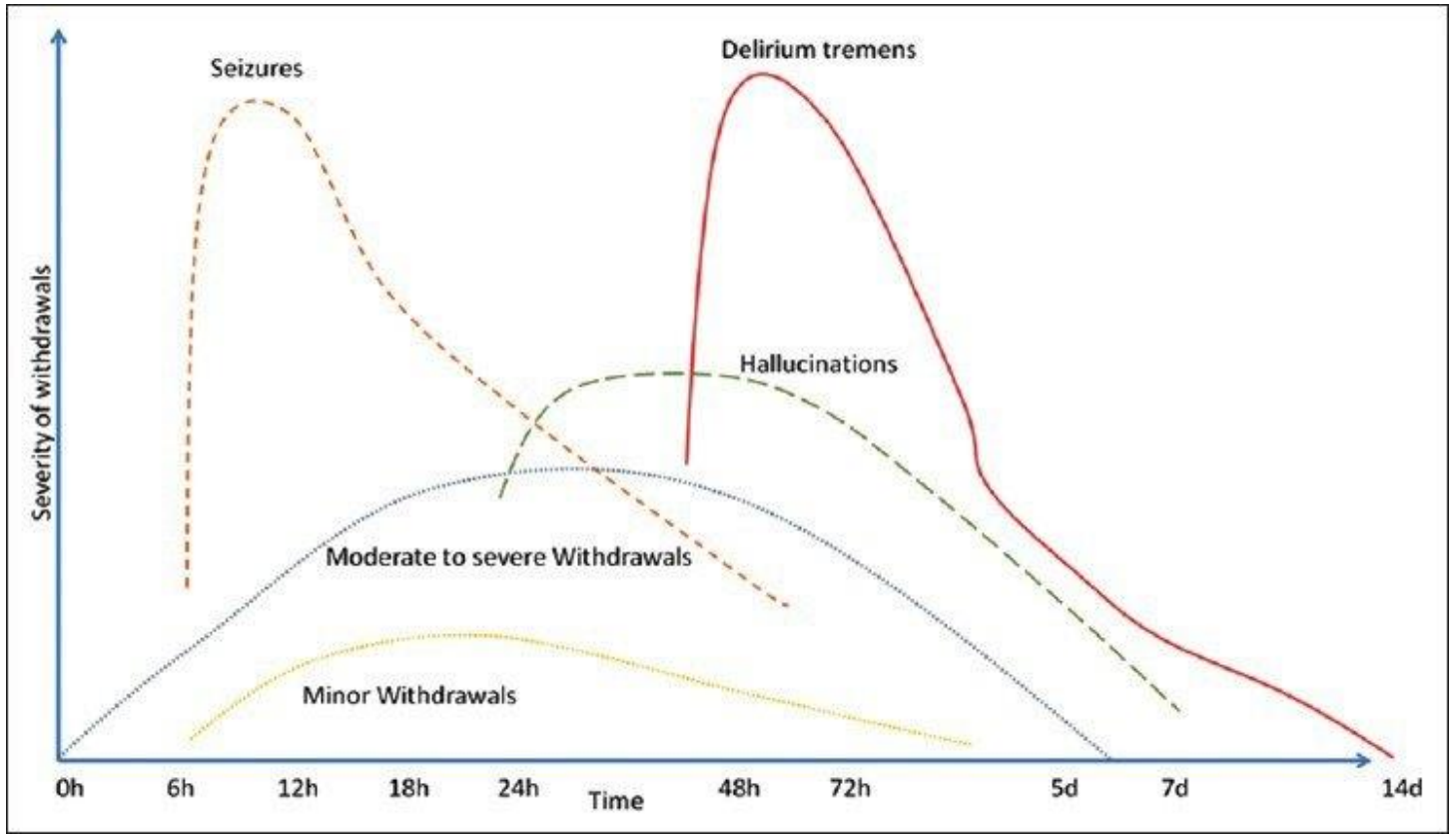


Figure. The four distinct conditions of alcohol withdrawal syndrome shown on a spectrum of severity and timeline scale. This figure was adapted with permission from Alcohol Withdrawal Syndrome.[19] *American Family Physician*, ©American Academy of Family Physicians. All Rights Reserved.

https://www.alltreatment.com/alcohol-withdrawal-timeline/

Withdrawal Timeline



https://www.researchgate.net/figure/Graph-depicting-the-time-course-of-alcohol-withdrawal-symptoms-based-on-clinical_fig2_263860038

Alcoholic Hallucinosis

- Hallucinations
  - Predominantly visual
    - Think of differentials if auditory
  - NO clouding of sensorium like with DTs
    - Distressing, as they are aware it's a hallucination
- Vitals usually normal
- Develop within 12-24h
- Typically resolved within 48h (earliest point DTs develop)

Withdrawal Seizures

- Risk increases with amount consumed
- Patients who have had seizures in the past are at high risk of recurrence
- An estimated 10-15% of patients with severe alcohol use disorder have had at least one withdrawal seizure
- Typically occurs 12-72 hours after the last drink
- Usually but not always preceded by autonomic hyperactivity – tremor and sweating
- Grand mal, non focal, brief

Withdrawal Delirium

- Also known as “Delirium tremens”
- Risk factors:
  - Very heavy alcohol consumption
  - Medical illness eg pancreatitis, pneumonia
  - Inadequate treatment of early withdrawal symptoms
  - Past history of DT’s
- Starts day 3-5 after last drink

Withdrawal Delirium (2)

- Patient is confused and disoriented
- Tachycardia, hypertension, low-grade fever, agitation, diaphoresis, hallucinations (predominantly visual)
- May be ‘living in a dream’, eg ‘I’m in my apartment, it’s 1974, and you are a policeman’
- Not always easy to diagnose:
  - Patient may have learned by repeated questioning to state the correct date and location
  - Ask, ‘why are you here? Who am I? What am I doing here’?
- “Sundowning’: Patient may be agitated and confused at night, and calm and oriented in the morning

Wernicke's Encephalopathy

- Confusion, ataxia, ocular abnormalities
  - Slow, unsteady gait
  - Double vision, nystagmus, paralysis of oscular muscles
- Difficult to diagnose in a patient who is intoxicated or in withdrawal
- Risk factors: Poor diet, liver disease, poor absorption (e.g. gastric bypass)
- Can result in Wernicke-Korsakoff Syndrome
  - Chronic deficits of memory impairment
    - Usually short-term memory loss

Prevention of Complications

- Benzodiazepine loading in patients who have a history of withdrawal seizures or DTs
- Diazepam 20 mg or Lorazepam 4mg q1H x 3
  - No evidence that anticonvulsant medications are effective in preventing withdrawal seizures
  - Loading doses are given regardless of CIWA, until the patient is light drowsy with minimal to no tremor
- Correct electrolyte imbalances to prevent arrhythmia
- Prevent Wernicke's Encephalopathy with Thiamine
  - 300mg IM/IV/PO
  - 100mg PO three times daily if concerns with absorption
  - Then 100mg PO once daily for 2-3 weeks

Case 2

A patient calls into your addiction clinic. They have been drinking 26oz of Vodka daily for over a year now, and want to stop drinking all together.

If the patient says they **have a history** of withdrawal seizures or DTs (and possibly if they've been admitted for alcohol withdrawal management in the past).

- And they're in withdrawal

  Get to the ED for treatment

- And they're not yet in withdrawal

  Treatment plan:

  Alcohol taper, ED management, or WMS management

Case 2

A patient calls into your addiction clinic. They have been drinking 26oz of Vodka daily for over a year now, and want to stop drinking all together.

If the patient says they **do not have a history** of withdrawal seizures or DTs (and possibly if they've been admitted for alcohol withdrawal management in the past).

- Home management
- Day Detox / Office management
- Withdrawal Management Services (short-stay units)

Appropriate for Home Detox

- The patient is in mild to moderate withdrawal and is not expected to require high loading doses of benzodiazepines (or they have already received a loading dose and their symptoms are now mild to moderate).
- The patient does not have a recent history of severe or complicated withdrawal, e.g., withdrawal seizures.
- The patient is 65 years of age or younger.
- The patient lives with someone who is reliable and can monitor their benzodiazepine and alcohol use.
- The patient is not on methadone or high opioid doses.
- The patient does not have cirrhosis with liver dysfunction.
- The patient does not have severe respiratory impairment, e.g., severe COPD.
- The patient does not have cognitive impairment or an active, severe psychiatric illness.

Study: Remote Treatment of Alcohol Withdrawal

Principal Investigator: Matthew Sloan, MD, MSc, Centre for Addiction and Mental Health

Inclusion Criteria:

- Adults **18 years** and older
- Are **actively using alcohol**
- Previously met Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) B criteria for alcohol withdrawal
- **Aim to achieve at least 30 days** of abstinence as a treatment goal following initiation of remote alcohol withdrawal management
- Are able to provide informed consent in English.
- Reside or are able to stay at an address within 2-hours travelling distance from the Centre for Addiction and Mental Health for the entire duration of the remote withdrawal procedure
- Are enrolled in the Ontario Health Insurance Plan (OHIP)

Exclusion Criteria:

- **History of complicated withdrawal including withdrawal seizures, hallucinosis, or delirium**
- Positive UDS for sedatives or **opioids**, currently prescribed sedatives or opioids, or diagnosis of sedative-hypnotic or opioid use disorder within the past year (based on assessment). Individuals prescribed low doses of benzodiazepines (e.g. lorazepam 1mg PO daily) or with a positive urine benzodiazepine screen that is not thought to be due to benzodiazepine misuse may be permitted to proceed with the study at the discretion of the study physician.
- **Severe medical or psychiatric comorbidity** that would prevent safe participation in the study
- Contraindications to the safe use of diazepam including: **known hypersensitivity to diazepam severe respiratory insufficiency, severe hepatic insufficiency, sleep apnea syndrome, acute narrow-angle glaucoma, and myasthenia gravis**. Individuals with sleep apnea may be permitted to proceed with the study at the discretion of the study physician.
- Active withdrawal symptoms (CIWA-Ar > 12) at the time of the eligibility assessment
- Active suicidal ideation at the time of eligibility assessment
- Positive urine pregnancy test, actively breastfeeding, or planning to become pregnant or breastfeed during the study period
- **Lack of stable housing**
- Enrollment in another study that conflicts with the procedures or scientific integrity of this study

https://clinicaltrials.gov/study/NCT04858490

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Tips for readiness

- Have the patient “prepare” to assess readiness
  - Can they throw their alcohol away, or do they need to finish what they have
  - Do they have a support person
  - Do they have time booked off work
  - Do they have foods/drinks they like e.g. Gatorade
  - Do they have supportive medications e.g. Tylenol, gravol, etc.

Fixed Doses

- Providing a set amount of medication on a schedule

- E.g. Diazepam 10mg q6h
  Diazepam 10mg q8h
  Diazepam 10mg q12h
  Diazepam 5mg q12h
  Diazepam 5mg QHS
  Do NOT take any dose if sleepy
  Call 911 if withdrawal worsens

- Can cause over sedation or under dosing
- Useful when capacity limits monitoring
- Consider daily pharmacy dispensing

Flexible Doses

- Providing a range of medication dosing available as needed

- E.g. Diazepam 5-10mg QID PRN
  Diazepam 5-10mg TID PRN
  Diazepam 5-10mg BID PRN
  Diazepam 5mg BID PRN
  Diazepam 5mg QHS PRN
  Do NOT take any dose if sleepy
  Call 911 if withdrawal worsens

- Utilize Community Withdrawal Support Teams
  - Daily check-ins with the patient to help guide dosing

Day Detox / Office Management

- One day of observed withdrawal, monitoring & management
- In clinic for ~6-8 hours
- Timed arrival
  - Last drink the night before they arrive
  - Arrive in mild withdrawal
- Utilizes Loading Doses and/or Symptom-triggered treatment
- Discharged at the end of the day
  - Support person required
  - Home management can continue if needed for mild ongoing withdrawal e.g. Gabapentin
- Front heavy
  - Prevents complications of alcohol withdrawal
  - Keeps live-in settings for higher acuity cases

Symptom-triggered treatment

- Give high dose of benzodiazepines when severe symptoms present; don't give benzos if minimal symptoms
- Severity of symptoms measured by a standardized scale – CIWA-Ar (Clinical Institute Withdrawal Assessment) scale, or objective scales eg SHOT, BAWS
- Compared to scheduled treatment, symptom-triggered treatment relieves withdrawal more rapidly and completely than scheduled treatment, therefore:
  - Shortens length of stay in the ED, prevents complications (e.g., seizures, DTs)
  - Prevents over-medicating and over-sedation

Diazepam 10-20 mg or Lorazepam 1-2 mg PO q 1-2 H when CIWA-Ar ≥10

Treatment completed when CIWA-Ar < 8 on two consecutive measurements, with minimal tremor

Diazepam treatment

- High doses are safe: patients who are highly tolerant to alcohol are also highly tolerant to benzodiazepines
- Diazepam is preferred because it is metabolized to active metabolites, so has a duration of action of up to 5 days
- Once withdrawal is resolved, prolonged action of diazepam prevents rebound withdrawal

Lorazepam treatment

- Lorazepam does not have active metabolites, so is safer in patients at high risk for diazepam toxicity:
- Elderly
- Cirrhosis with liver dysfunction
- Respiratory impairment
- On high doses of potent opioids
- **Note**: Patients given lorazepam should be reassessed within 24 hours because their withdrawal symptoms could return

Lorazepam in liver or respiratory failure

- Benzodiazepines can trigger encephalopathy in patients with decompensated liver disease, and respiratory arrest in patients with respiratory failure
  - Decompensated liver disease: Ascites, encephalopathy, varices, low albumin, high bilirubin
- Therefore with these patients, use small doses of lorazepam (0.5 mg) for moderate to severe withdrawal
- If patient in mild withdrawal (eg CIWA 10-12), safer just to observe
- Probably safer to admit these patients

Withdrawal severity scales

- **CIWA scale** (see next slide)
- 10 items
- Scale is measured every 1-2 hours
- A score of 10 or more indicates the need for treatment
- Treatment is completed when score is less than 8 on two consecutive occasions
- CIWA is the most studied and used withdrawal severity scale

Limitations of the CIWA

- Most of the ten items are subjective (nausea, headache) and non-specific
  - False positives in patients who are anxious, in psychosis, have essential tremor, cerebellar disease, delirium not related to alcohol, febrile illness, or seeking medications
  - False negatives if language barriers, cognitive delay, dementia, impaired consciousness, education level
  - Time consuming (5+ minutes); not feasible to administer hourly in a busy ED

CIWA-Ar scale (1)

Nausea/vomiting: "Do you feel sick to your stomach? Have you vomited?"		
0 No nausea or vomiting 1	2 3 4 Intermittent nausea with dry heaves	5 6 7 constant nausea, frequent dry heaves and vomiting
Tremor: Arms extended and fingers spread apart		
0 No tremor 1 Tremor not visible but can be felt fingertip to fingertip	2 3 4 Moderate with patient's arms extended	5 6 7 Severe, even with arms not extended
Paroxysmal sweats		
0 No sweat visible 1 Barely perceptible sweating, palms moist	2 3 4 Beads of sweat obvious on forehead	5 6 7 Drenching sweats
Anxiety: "Do you feel nervous?"		
0 No anxiety, at ease 1 Mildly anxious	2 3 4 Moderately anxious, or guarded, so anxiety is inferred	5 6 7 Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions
Headache, fullness in head: "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or light-headedness. Otherwise, rate severity.		
0 Not present 1 Very mild	2 Mild 3 Moderate 4 Moderately severe	5 Severe 6 Very severe 7 Extremely severe

CIWA-Ar scale (2)

Agitation		
0 Normal activity 1 Somewhat more than normal activity	2 3 4 Moderately fidgety and restless	5 6 7 Paces back and forth during most of the interview, or constantly thrashes about
Tactile disturbances: "Have you had any itching, pins and needles sensations, any burning or numbness, or do you feel bugs crawling on your skin?"		
0 None 1 Very mild itching, pins and needles, burning, or numbness	2 Mild itching, pins and needles, burning, or numbness 3 Moderate itching, pins and needles, burning, or numbness 4 Moderately severe hallucinations	5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Auditory disturbances: "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?"		
0 Not present 1 Very mild harshness or ability to frighten	2 Mild harshness or ability to frighten 3 Moderate harshness or ability to frighten 4 Moderately severe hallucinations	5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Visual disturbances: "Does the light appear to be too bright? Is its colour different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?"		
0 Not present 1 Very mild sensitivity	2 Mild sensitivity 3 Moderate sensitivity 4 Moderately severe sensitivity	5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Orientation and clouding of sensorium: "What day is this? Where are you? Who am I?"		
0 Oriented and can do serial additions 1 Cannot do serial additions or is uncertain about date	2 Disoriented for date by no more than 2 calendar days	3 Disoriented for place by more than 2 calendar days 4 Disoriented for place and/or person

Transfer to the Emergency Department

- At any point, in any setting, if seizures, DTs, or Wernicke's presents
- Withdrawal symptoms getting significantly worse despite diazepam dispensed every 1-2 hours. This could indicate benzodiazepine resistance. Cut-off matches settings
  - E.g. Send to the ED if no response at home after 40mg Diazepam
  - E.g. Send to the ED if no response in office after 80mg Diazepam
- Worsening withdrawal is indicated by rising CIWA score (above 20) **and** increasingly severe tremor, sweating +/- tachycardia and hypertension.

Example vital sign cut offs for transfer to the ED:

- SpO2 < 92% on room air
- T > 38.5°C
- Irregular pulse or HR < 50 bpm OR > 120 bpm
- Systolic BP ≥180 or diastolic BP ≥120 in acute withdrawal

Thank you!

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