**PREVALENCE**:
- 1 in 5 Canadians (20%) will experience a mental illness in their lifetime
- 1 in 10 Canadians (10%) over age 15 report sx consistent with alcohol or illicit drug dependence
- Having both a mental illness and substance use disorder is referred to as a concurrent disorder
  - Approx. 50% of those with a mental illness will also suffer from substance use disorder
  - Approx. 50% of those with substance use disorder will have a mental illness

**STIGMA**:
- Drug addiction tops the list of stigmatized conditions, independent of the cultural background
- Is addiction a crime? Medical illness?

**WHAT CAN LEAD TO SUBSTANCE USE DISORDER?**
- Perceived choice??? (ex// adults have made life choices which have resulted in their current conditions) → but did they really have choices?
  - Most people do not aspire to become an "addict"
  - There are many reasons why someone suffers from SUD
- Risk factors:
  - Sexually, physically, emotionally abused
  - Residential school system
  - Passed around in foster care
  - Violence or trauma
  - Self medicating a mental illness
  - War veteran
  - Pain (athlete with sports injury, MVA)
  - Family members murdered
  - Business person with multiple losses
  - Health professional damaged at work
- Progression of substance use disorder
  - Moves from impulsivity to compulsivity
  - Shift from positive to negative reinforcement

**WHY IS THERE SUCH A TREATMENT GAP FOR SUBSTANCE USE DISORDER?**
- Issues with accepting substance use disorder as a txt-worthy disorder
- Clients deny having symptoms
- Treatment providers have problems with intuitively understanding addiction as a disorder

**CONCURRENT DISORDER: EVIDENCE BASED?**
- There is a lack of evidence and clinical trials for the treatment of concurrent disorder
- Treatment is generally guided by clinical consensus and evidence established without concurrent disorder

**DRUG CLASSIFICATION:** 5 main classifications of illicit substances
- Depressants: alcohol, benzodiazepines
- Opiates: heroin, oxycodone, fentanyl
- Stimulants: crystal meth, amphetamines, cocaine, caffeine, nicotine
- Hallucinogens: ecstasy (MDMA), mushrooms, PCP, ketamine, LSD, inhalants, nutmeg, bath salts (not actual bath salts)
- Cannabis: marijuana, hashish

**IMPACT OF WORDS ON PATIENTS:**
- Words and tone hurt, words can reinforce or inflict trauma
- Words can carry judgment
  - Clean vs. dirty
  - Addict/junkie vs. suffering from substance use disorder
- Instead of dehumanizing terms (addict, dope fiend, crack head) use "the person suffering from (or with) ___ addiction"
- Shaming: drain on society, useless, hopeless, worthless, thieves, whores

**APPLY THE PLATINUM RULE**:
- Treat others the way they want to be treated
- Consider: cultural differences, generational differences, transgender, cognitive abilities
- Instead of "The Golden Rule" (treat others the way we want to be treated)
  - Because do we all want to be treated the same way?

**TREATMENT PHILOSOPHIES:**

**ABSTINENCE BASED MODEL**:
- Goal is to be off all substances (may also include psych medications)
- Often involves an initial detox = first stage of treatment
  - Usually short-term programs (28 days)
  - If you use, you are out
- Abstinence programs generally don't deal with the mental illness and trauma
- Once the program is complete, most clients return to the same living conditions
- Detoxification alone seldom results in long-term abstinence
  - Need to also address housing, employment, physical and psychological well-being, interpersonal relationships, criminal behavior

**HARM REDUCTION MODEL**:
- Goal is to reduce harmful behavior
- Client may not stop using all substances
- Try to promote "change talk" and have client move from pre-contemplative (not ready) to contemplative (getting ready) to preparation (ready) and action

**BCMHA = THE MIDDLE GROUND**:
- First facility in the world to treat both mental health and addiction (concurrent disorder) – opened Jun 2008
- Clients admitted f rom across the province
- Start with harm reduction, moving towards abstinence
- Duration of treatment is up to 9 months
- Relapses don't mean discharge, but how can the client be supported to prevent further relapses
- Clients are not always successful the first time in treatment

**APPROVED MEDICATION TREATMENTS:**
- Alcohol: disulfiram, naltrexone, Acamprosate
- Opioids: methadone, buprenorphine
- Nicotine: NRT, bupropion, varenicline
- Stimulants, hallucinogens, cannabis: ????

## ALCOHOL USE DISORDER:

### WITHDRAWAL:
- One of the most dangerous drugs to withdraw from
- The CIWA-Ar scale is used to monitor the severity of alcohol withdrawal
- Prevent serious events (seizures, delirium tremens and death)

### NALTREXONE:
- Used in both alcohol and opioid use disorders
- Reduces cravings but mechanism is not fully understood
- May block dopamine release → less of a high
- Decreases amount of alcohol consumed
- Can induce withdrawal in opioid dependency
  - DO NOT give to clients currently on opioids/opiates (including methadone and Suboxone), or have used these products in the last 10 days → will likely induce withdrawal
- Dose: 50 – 100 mg daily

### ACAMPROSATE:
- Structurally similar to GABA; restores imbalance b/w glutamate & GABA
- May alleviate withdrawal sx by modulating neuronal hyperexcitability
- Reduces alcohol cravings
- Poorly absorbed, usual dose is 2 tabs (666 mg) tid = compliance?

### COMBINATION TREATMENT:
- Naltrexone and Acamprosate are both safe & well-tolerated
- Each work in slightly different ways
  - Acamprosate increases length of time before drinking
  - Naltrexone decreases chance of heavy drinking
- Evidence supporting combining both naltrexone and Acamprosate over naltrexone alone are mixed

### DISULFIRAM:
- An alcohol deterrent = aversion therapy
- Interrupts the metabolism of alcohol and makes one sick
  - Theory: fear of the reaction will make someone stop drinking
  - Reality: if I want to drink, I'll stop disulfiram (poor compliance)
- Does not stop the alcohol cravings
- Response is proportional to amount of alcohol ingested
  - More alcohol consumed = more severe reaction
- Duration of action: can be up to 14 days
  - Advise clients not to consume alcohol products for 2 weeks after stopping disulfiram

#### SCARY ADVERSE EFFECTS:
- Neurological toxicity (proportional to dose & duration of txt)
- Reversible encephalopathy & toxic encephalopathy convulsions and coma may occur
  - Usually only in overdose
- Optic neuritis
- Elevated liver function tests (LFTs)
- Severe ETOH reaction: respiratory depression, CV collapse, arrhythmias, convulsions, death

#### COUNSELLING TIPS:
- Counsel regarding consequences of drinking while on disulfiram
- Avoid all products containing alcohol, including cough syrups, mouthwashes, foods/sauces containing alcohol
- A disulfiram/alcohol reaction usually lasts 30-60 mins but may be longer with a severe reaction
- Must never be given to clients without their knowledge & consent

## OPIOIDS AND OPIATES:

### OPIOID RECEPTORS:

| | | |
|---|---|---|
| Delta | • Analgesia<br>• Antidepressant | • Physical dependence |
| Kappa | • Analgesia<br>• Dissociative/ delirium effect | • Sedation |
| Mu | • Analgesia<br>• Physical dependence | • Euphoria<br>• Respiratory depression |

### OPIATE WITHDRAWAL:
- COWS scale = monitors withdrawal sx
- Methadone or buprenorphine may be used to aid in opiate withdrawal using a titrate up then taper off approach
- Multiple medications used to manage sx

| BUPRENORPHINE | METHADONE |
|---|---|
| • DWI not required<br>• Ceiling effect = less risk for OD<br>• Rapid titration to dose for maintenance<br>• Less SEs | • DWI increases adherence<br>• No ceiling effect = higher doses can be given<br>• No precipitated withdrawal<br>• Doesn't block analgesia |

### ALTERNATIVE TREATMENT:
- Not approved indications or options
- Morphine SR daily = limited evidence
- Hydromorphone (SALOME trial)
- Diacytylmorphine (heroin) (SALOME trial)
  - Highly controversial

### METHADONE:

#### METHADONE:
- Effective orally (eliminates injections) = harm reduction
- Long $T_{1/2}$ , usually once daily
- Acts on mu receptor = blocks euphoria effects of other opioids
- Used as a substitute drug in opioid use disorder
- Also used for chronic severe pain

#### DOSING – WHERE TO START?
- Amount of narcotic in illegal products is highly variable + client may not be forthcoming
- Initial dose: high enough to not cause withdrawal, low enough to not cause overdose
- Start with 20-30 mg & increase by 10 mg every 3-5 days until maintenance dose established
  - 5-10 mg methadone prn (max 40 mg for few days) can be given

#### SIDE EFFECTS:
- Sedation
- Cognitive impairment
- QTc prolongation
  - Also w/ other psych meds
- Constipation (can be deadly)
- Concurrent BZD = increase CNS depressant effect & death

#### COMING OFF METHADONE:
- Methadone doesn't have to be life-long txt
- Taper off slowly over 3-6 months
- Methadone usually reduced by 5-10 mg/week
  - Last 25 mg = decrease by 1-5 mg (10%) per week
- Divided doses helpful, especially for Rxists

### BUPRENORPHINE:
- Partial mu receptor agonist & kappa receptor antagonist
  - Ceiling effect (opioid agonist increases linearly with increasing doses to a plateau) = less risk of fatal overdose
- May be combined with naloxone = Suboxone (generally considered first line treatment in BC)
- Reduces use and cravings for opioids
- Can precipitate withdrawal if given too early post-opiate ingestion
  - Initiate 2-4 mg 12-24 hrs post-opiate ingestion & when mild-mod withdrawal sx appear
  - Second dose administered later in day if COWS not increasing or client not too sedated
  - Doses can then increase 4-8 mg daily up to a dose of 24 mg daily

**STIMULANTS**: nicotine, caffeine, cocaine, amphetamines (crystal meth), ADHD meds (methylphenidate, dextroamphetamine), decongestants (DM, pseudoephedrine)

- Produce a quick, temporary increase of energy
- OTHER THAN NICOTINE, no other medication treatment known for other stimulant addictions
  - Off-label, ADHD meds are being used to treat stimulant addiction = harm reduction
- Sub-set of stimulant users may use due to previous undiagnosed or untreated ADHD
  - Treating ADHD may eliminate stimulant use

**NICOTINE**:

**SMOKING CESSATION**:

- Can be a very difficult substance to quit
  - More than heroin!!
- Start with motivational interviewing
- Smoking cessation improves outcomes regarding abstinence from other substances

**MIXED MESSAGES AS HCPS?**

- Focusing on other addictions but ignoring nicotine addiction
- HCPs giving client cigarettes in gift packages
- Prescribers writing smoking passes rather than fresh air passes

**SMOKING CESSATION & PSYCHIATRIC DISORDERS:**

- REDUCED depression, anxiety & stress
- IMPROVED positive mood and QOL

**NICOTINE REPLACEMENT DOSING**:

- Most smokers obtain approx. 2-3 mg of nicotine per cigarette
  - 1 ppd = 20 cigs x 3 mg = 60 mg nicotine per ciay
  - Doses of up to 63 mg NRT patches have been used
- An overdose of nicotine can cause death HOWEVER:
  - There have been no reported deaths related to too much NRT product
  - The more someone smokes, the more they have become tolerant to nicotine
- Nicotine OD: heart palpitations, increased HR & BP, dizziness, nausea, cold sweats
- Treatment: stop smoking, spit out gum or lozenge, reduce patch strength, lay down for 20 mins

**OTHER APPROVED TREATMENTS**:

- Prescriptions treatments: bupropion or varenicline
  - Both are started 1-2 weeks before someone's "quit date"

**VARENICLINE & MENTAL ILLNESS:**

- 2016 meta analysis: "no clear evidence that varenicline was associated with an increased risk of neuropsychiatric or other adverse events compared with placebo"
- United States lifted the black box warning

**PSYCHOTROPIC DRUG LEVELS**:

- Smoking accelerates the metabolism of certain medications (those metabolized by CYP 1A2)
  - Clozapine, olanzapine, haloperidol, chlorpromazine, caffeine → levels may increase if smoking cessation achieved
- If smoking cessation achieved, must also consider if any existing medications may be affected

**HALLUCINOGENS:**

- Distort perceptions, mental processes and emotion
- No known treatments (approved or off-label)

**CANNABIS**:

- Small studies looking at using nabilone to replace marijuana = harm reduction
- No approved medication treatment (yet)

**OPIATE CRISIS 2016:**

**IN BC:**

- Almost 1000 people died in BC in 2016 due to overdose
- Provincially and federally declared a health crisis
- In 2017, we will surpass this number
- Naloxone deregulated and can be purchased without a prescription
- www.towardstheheart.com

**FENTANYL:**

- Fentanyl is 50 – 100 times more toxic than other opioids
- Fentanyl is being detected in multiple substances
  - Opioids and non-opioids

**SAVE ME PROTOCOL FOR USING NALOXONE:**

- **Call 911**
- **STIMULATE:** check pain response; is it overdosed or just passed out?
- **AIRWAY:** check that airway is clear
- **VENTILATE:** administer 1 breath every 5 seconds
- **EVALUATE:** how are things going so far
- **MUSCULAR INJECTION:** administer 1 mL of naloxone
- **EVALUATE:** give another dose of naloxone in 3-5 mins if no response
- Stay with the person and continue to support until help arrives, may need to administer more naloxone
- You can give naloxone even if you don't know if a client has OD on opioid

**IMPORTANT COUNSELLING TIPS**:

- Naloxone doesn't prevent an overdose, it helps to reverse and overdose and may prevent death
- Breathing is super important and often forgotten → no $O_2$ can mean irreversible brain damage even if you prevent death
- Do not use alone – use safe injection sites or where help is easily available
- Start with a small amount of the substance
- Mixing substances (including alcohol) increases the risk of an overdose
- Do not let the overdose victim use again if the overdose is reversed
- DO NOT JUDGE, USE TRAUMA INFORMED LANGUAGE