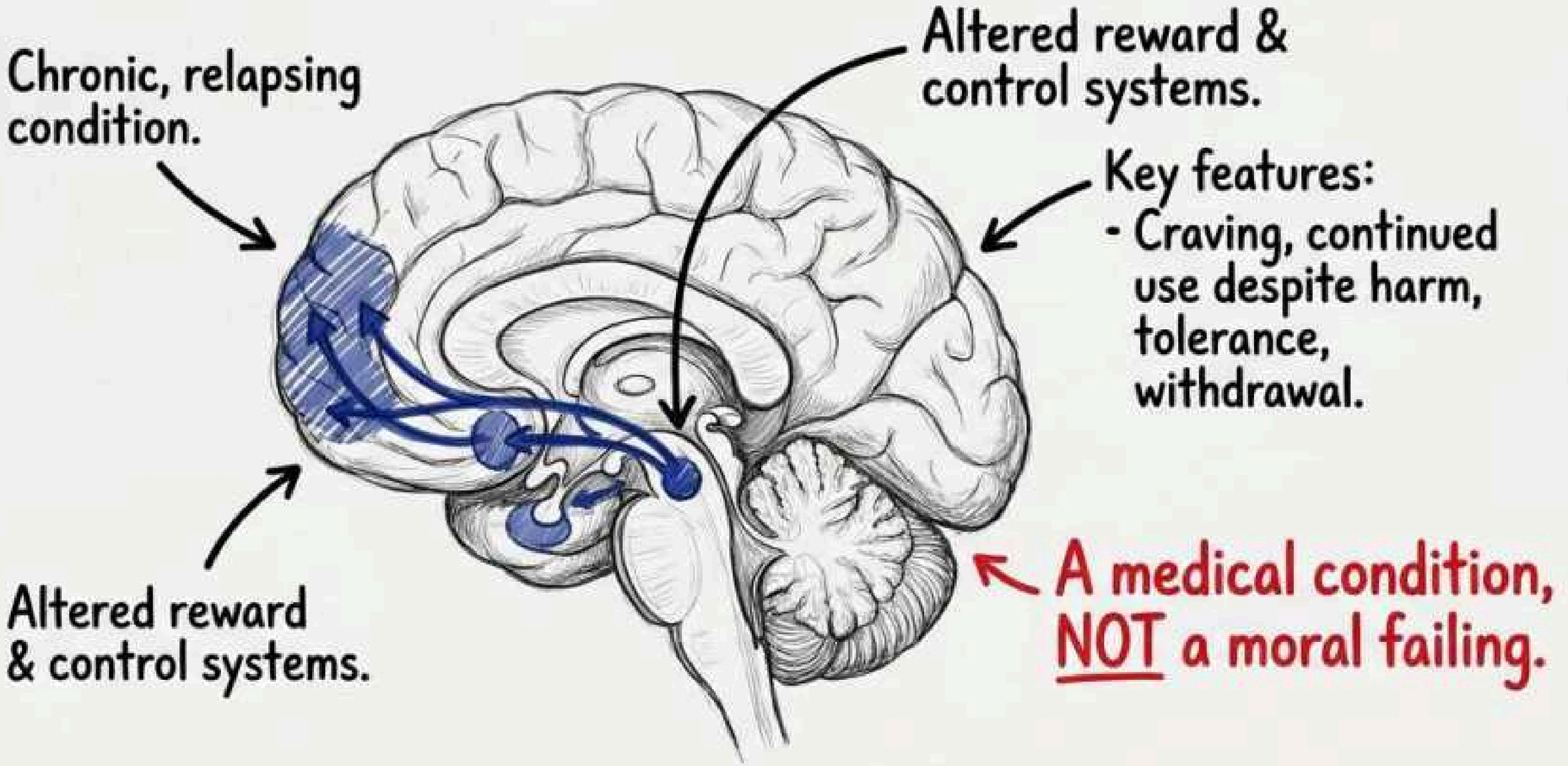
Lecture 4: Substance Use Disorders

¶ 4.1

At a glance:
Alcohol |
Opioids |
Stimulants |
Cannabis |
Tobacco |
Clinical Approach

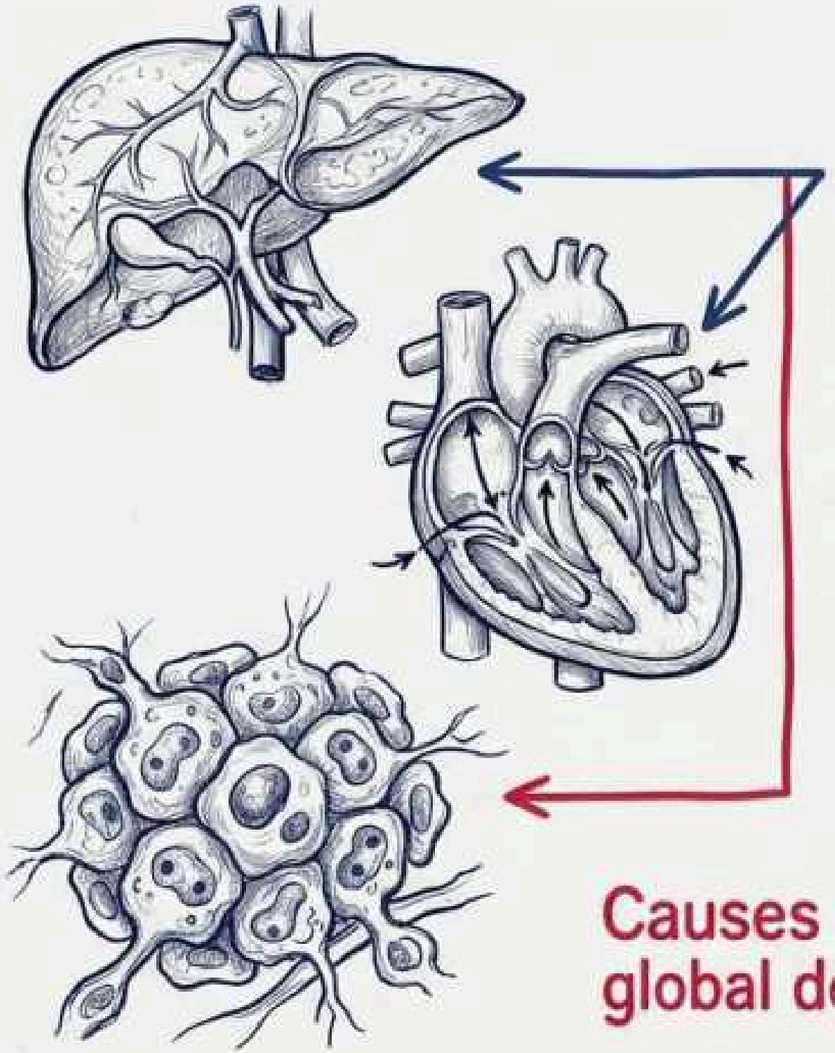


Addiction = (Genetics + Environment) × Substance Exposure

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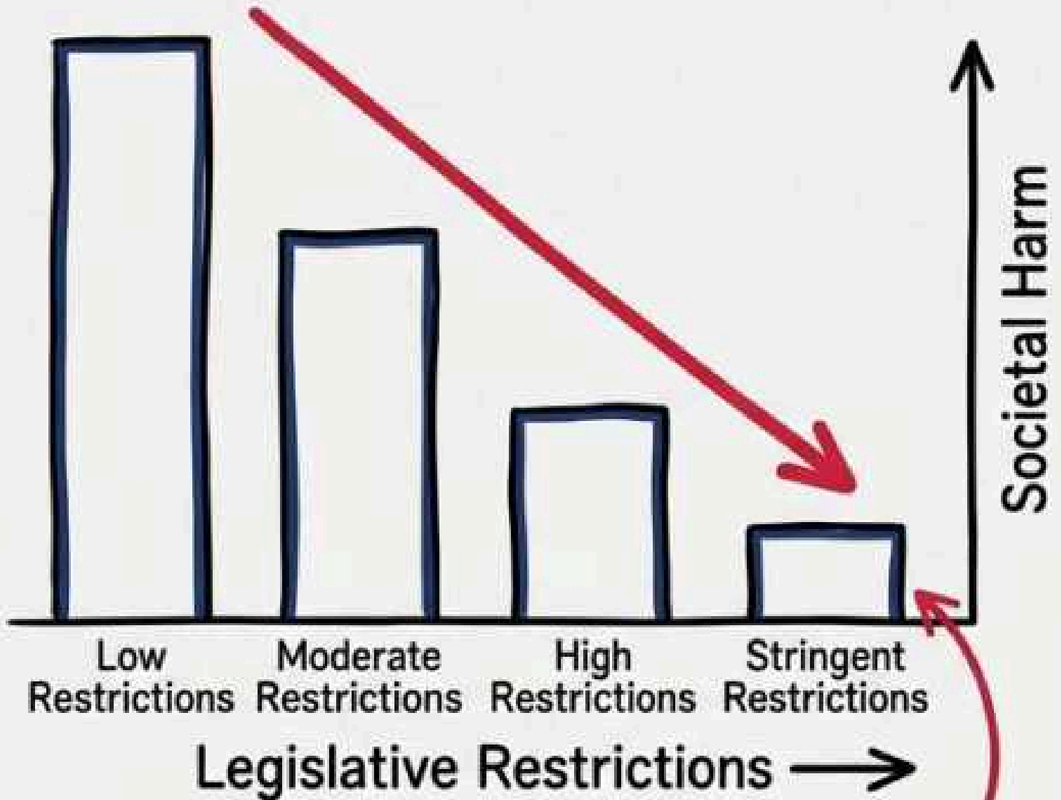
Alcohol is the Most Common Source of Population Harm

§ 4.2



Contributes to liver disease, heart disease, cancers, injuries/ injuries/violence, and mental illness.

Causes millions of global deaths annually.



Population Measures in Action:
Minimum unit pricing (e.g., Scotland 2018)
+ marketing restrictions + restricted availability
= measurable reduction in harm

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The Clinical Pathway: Screening & Brief Intervention

§ 4.3

Short conversations providing feedback and advice—clinically proven in trials to reduce drinking.

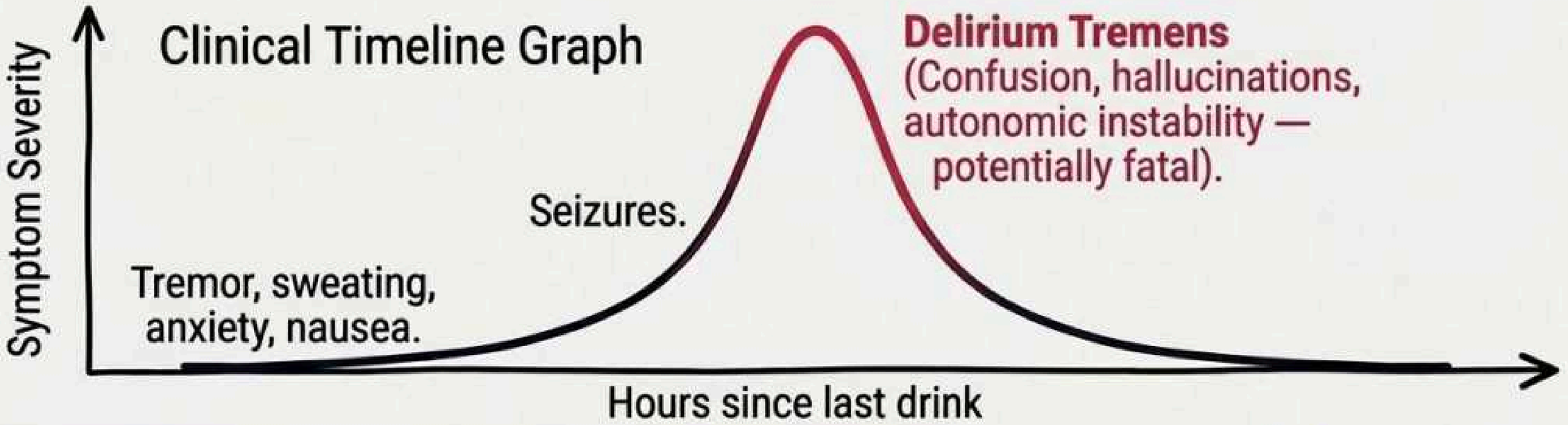


Δ Harm = Screening (AUDIT) + Brief Intervention

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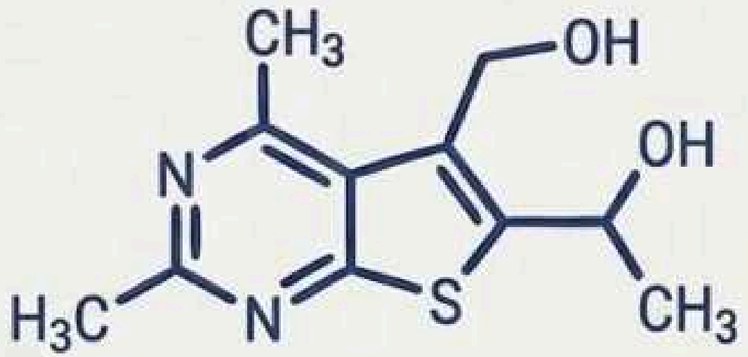
The Biological Danger of Acute Alcohol Withdrawal

§ 4.4



Treatment Protocol:

1. Benzodiazepines: Administered in gradually reducing doses (tapering).
2. Thiamine (Vitamin B1): Required to prevent Wernicke's encephalopathy (a severe, structural brain condition caused by thiamine deficiency).



Thiamine ($C_{12}H_{17}N_4OS^+$)

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Multimodal Strategy for Long-Term Management

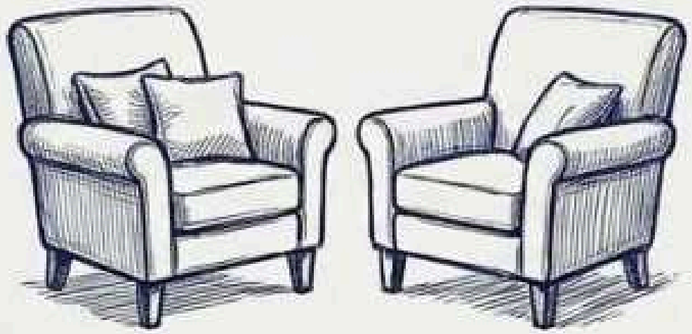
¶ 4.5

Pharmacotherapy



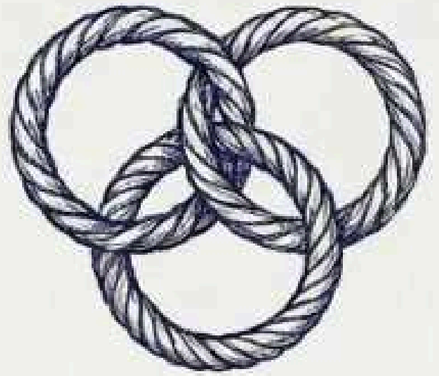
Medicines to support abstinence: Acamprosate, Naltrexone, and Disulfiram.

Psychological



Evidence-based psychological treatments and counseling therapies.

Social & Mutual



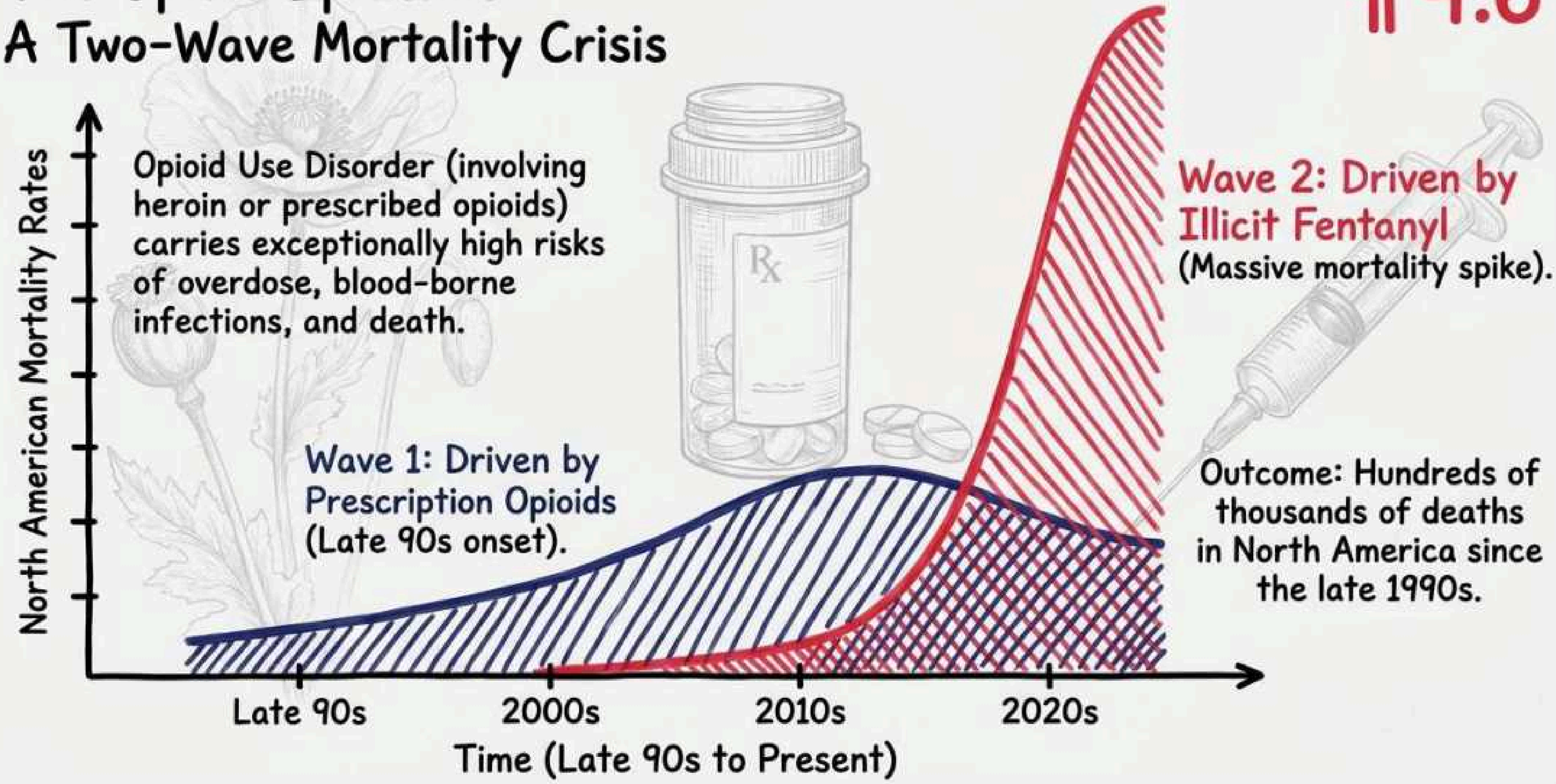
Mutual help groups (e.g., Alcoholics Anonymous) and structured support for families.

Synthesis: Sustained recovery requires integrating pharmacological, psychological, and social pillars.

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The Opioid Epidemic: A Two-Wave Mortality Crisis

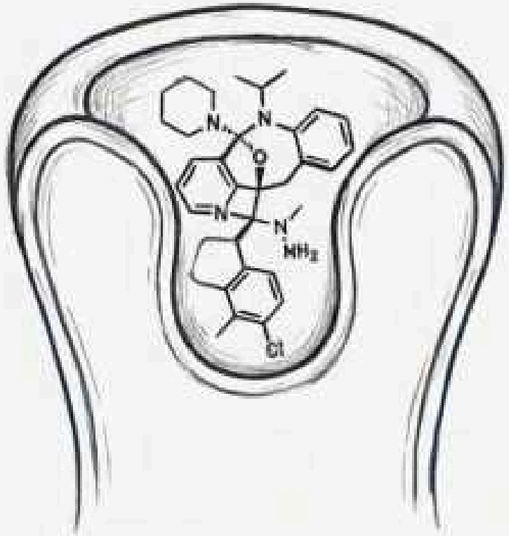
¶ 4.6



Opioid Substitution Treatment & Harm Reduction

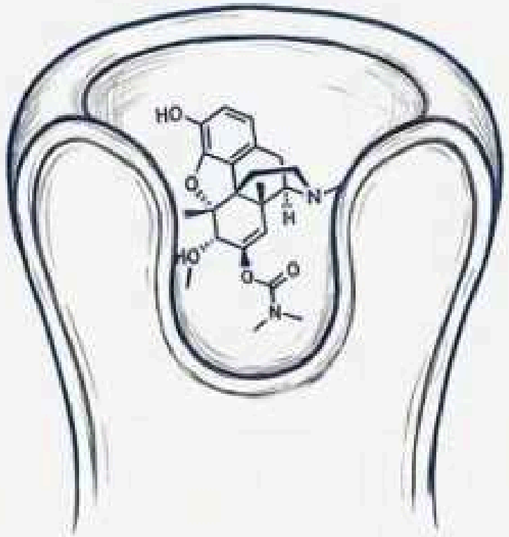
¶ 4.7

Methadone



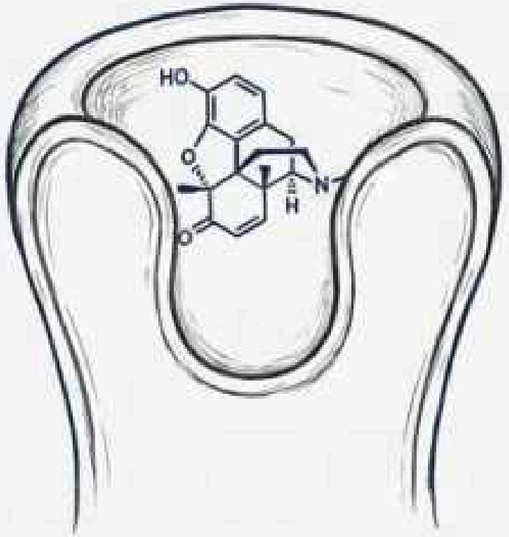
Binds fully to the receptor (Full Agonist).

Buprenorphine



Binds partially to the receptor (Partial Agonist).

Naloxone



Caps and blocks the receptor (Antagonist – Reverses overdose).

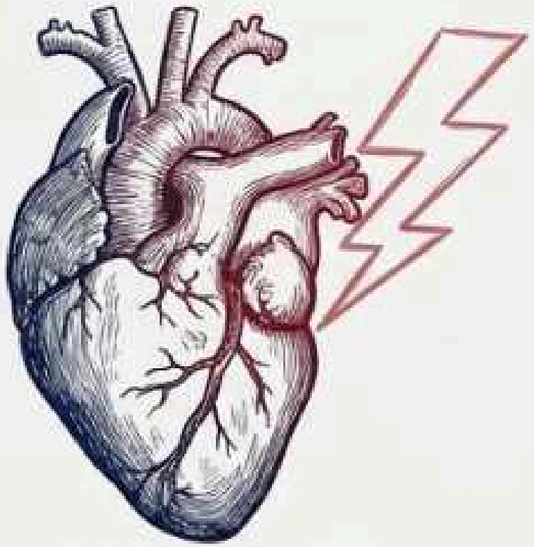
OST (developed by Dole & Nyswander, 1960s) is one of the most effective treatments in medicine.
Clinically proven to reduce: Illicit opioid use, overdose deaths, crime, and HIV transmission.

Survival = **Naloxone** (Overdose Reversal) + **Needle/Syringe Programmes** (Infection Prevention)

Divergent Risks: Stimulants vs. Cannabis

¶ 4.8

Stimulants (e.g., Cocaine, Methamphetamine)



Acute cardiovascular events (Heart attacks, strokes), stimulant-induced psychosis, and severe dependence.

Cannabis



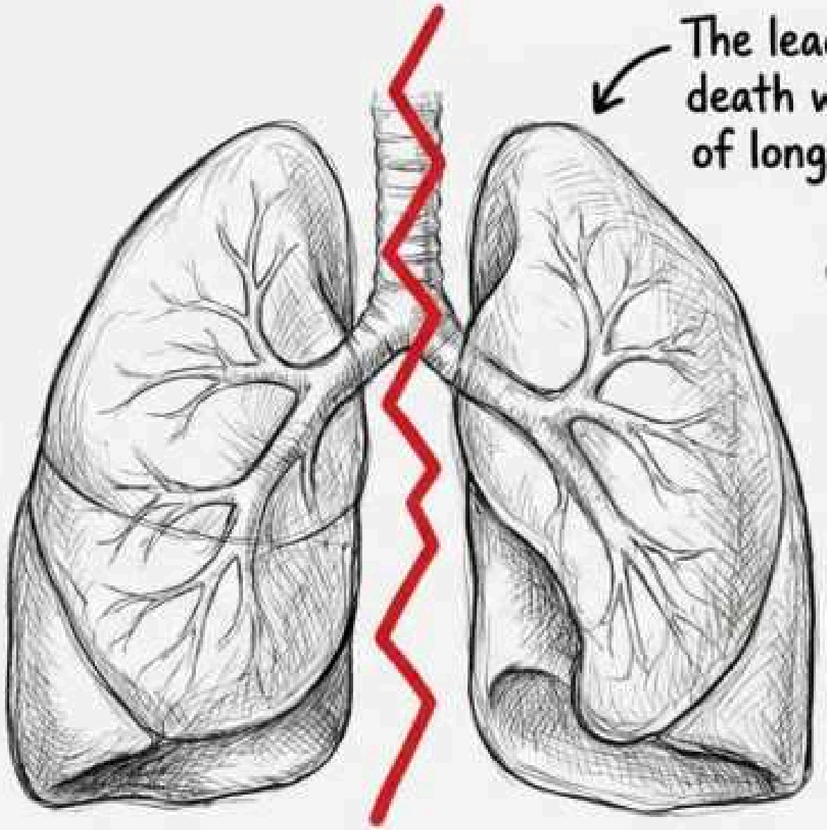
Dependence and increased risk of psychosis (Heavily linked to high-potency products and heavy use during adolescence).

Primary Intervention for Both: Psychological Approaches (Lack of standard pharmacological substitution treatments).

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Tobacco Mortality & The Cessation Equation

¶ 4.9



The leading preventable cause of death worldwide. Kills ~50% of long-term users. Nicotine is highly addictive.

Max Cessation Success =

(NRT v Varenicline v Bupropion)

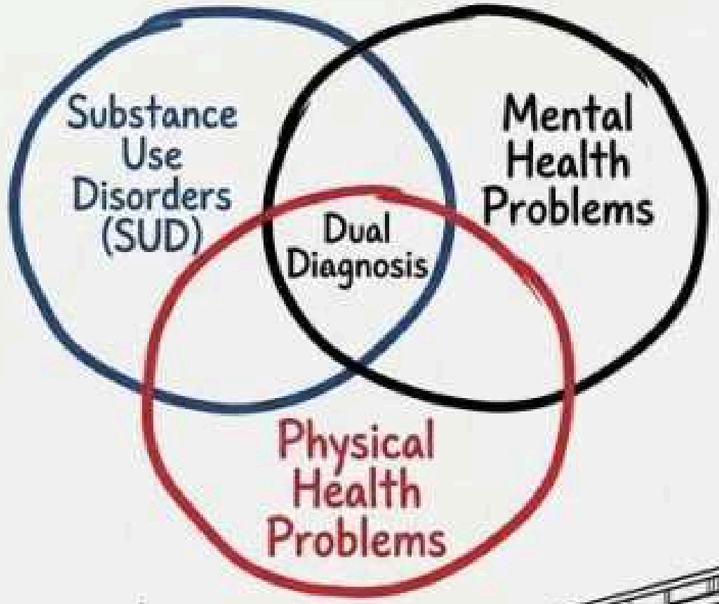
+ Behavioural Support

- Stopping at ANY age brings physiological benefits.
- E-cigarettes have helped some smokers quit, though long-term clinical effects are currently under study.

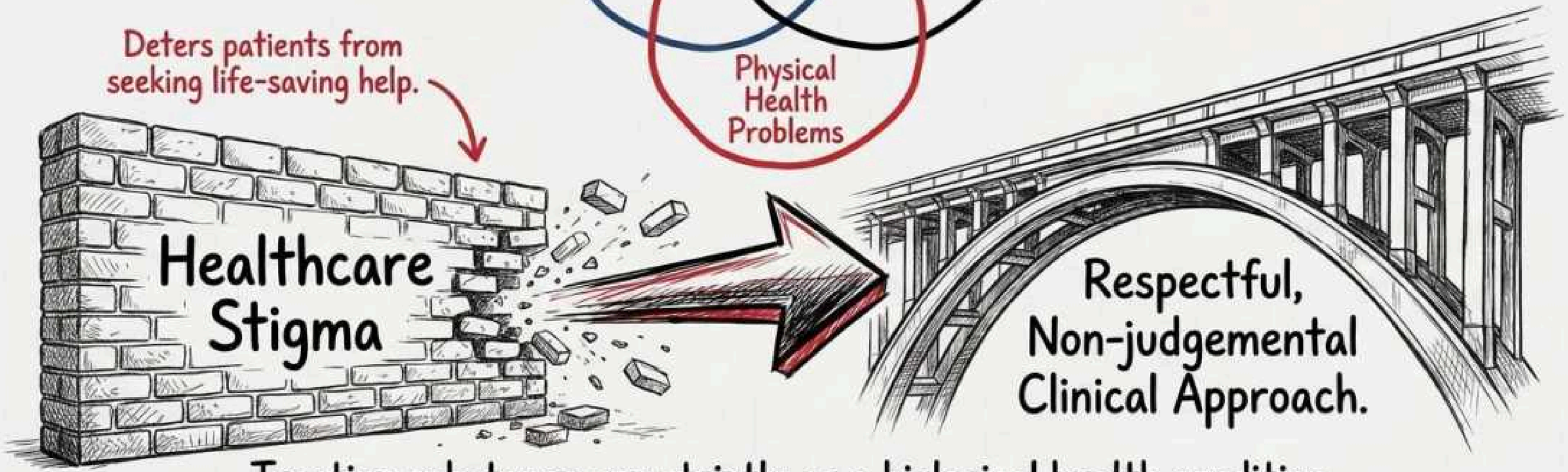
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The Patient: Dual Diagnosis and Dismantling Stigma

¶ 4.10



Deters patients from seeking life-saving help.



Treating substance use strictly as a biological health condition drastically improves patient engagement and clinical outcomes.

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Lecture Synthesis: Core Clinical Takeaways

¶ 4.11

The Nature of SUD

Chronic, biological health conditions (NOT moral failures)

Highest Population Harm

Alcohol and Tobacco cause the most widespread global morbidity and mortality.

Acute Clinical Danger

Physical withdrawal (especially Alcohol) is biologically dangerous and potentially fatal.

Life-Saving Interventions

Opioid Substitution Treatment (OST) & Naloxone distribution definitively save lives.

→ Next Lecture Transition → Pharmacological and Psychological Treatments used in Psychiatry

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