

# Final Cheat Sheet

## Substance Misuse & Toxicity

### Substance Use Disorders (SUD)

SUD involves losing control over substance use despite harmful effects. Key aspects include intense cravings, the development of tolerance (needing higher doses for the same effect), and withdrawal symptoms when use stops. In contrast to substance abuse—which may involve harmful patterns without dependency—SUD is marked by true dependency.

### Alcohol Harm Reduction

Population-level strategies aim to reduce alcohol-related harm through:

- **Deterrence:** Fines or penalties (e.g., for drink-driving) discourage unsafe behavior.
- **Access Control:** Raising legal drinking ages limits early exposure.
- **Technology:** Tools like ignition interlock devices help prevent repeat offenses.
- **Random Testing:** Roadblocks and breath tests deter drink-driving.

### Opioid Withdrawal

Common signs include sweating, restlessness, muscle/joint aches, and a runny nose. These physical symptoms differ from psychological effects (like anxiety) and contrast with alcohol withdrawal symptoms, which can include tremors and seizures.

## Genomics

### Genetic Diseases

- **Purely Genetic:** Conditions like Down Syndrome arise solely from genetic changes.
- **Multifactorial:** Diseases such as Type 2 Diabetes and obesity result from both genetic predispositions and environmental factors.
- **Infectious Diseases:** Caused by pathogens, they are distinct from genetic conditions.

### Genomic Epidemiology

This field integrates genomic data with traditional methods to provide molecular insights into population health, extending beyond individual-focused studies like pharmacogenomics.

## Pharmacogenomics & HLA Associations

For example, carriers of HLA-B\*1502 have an increased risk of Stevens-Johnson Syndrome with carbamazepine, whereas HLA-C variants are not linked. This approach enhances drug safety by tailoring treatments to individual genetic profiles.

## Humanitarian Emergencies

### Historical Pandemics & The Black Death

The Black Death spread rapidly due to ineffective, localized public health measures and global trading patterns. Modern responses, by contrast, are more coordinated and global.

### Global Health Principles & Determinants

Global health seeks international equity by combining prevention, clinical care, multidisciplinary strategies, and transnational cooperation. Education improves health literacy and resource access, while working conditions, though important, are secondary to broader socioeconomic factors.

### Disaster Typology & Resilience

- **Complex Disasters:** Combine natural events with human crises (e.g., disease outbreaks in displaced populations).
- **Natural Disasters:** Purely environmental (e.g., earthquakes).
- **Technological Disasters:** Result from human-made events (e.g., industrial accidents). Resilience depends on strong education, robust infrastructure, low poverty, and equitable income, which together enable effective recovery.

## Climate, Environment & Public Health

### Climate Concepts

- **El Niño:** A temporary phenomenon causing short-term changes in rainfall.
- **La Niña:** Typically brings cooler & wetter conditions (counterbalance El Niño's effects).
- **Climate Change:** Long-term trends affecting weather patterns. Mitigation efforts (reducing fossil fuels, clean energy adoption) address causes, while adaptation (heat stress education, mental health support) manages impacts.

### Triple Planetary Crises

This framework covers climate change (extreme weather), biodiversity loss (ecosystem degradation), and pollution (contaminant exposure), each representing a distinct yet interconnected challenge.