Midterm Cheat Sheet

Introduction to Public Health

Public Health focuses on populations and prevention rather than patients and treatment.

1. Primary Prevention – Prevents diseases or injuries before they occur by reducing risk factors and promoting healthy behaviors.
2. Secondary Prevention – Detects and intervenes early to slow disease progression or prevent complications.
3. Tertiary Prevention – Manages existing conditions to minimize impact, prevent complications, and support long-term care.

> ☰ **Example**
>
> 1. Enforcing jaywalking as a legal offense.
> 2. Providing free annual health screenings.
> 3. Implementing a feeding program for slum dwellers in Manila, Philippines.
> 4. Mandating no academic activities during NUS Well-Being Day.

Health Systems

Scopes and Goals

> ✏️ **Note**
>
> The WHO World Health Report 2000 outlined three key goals:
>
> 1. Good Health
> 2. Responsiveness to Population Needs
> 3. Fair Financial Contribution

Health Systems in Singapore

Key organizations managing Singapore's healthcare system:

> ⓘ **Info**
>
> 1. National University Health System (NUHS) – Western Region
> 2. National Healthcare Group (NHG) – Central Region
> 3. Singapore Health Services (SingHealth) – Eastern Region

Health screening programs in Singapore:

> **☰ Example**
>
> 1. **Colorectal Cancer** – Annual screening for individuals 50+.
> 2. **Project Silver Screen** – Functional screening for individuals 60+.
> 3. **Screen for Life (SFL)** – A national initiative by HPB.
> 4. **Cervical Cancer** – Screening every 3 years (Pap smear) or 5 years (HPV test) for women 25+.
> 5. **Chronic Diseases** – Screening every 3 years for individuals 40+.

Public Health Framework

Public Health Approach

1. **Monitor & Surveillance** – Identify problems through data collection (What, When, Where, Who, How).
2. **Identify Risk & Protective Factors** – Research causes (Why).
3. **Develop & Evaluate Interventions** – Test effectiveness and target groups.
4. **Implementation** – Scale up successful interventions and assess cost-effectiveness.

Socio-Ecological Model

A multi-layered model where **outer layers influence inner layers**.

> **✓ Success**
>
> 1. **Intrapersonal (Individual):** Smoking cessation programs educating individuals on risks.
> 2. **Interpersonal:** Peer support groups for diabetes management.
> 3. **Institutional:** Workplaces mandating flu vaccinations.
> 4. **Community:** City-wide campaigns promoting walking and cycling.
> 5. **Policy:** Laws requiring plain tobacco packaging.

Health Intervention

Three levels of intervention: **micro, meso, macro**.

> **☰ Example**
>
> 1. **Micro** – A student chooses a salad over fried food.
> 2. **Meso** – School canteens follow healthy meal guidelines.
> 3. **Macro** – The government regulates school meal nutrition.

Nutrition

Types of Nutrients

1. **Macronutrients** – Needed in large amounts; provide energy (carbs, proteins, fats).
2. **Micronutrients** – Needed in small amounts; support body functions (vitamins, minerals).

Types of Malnutrition

Three main categories:

> ✏️ **Note**
>
> 1. **Undernutrition** – Stunting (low height for age), wasting (low weight for height), underweight (low weight for age).
> 2. **Micronutrient Malnutrition** – Deficiencies in vitamin A, iron, iodine, etc.
> 3. **Overnutrition** – Overweight, obesity, diet-related diseases.

Types of Plant-Based Diets

> ⚠️ **Warning**
>
> | Diet Type | Red Meat (🥩) | Fish (🐟) | Eggs (🍳) | Dairy (🍼) | Notes |
> |---|---|---|---|---|---|
> | Pescatarian | ❌ | ✅ | ✅/? | ✅/? | No red meat, may consume eggs/dairy |
> | Vegetarian | ❌ | ❌ | ✅/? | ✅/? | No meat or fish, may consume eggs/dairy |
> | Lacto-Vegetarian | ❌ | ❌ | ❌ | ✅ | No meat, fish, or eggs; allows dairy |
> | Ovo-Vegetarian | ❌ | ❌ | ✅ | ❌ | No meat, fish, or dairy; allows eggs |
> | Lacto-Ovo-Vegetarian | ❌ | ❌ | ✅ | ✅ | No meat or fish; allows eggs and dairy |
> | Vegan | ❌ | ❌ | ❌ | ❌ | No animal products at all |

Infectious Diseases

Types of Emerging Diseases

1. **Newly Emerged** – Recently appeared or rapidly increasing in incidence/geographic range (e.g., COVID-19).
2. **Re-emerging** – Previously controlled but resurging due to antimicrobial resistance, climate change, reduced vaccinations (e.g., Tuberculosis).

Surveillance Systems

> **☰ Example**
>
> 1. **Genomic Surveillance** – Sequencing COVID-19 variants to track mutations.
> 2. **Syndromic Surveillance** – Hospitals reporting early food poisoning cases for outbreak detection.
> 3. **Sentinel Surveillance** – Clinics collecting flu samples to monitor trends.
> 4. **National Notifiable Disease Surveillance** – Doctors reporting measles cases to national databases.
> 5. **Seroprevalence Surveillance** – Analyzing blood samples to estimate dengue immunity levels.