

# Concept of Epidemiology

Saengsit Kritsadee, ATM.Dr., Ph.D.

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1. Definition and scope of epidemiology
2. Host Agent and Environment
3. Principles of Disease Prevention and Control
4. Natural history of disease
5. Levels of prevention
6. prevention

# “Epidemiology”

- Epi = On, Upon
- Demos = People
- Logos = Knowledge

- **Endemic** : Refers to a disease or infection that is particular to a particular group of people for a very long time period. Endemic refers to a disease that is normally occurring in a population.
- **Epidemic** : Refers to an increase in a particular disease or infection in a group of people over what is normally occurring in the particular population.
- **Pandemic** : Refers to an increase of a particular disease or infection over what is normally occurring in the worldwide population.

# Epidemiology

- Distribution
- Determination
- Human population
- Dynamic of disease
- Disease and non-disease conditions
- Infectious and non-infectious diseases
- Prevention and control

# Epidemiology

- Infectious diseases
- Non-Infectious diseases
- Medical and health care
- Environmental and occupational health
- Other
  - Health services research

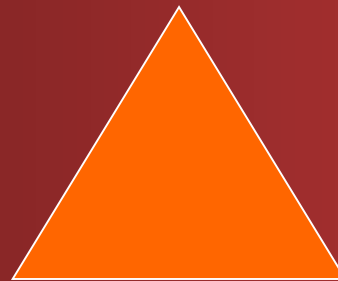
# Host Agent and Environment

Agent	Host	Environment
<p><b>Infectious:</b></p> <ul style="list-style-type: none"><li>■ bacteria</li><li>■ viruses</li><li>■ parasite</li></ul> <p><b>Chemical:</b></p> <ul style="list-style-type: none"><li>■ poisons</li><li>■ allergens</li></ul> <p><b>Physical:</b></p> <ul style="list-style-type: none"><li>■ radiation</li><li>■ impact</li></ul>	<p>Genetic factors</p> <p>Personality</p> <p>Age</p> <p>Gender</p> <p>Race</p> <p>Immunities</p> <p>Behavior</p> <p>Lifestyle</p>	<p><b>Social:</b></p> <ul style="list-style-type: none"><li>■ Social Economic Status</li><li>■ Country of residence</li></ul> <p><b>Physical:</b></p> <ul style="list-style-type: none"><li>■ pollution (air, water)</li><li>■ heat, cold</li><li>■ light</li><li>■ disaster</li></ul>

## ■ Stage of equilibrium

Agent

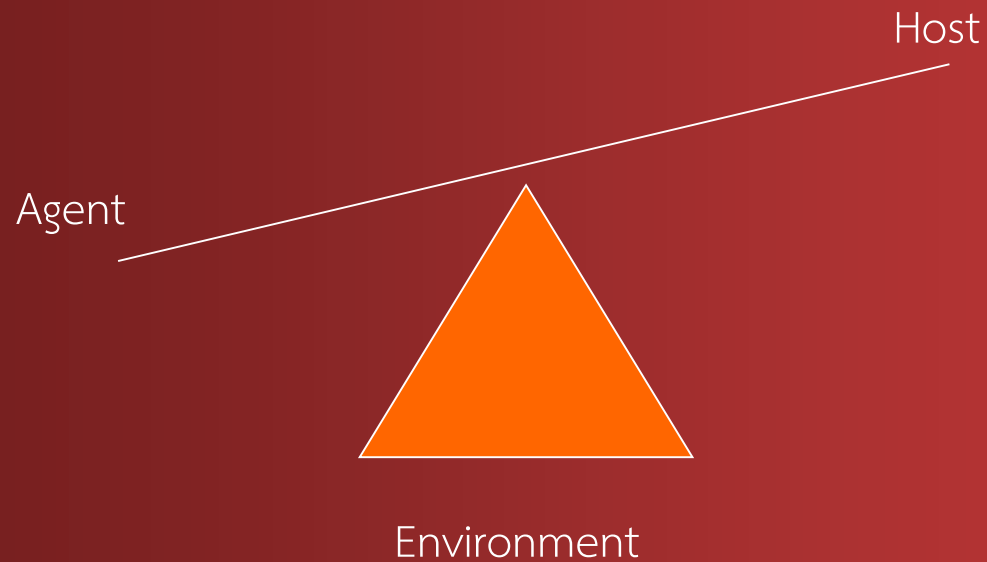
Host



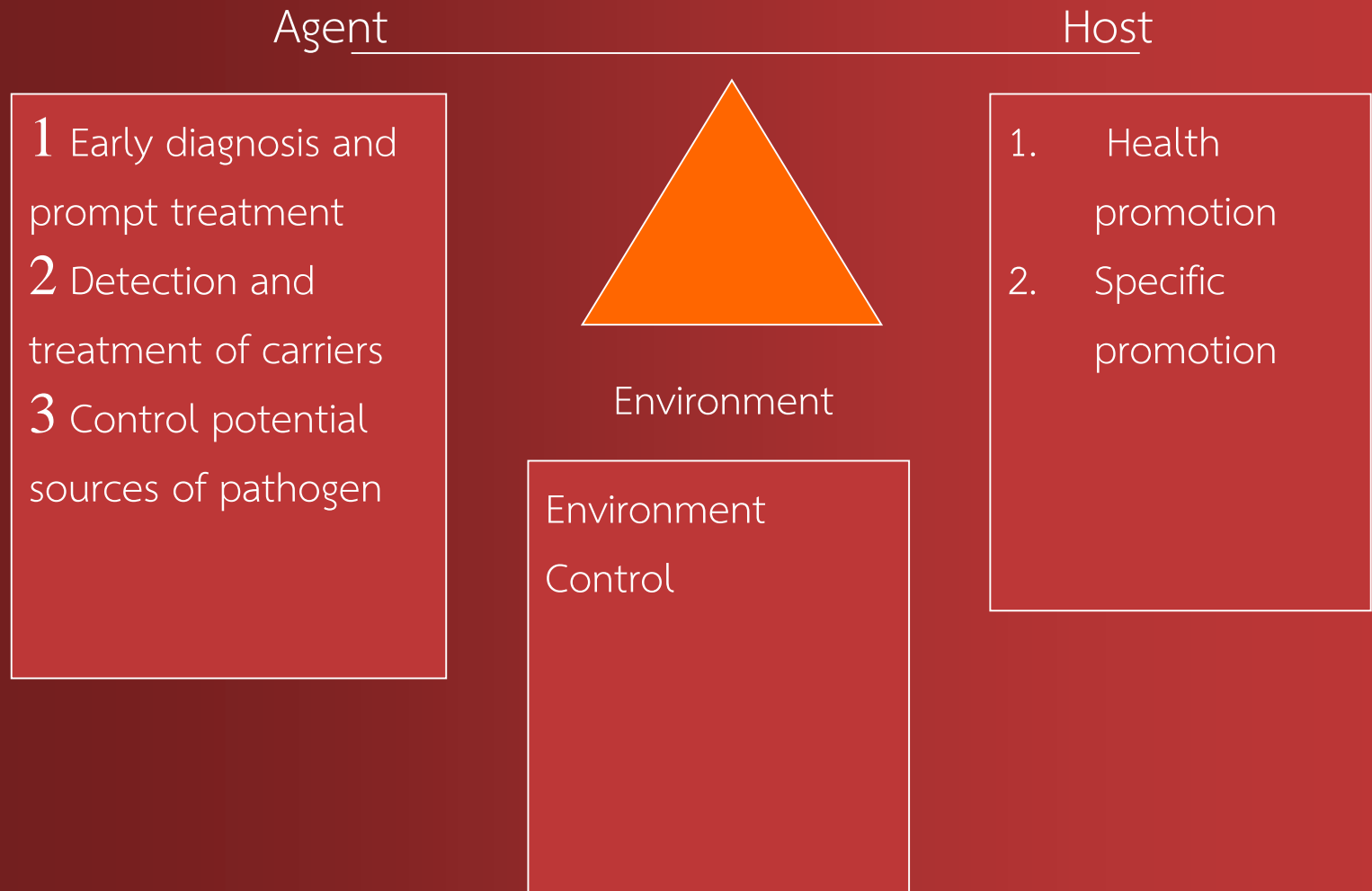
Environment



## ■ Stage of unequilibrium



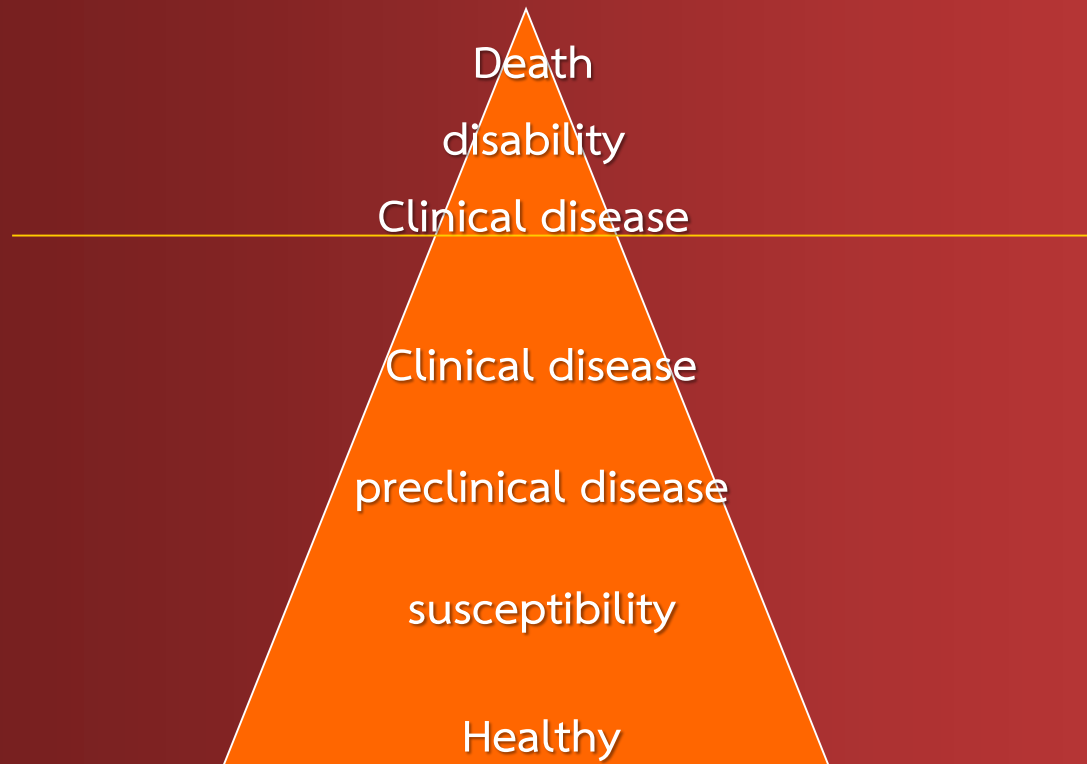
# ■ Principles of disease prevention and control



# Natural history of disease 4 stage

- Stage of susceptibility
- Stage of preclinical disease
- Stage of clinical disease
- Stage of disability

# Natural history of disease



# Levels of prevention

- primary prevention
- secondary prevention
- tertiary prevention

# primary prevention

- Health Promotion
- Specific Protection

# secondary prevention

- Early detection of asymptomatic cases
- Early detection of symptomatic cases

# Tertiary prevention

- Disability limitation
- Rehabilitation



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