



มหาวิทยาลัยราชภัฏนครปฐม
Nakhon Pathom Rajabhat University

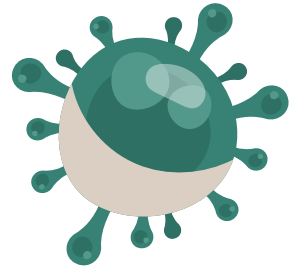
มหาวิทยาลัยราชภัฏนครปฐม
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CHAPTER 2

**Natural of Diseases
and Distribution**

(ธรรมชาติการเกิดโรคและการกระจายของโรค)



Episode 1

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Epidemiologic triad



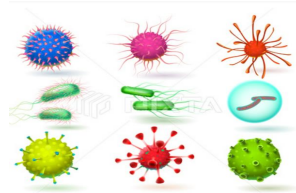
2

The nature of a disease and
distribution in a population (man)

Epidemiologic triad (ปัจจัยสามทางวิทยาการระบาด)

Agent

• ปัจจัยก่อโรค



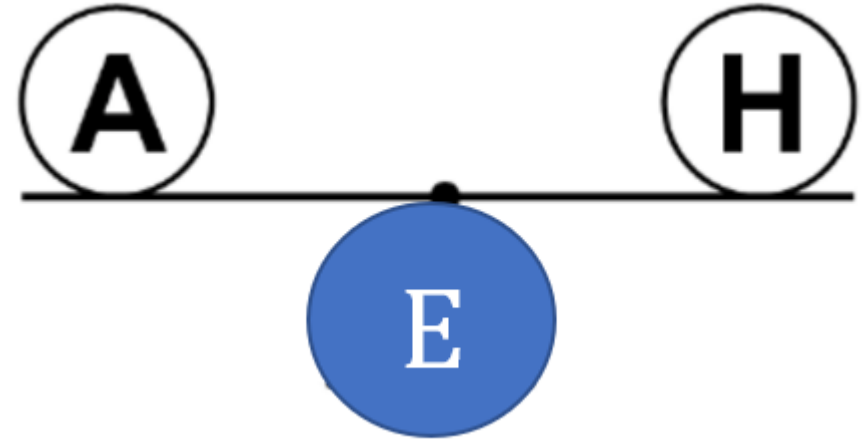
Host

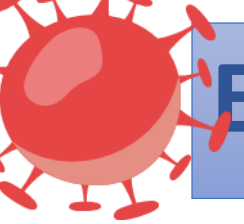
• มนุษย์



Environment

• สิ่งแวดล้อม



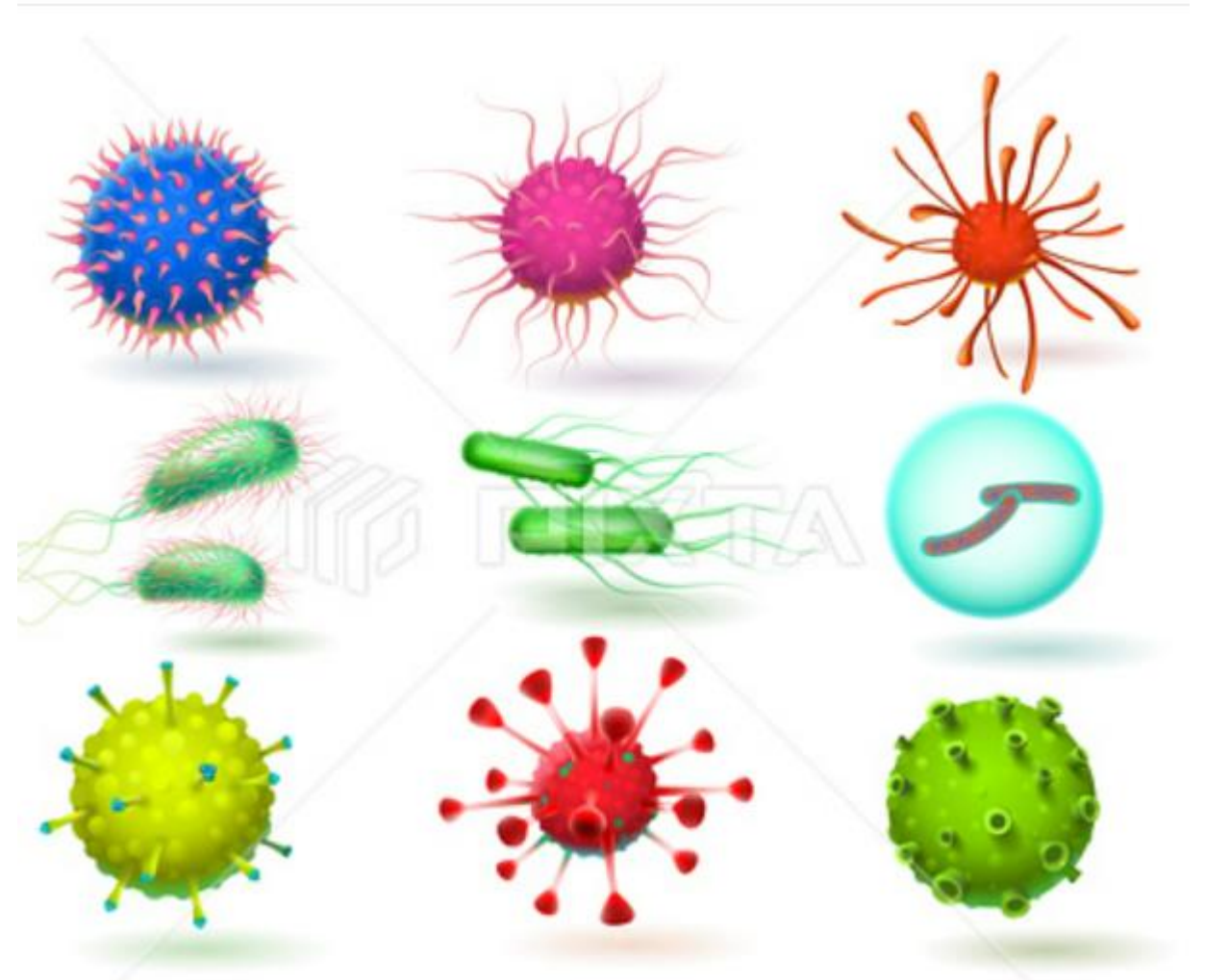


Epidemiologic triad (ปัจจัยสามทางวิทยาการระบาด)



AGENT (ปัจจัยก่อโรค)

- **Physical agent**
- **Chemical agent**
- **Physiological pathogens**
- **Biological agent**



PICTURE from: <https://www.pixtastock.com/illustration/50493745>

Epidemiologic triad (ปัจจัยสามทางวิทยาการระบาด)

Behaviors

Personal habits
Sexual practices,
Sexual practices
Hygiene

Beliefs
Attitudes
Culture

Psychological aspect



Susceptibility

Age

Sex

Genetic

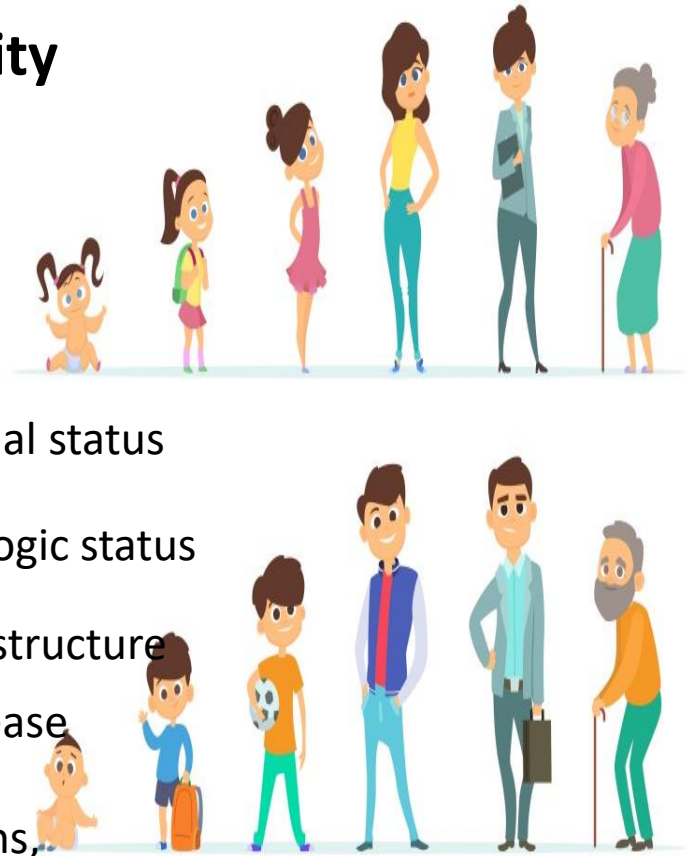
Nutritional status

Immunologic status

Anatomic structure

Underlying disease

Presence of or medications,



Host refers to the human who can get the disease.

Epidemiologic triad (ปัจจัยสามทางวิทยาการระบาด)

ENVIRONMENT

Biologic factor



- ✓ Human population
- ✓ Food plants
- ✓ Vectors

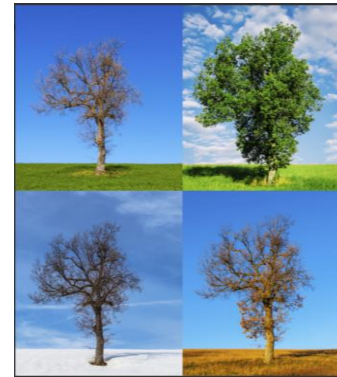


Geography

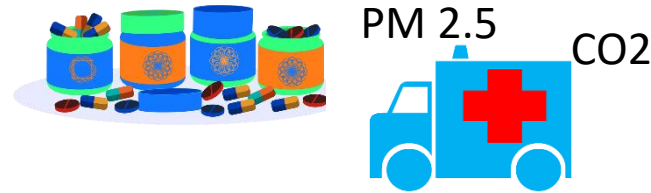


Physical factor

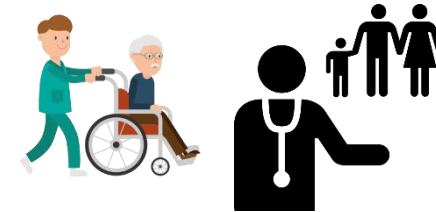
Season



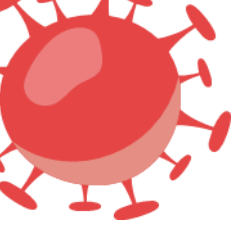
Chemical factor



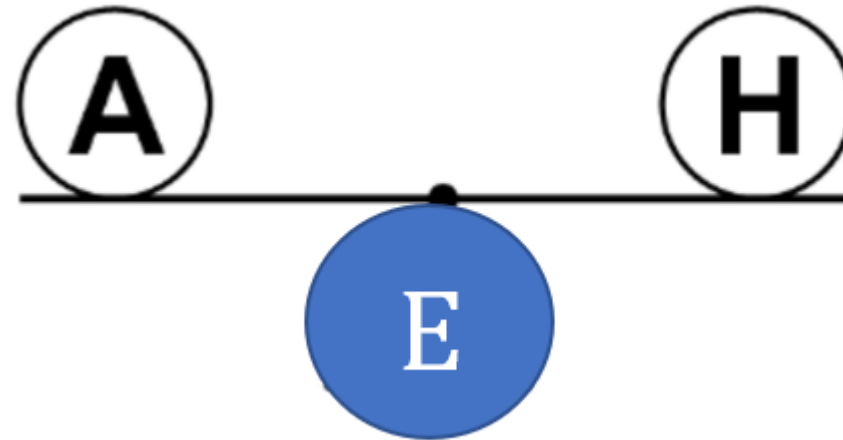
Socioeconomic factor



Environment refers to extrinsic factors that affect the agent and the opportunity for exposure.



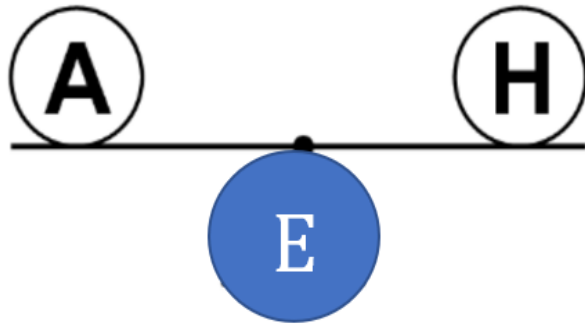
Interaction of the Host, Agent, and Environment



Interaction of the Host, Agent, and Environment

Prepathogenesis Period

Equilibrium

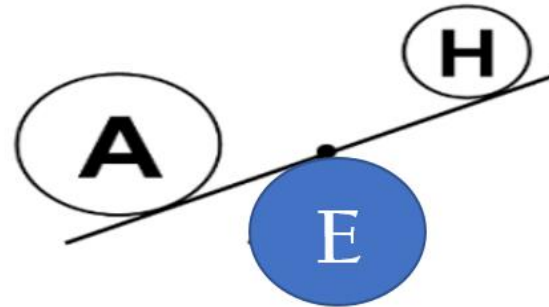


Model 1

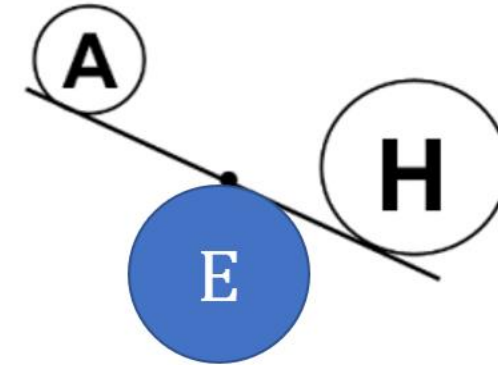
Pathogenesis Period

Agent Change

Host Change



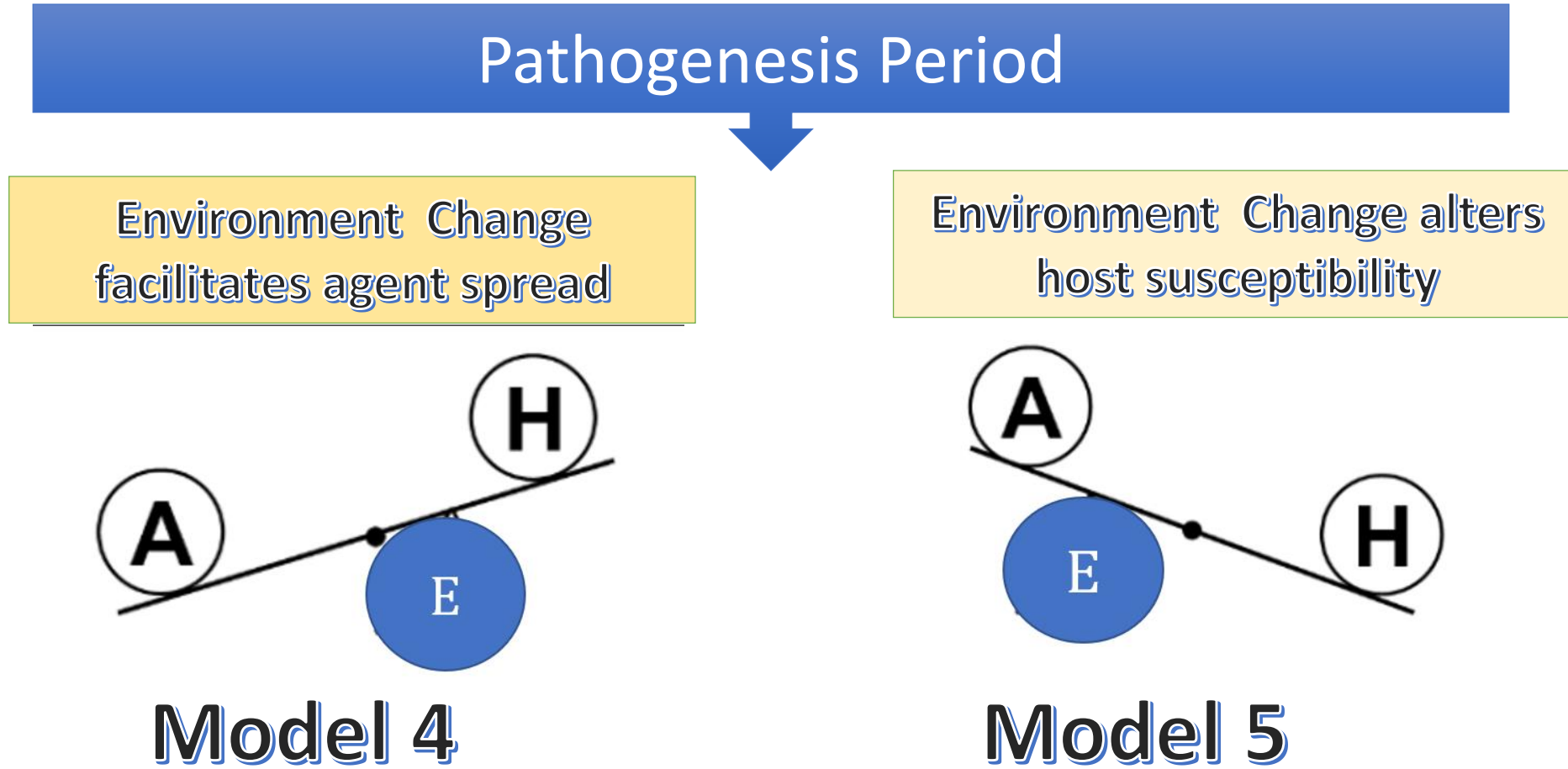
Model 2



Model 3



Interaction of the Host, Agent, and Environment





1

The nature of a disease in a population (man)



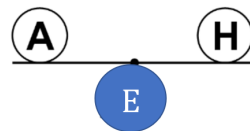
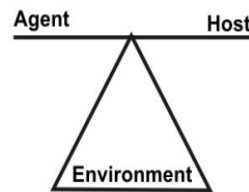
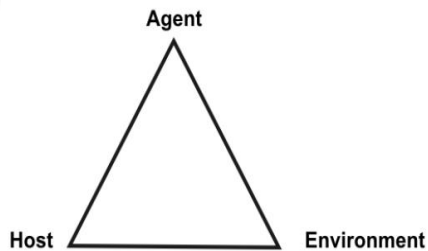


Concepts of Disease Occurrence

➤ Disease and other health events do not occur randomly in a population.

It occurs in some members of the population.

➤ Risk factors may not be distributed randomly in the population.





The nature of a disease in a population

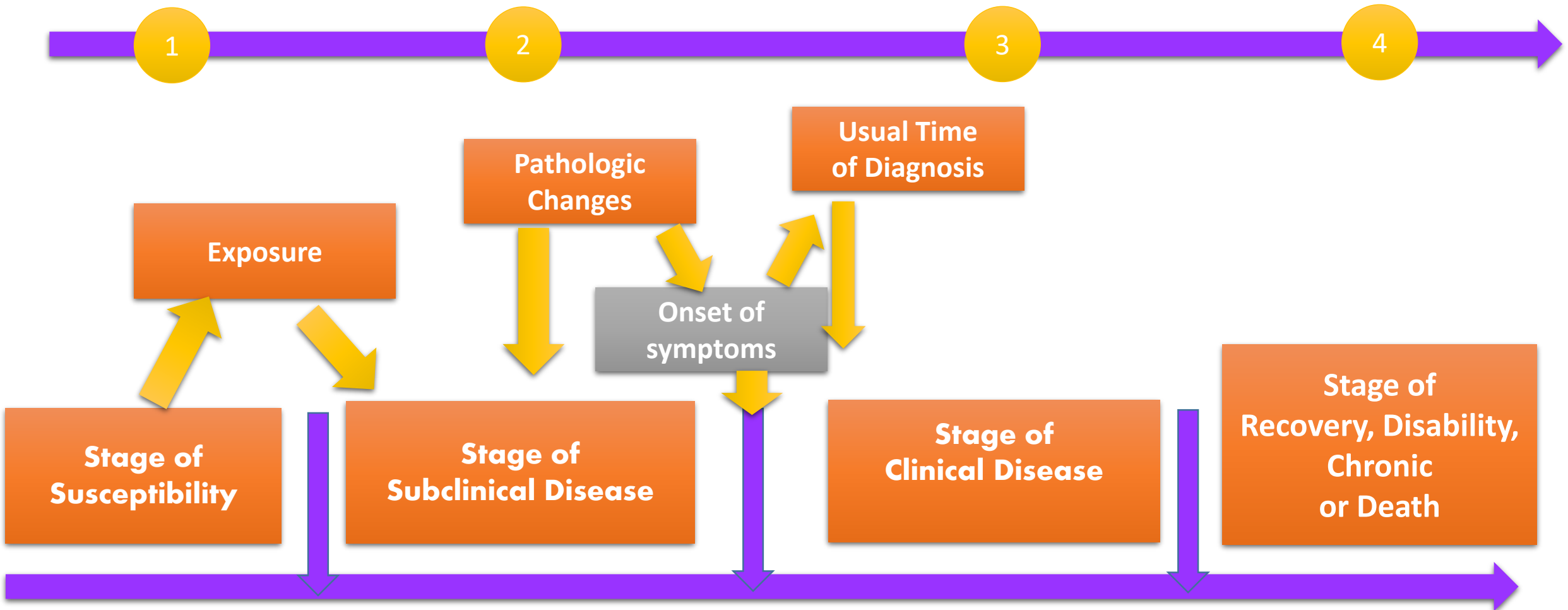
- Natural history of disease refers to the **progression of a disease process** in an individual **over time, in the absence of treatment.**

Source: Centers for Disease Control and Prevention. Principles of epidemiology, 3rd ed. Atlanta: U.S. Department of Health and Human Services; 2012, p71.





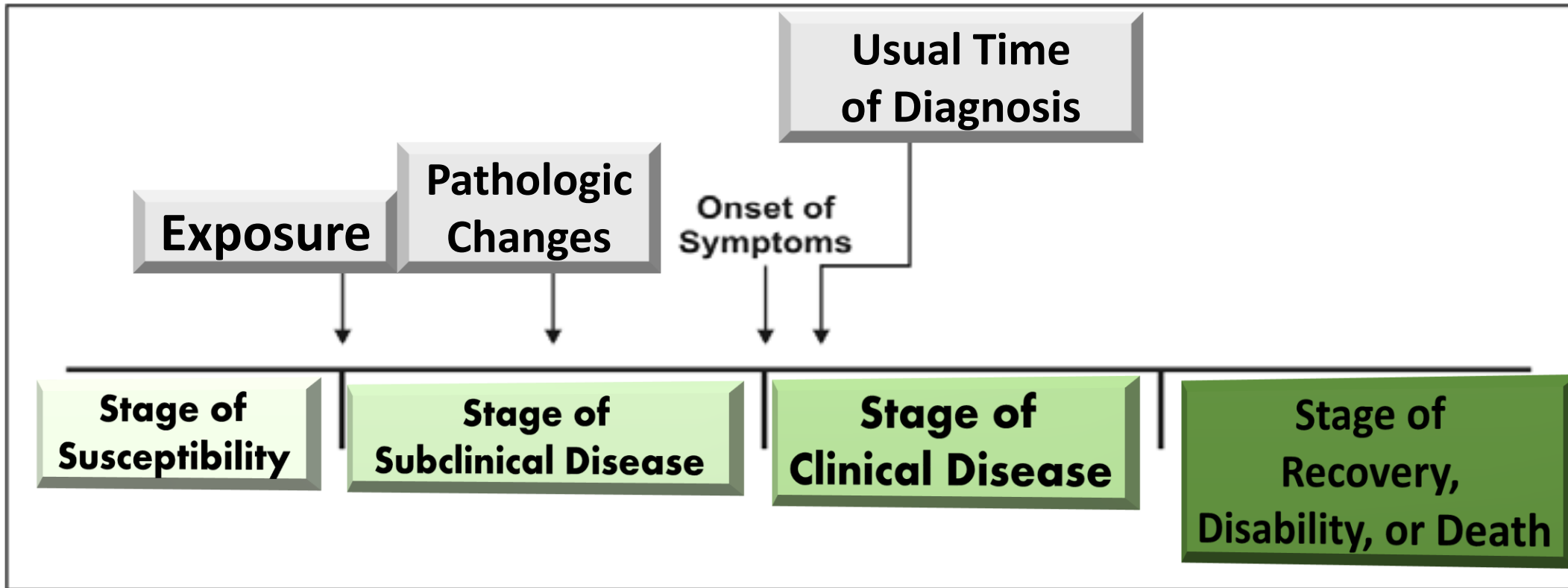
Natural of disease timeline



Source: Centers for Disease Control and Prevention. Principles of epidemiology, 3rd ed. Atlanta: U.S. Department of Health and Human Services; 2012, p71.



Natural of disease timeline



Source: Centers for Disease Control and Prevention. Principles of epidemiology, 3rd ed. Atlanta: U.S. Department of Health and Human Services; 2012, p71.

2

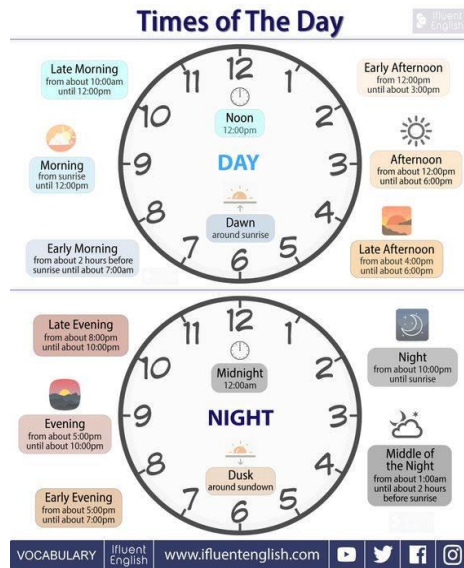
The distribution of a disease in a population





The distribution of a disease in a population

✓ Time



✓ Place



✓ Certain individual characteristics of the people



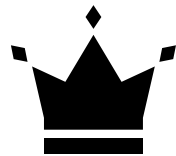
The distribution of a disease in a population



- The distribution by various geographic areas



- The frequency of the disease distribution by age, sex, race, socioeconomic class, and individual living habits (such as smoking, alcohol consumption, etc.)



Summary

1

Epidemiologic triad



2

The nature of a disease in a
population (man)



Thank You for Your Attention



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to be continued

