



INTRODUCTION to PUBLIC HEALTH

Ahmet SALTİK, MD

Professor of Public Health

MSc, in Health Law

BSc in Public Administration & Political Sciences



"...public health promotes and protects the health of people and the communities where they live, learn, work, and play."

**Phase 1 lecture, 2021 - 2022
academic year, spring semester
19th oct. 2021, Ankara - TURKIYE**

Course Topics

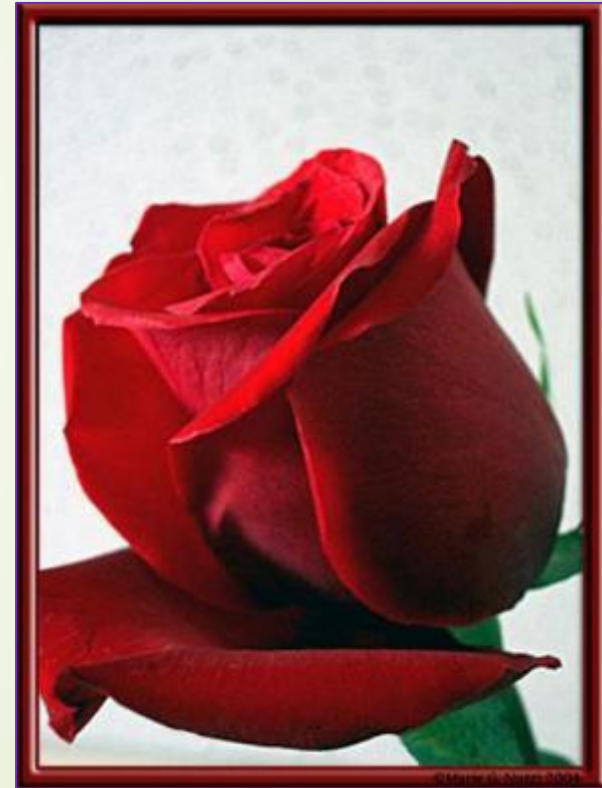
Introduction to Public Health

- 1. Public Health Definition and Key Terms*
- 2. History of Public Health**
- 3. A Public Health Approach*
- 4. Core Functions and Essential Services of Public Health**
- 5. Stakeholder Roles in Public Health*
- 6. Determining and Influencing the Public's Health**

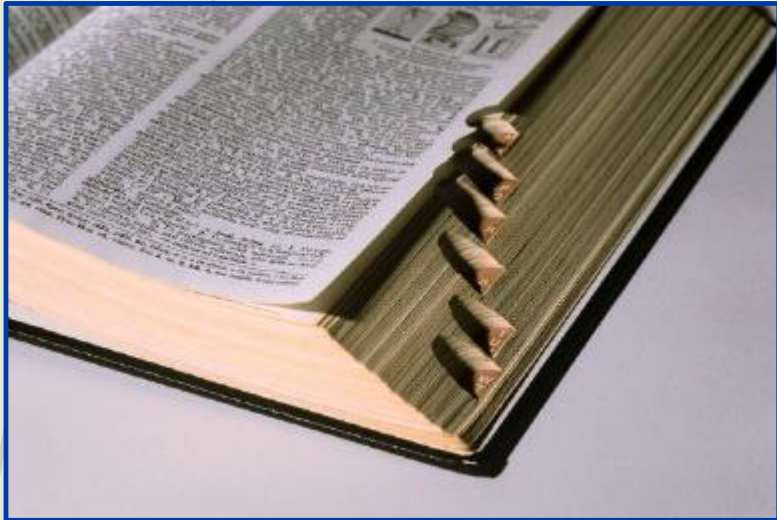
Learning Objectives

After this course, you will be able to

- describe the purpose of Public Health
- *define key terms used in Public Health*
- identify prominent events in the history of Public Health
- *recognize the core Public Health functions and services*
- describe the role of different stakeholders in the field of Public Health
- *list some determinants of health*
- recognize how individual determinants of health affect population health



Public Health Definition and Key Terms



Ten Achievements of Public Health of the 20th Century

- **Control of infectious disease**
- **Vaccination**
- **Motor vehicle safety**
- **Safer workplaces**
- **Decline in deaths from coronary heart disease, strokes**
- **Safer and healthier foods**
- **Healthier mothers and babies**
- **Family planning**
- **Fluoridation of drinking water**
- **Recognition of tobacco as a health hazard**

Source: MMWR, 1999

Public Health Defined



“The science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals.” **CEA Winslow**

“Health services are; It can meet health needs when it is presented as a whole, with an organization that includes mobile services financed from the public resources, population based, teamwork and community participation and includes mobile services.» **Prof. Dr. H. Nusret FİŞEK**



Winslow CEA. The untitled field of public health. Mod Med 1920;2:183–91.

The Mission of Public Health



INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

“Fulfilling society’s interest in assuring conditions in which people can be healthy.”

Institute of Medicine



World Health
Organization

“**Public health** aims to provide maximum benefit for the largest number of people.”

World Health Organization

Public Health Key Terms

Clinical care : Prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by medical and allied health professions; also known as *health care*.

Determinant : Factor that contributes to the generation of a trait.

Epidemic or outbreak : Occurrence in a community or region of cases of an illness, specific health-related behavior, or other health-related event clearly in excess of normal expectancy. Both terms are used interchangeably; however, *epidemic* usually refers to a larger geographic distribution of illness or health-related events.

Health outcome : Result of a medical condition that directly affects the length or quality of a person's life.



Knowledge Check

Fill in the blank with the correct answer.

A. groups of people B. individuals

Public health aims to provide groups of people with the right to be healthy and live in conditions that support health.





Knowledge Check

Fill in the blank with the correct answer.

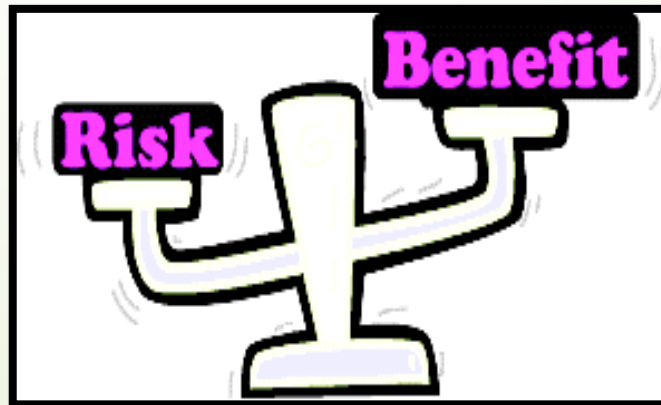
A. pandemic

B. intervention

C. epidemic or outbreak

D. prevention

A(n) epidemic or outbreak is a disease occurrence among a population that is in excess of what is expected for a given time and place.



Topic 2

The History of Public Health



History tells us that an informed, activated population is vital to protecting the public's health.

nam.edu/Perspectives

Sanitation and Environmental Health

500 BCE



Greeks and Romans practice community sanitation measures

1840s



The Public Health Act of 1848 was established in the United Kingdom

1970



The Environmental Protection Agency was founded

Pandemics *(Global epidemics)*

Influenza



500 million infected worldwide between 1918-22 & death toll ~50 millions

Polio



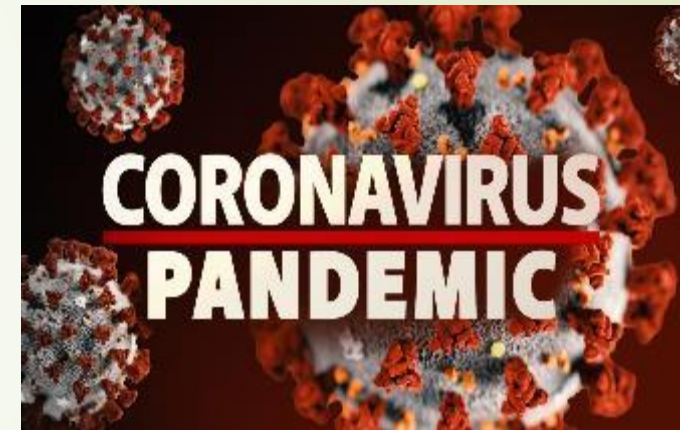
Vaccine introduced in 1955; eradication initiative launched in 1988

HIV



34 million living with HIV worldwide; 20% decline in new infections since 2001

COVID-19



Coronavirus Cases:
241,915,456
Deaths: 4,921,297
<https://www.worldometers.info/coronavirus/> 18th Oct. 2021

Preparedness for Disaster Response

Biologic Warfare



Plague used as a weapon of war during the Siege of Kaffa

September 2001



Public health *surveillance* conducted after the 9/11 attacks

Hurricane Katrina



Emergency services, public health surveillance, and disease treatment provided

Prevention Through Policy

Book of Leviticus



The world's
1st written
health code

Tobacco Laws



Laws banning smoking
in public places

Obesity



Food labeling and
promotion of
physical activity



Knowledge Check

Which of the following events in public health history have been pandemics? *(Select all that apply)*

A. Siege of Kaffa



B. Influenza



C. Polio

D. Hurricane Katrina

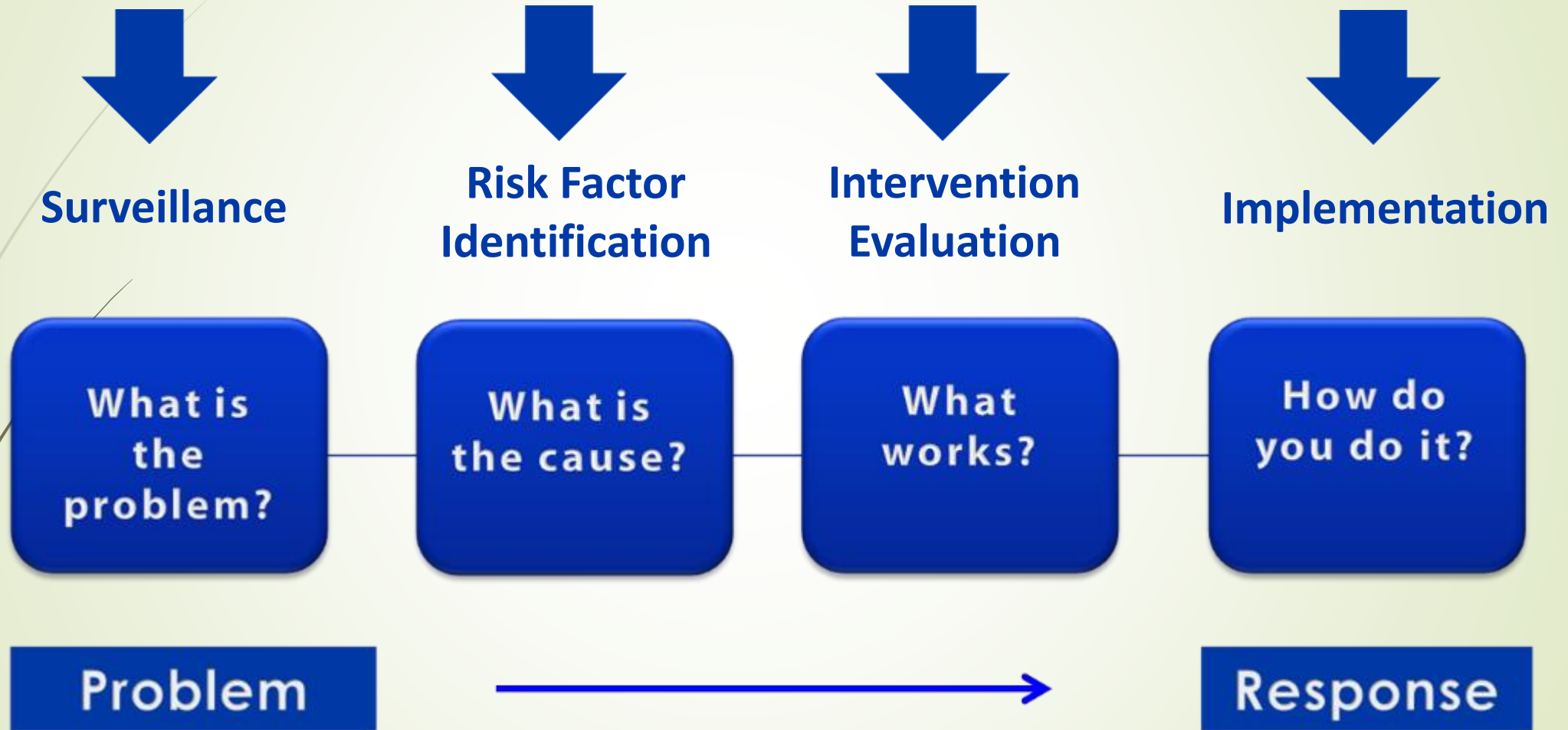


A Public Health Approach

A New Integrative Public Health Approach



A Public Health Approach



Public Health Core Sciences

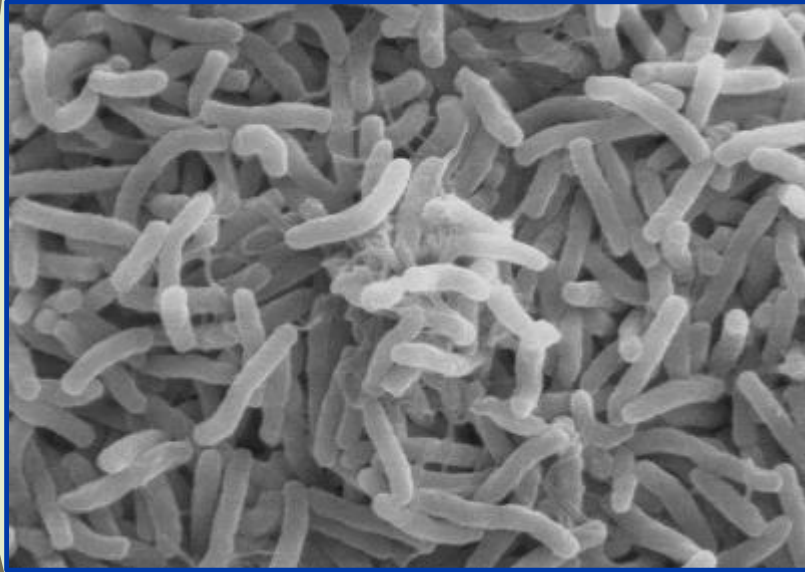
Public health

surveillance is “*the ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice.*”



Cholera — A Public Health Approach

19



*Photo: TJ Kirn, MJ Lafferty,
CMP Sandoe, and R Taylor,
Dartmouth Medical School*

Cholera, a ***fatal*** intestinal disease, was rampant during the early 1800s in London, causing death to tens of thousands of people in the area. Cholera was commonly thought to be caused by bad air from rotting organic matter.

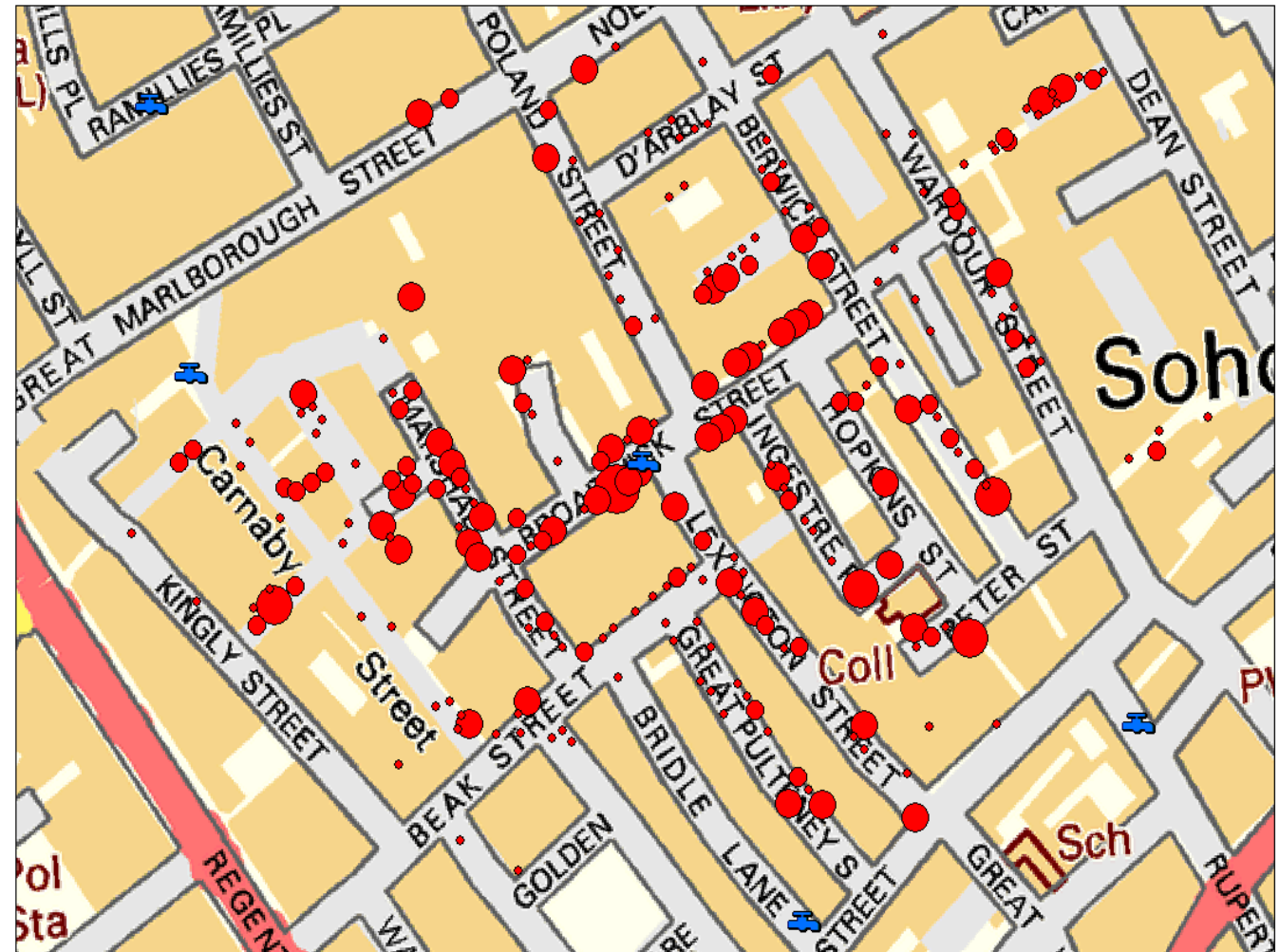


John Snow, Physician



Photo: London School of Hygiene and Tropical Medicine

John Snow is best known for his work tracing the source of the cholera outbreak and is considered the father of modern **Epidemiology.**



Epidemiology — What is the Problem?

Cluster of Cholera Cases, London — 1854

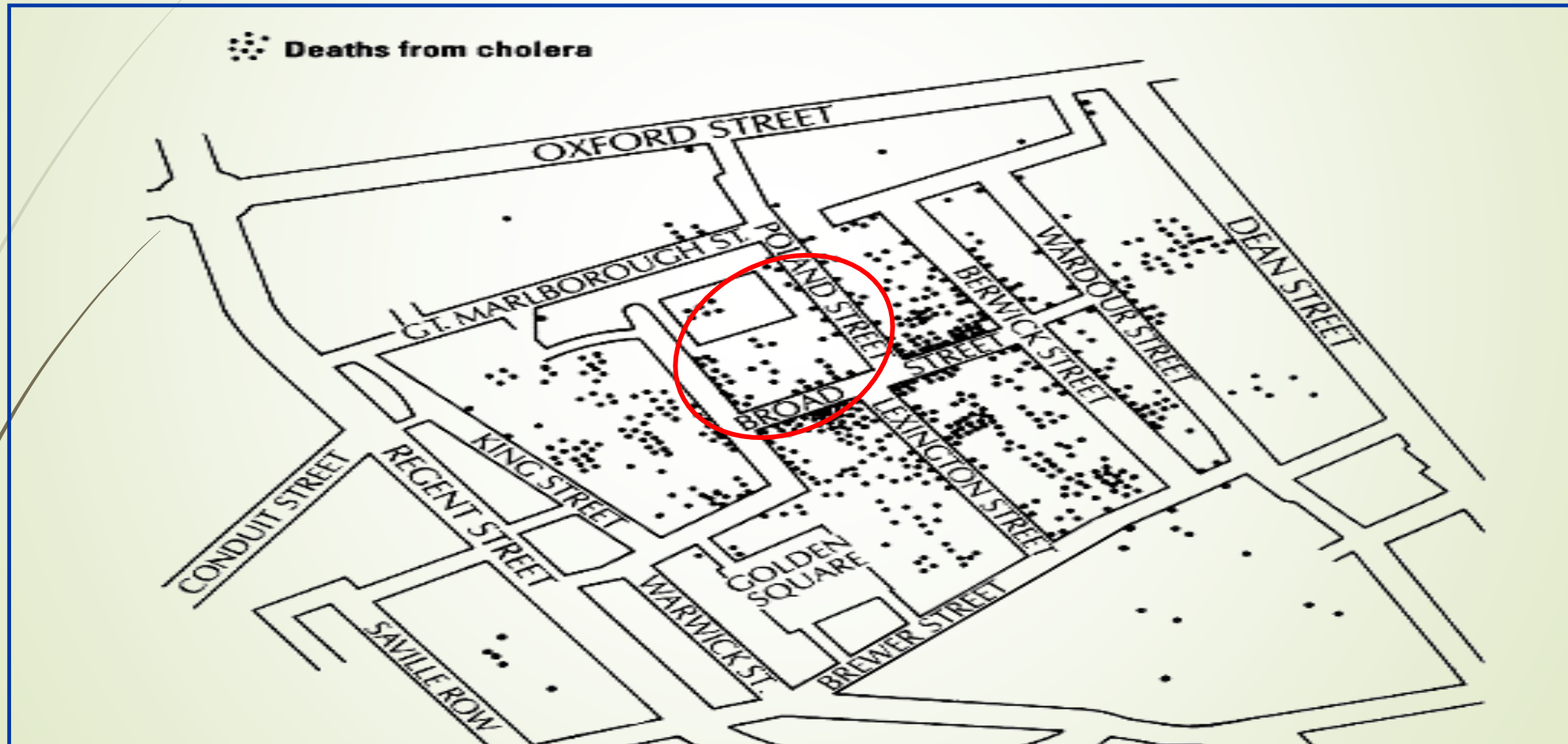


Image: The Geographical Journal

Risk Factor Identification — What Is the Cause?

22

Cluster of Cholera Cases and Pump Site Locations

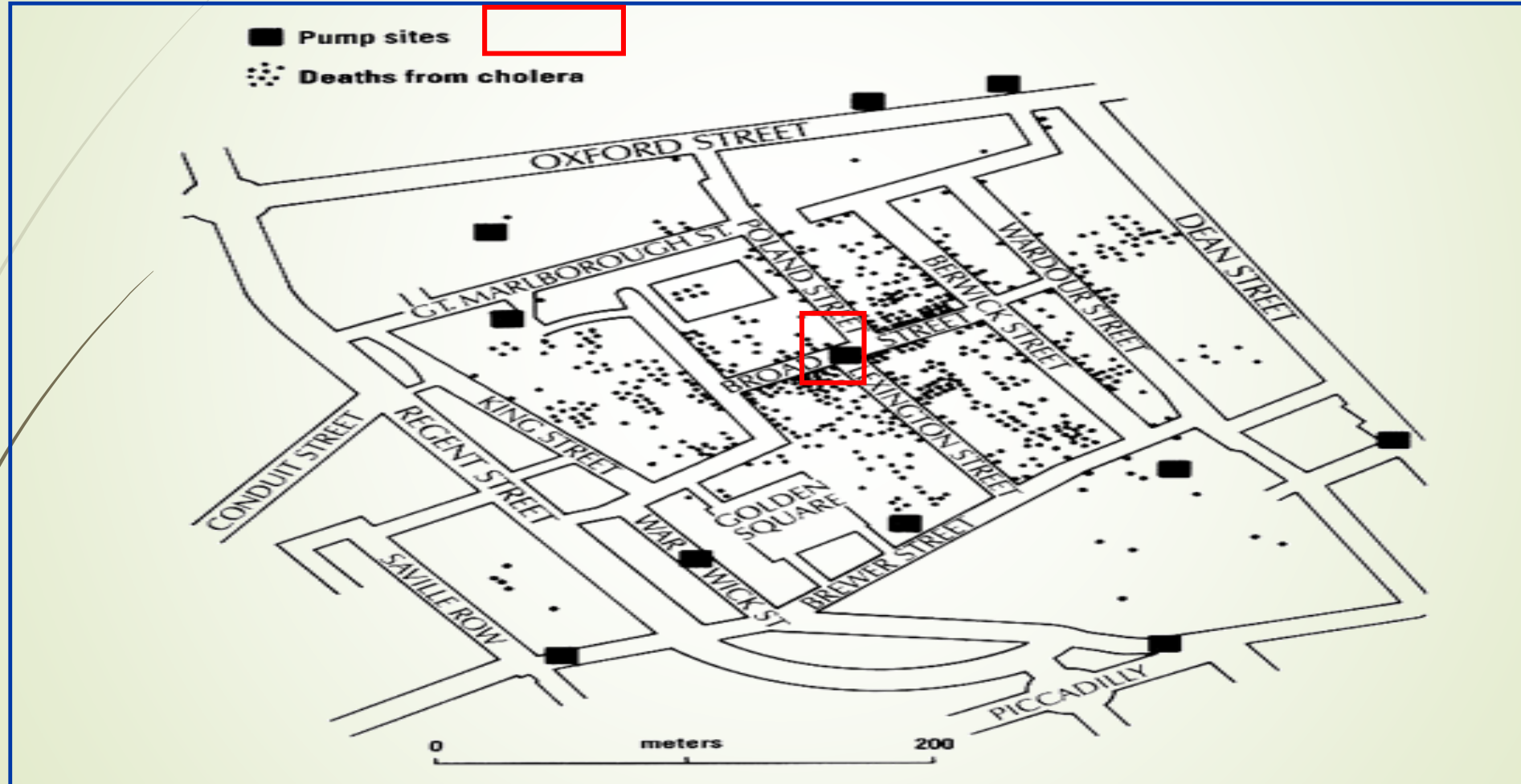


Image: The Geographical Journal

Intervention Evaluation — What Works?

23

Through continuous research,

Dr. J. Snow understood what interventions were required to

- *stop exposure to the contaminated water supply on a larger scale, and*
- *stop exposure to the entire supply of contaminated water in the area*



Implementation — How Do You Do It?

24



Photo: Justin
Cormack

- ❑ Dr. John Snow's research convinced the British government that the source of cholera was water contaminated with sewage!



Knowledge Check

Fill in the blanks with the correct answers.

Each public health core science helps us to protect and promote the public's health by providing public health practitioners with the answers they need.





Knowledge Check

Match each component of the public health approach with the questions they answer.

A. Risk Factor Identification

B. Surveillance

C. Implementation

D. Intervention Evaluation

B. Surveillance

1. What is the problem?

A. Risk Factor Identification

2. What is the cause?

D. Intervention Evaluation

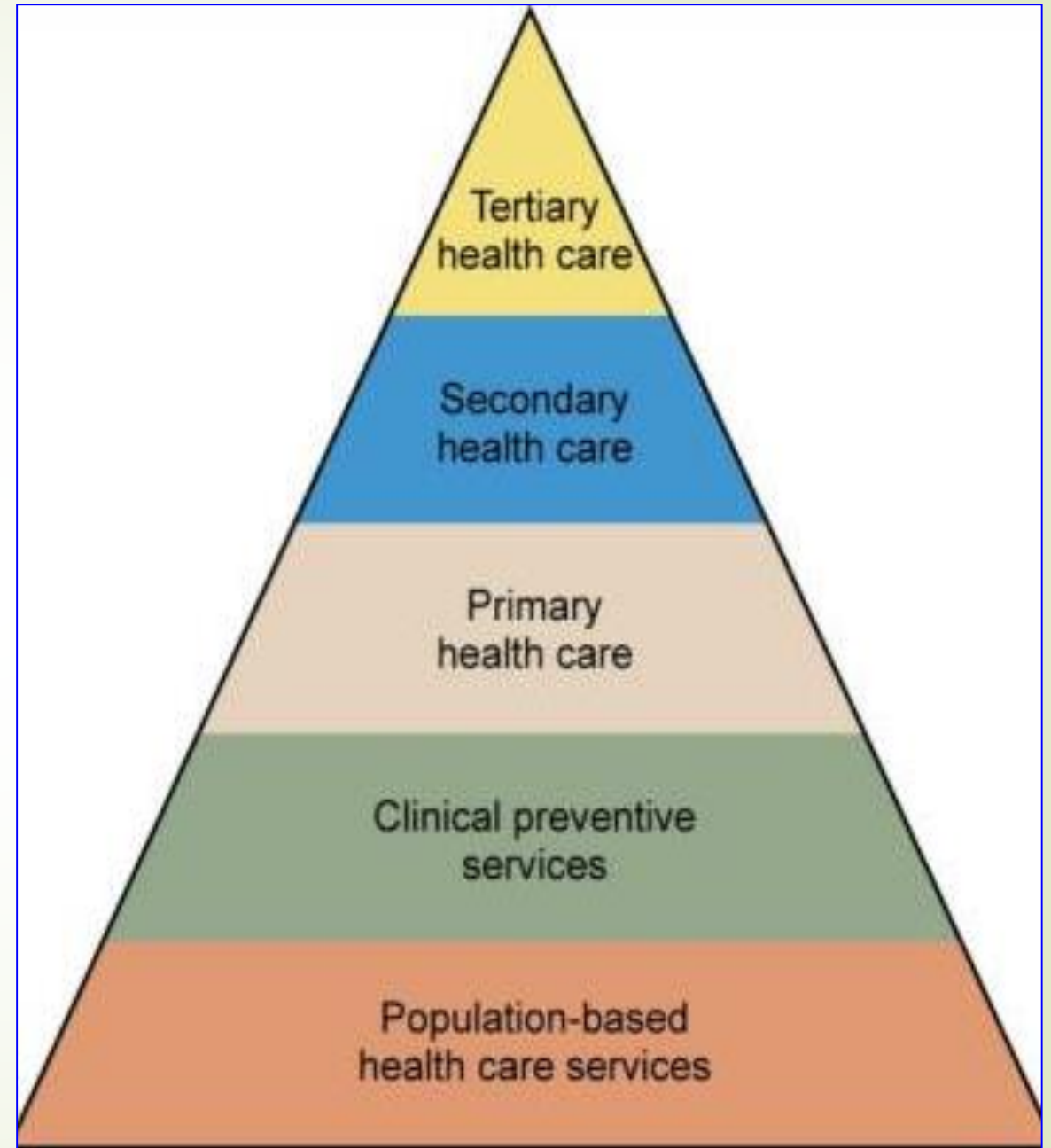
3. What works?

C. Implementation

4. How do you do it?

Topic 4

Core Functions and Essential Services of Public Health



Three Core Functions of Public Health

Assessment

→ Systematically collect, analyze, and make available information on healthy communities

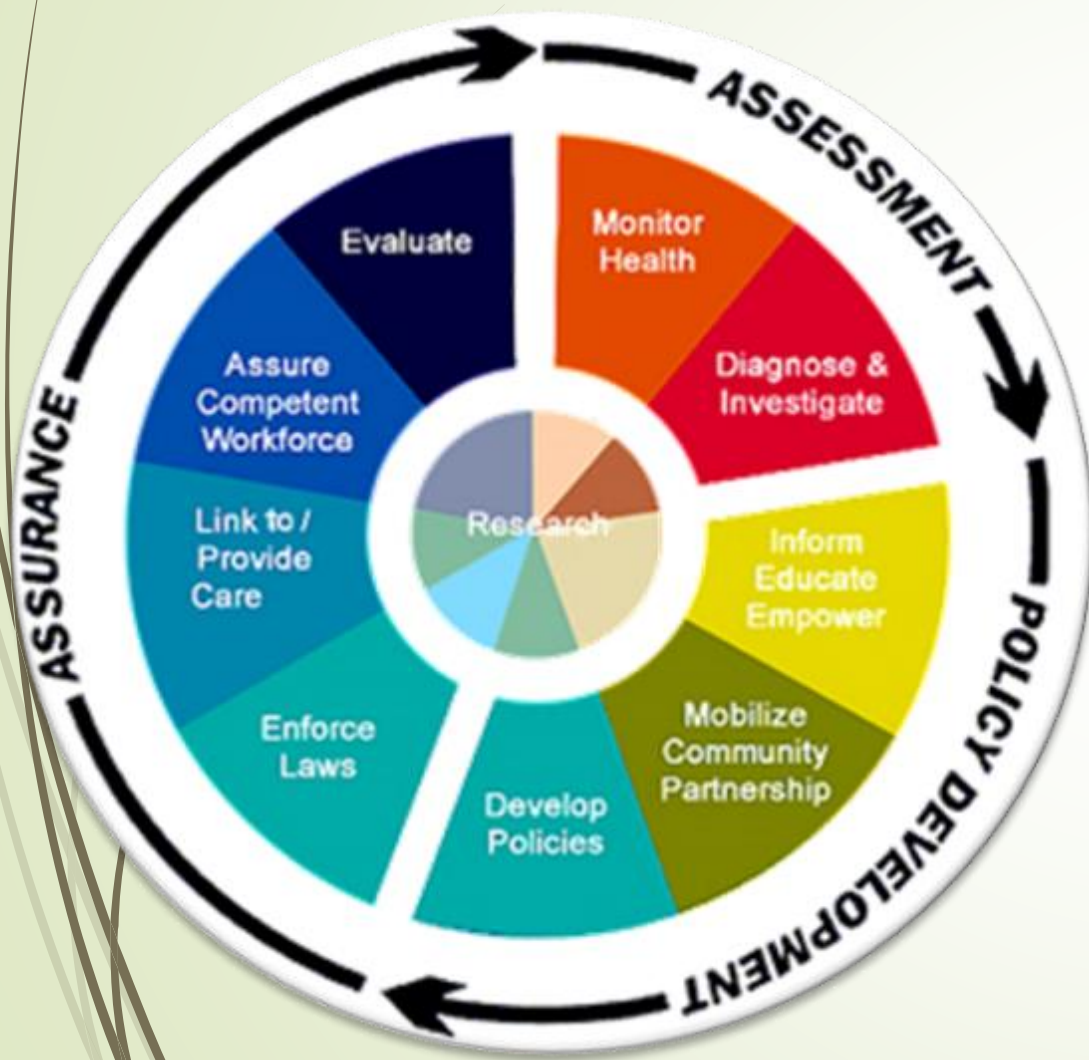
Policy Development

→ Promote the use of a scientific knowledge base in policy and decision making

Assurance

→ Ensure provision of services to those in need

10 Essential Public Health Services

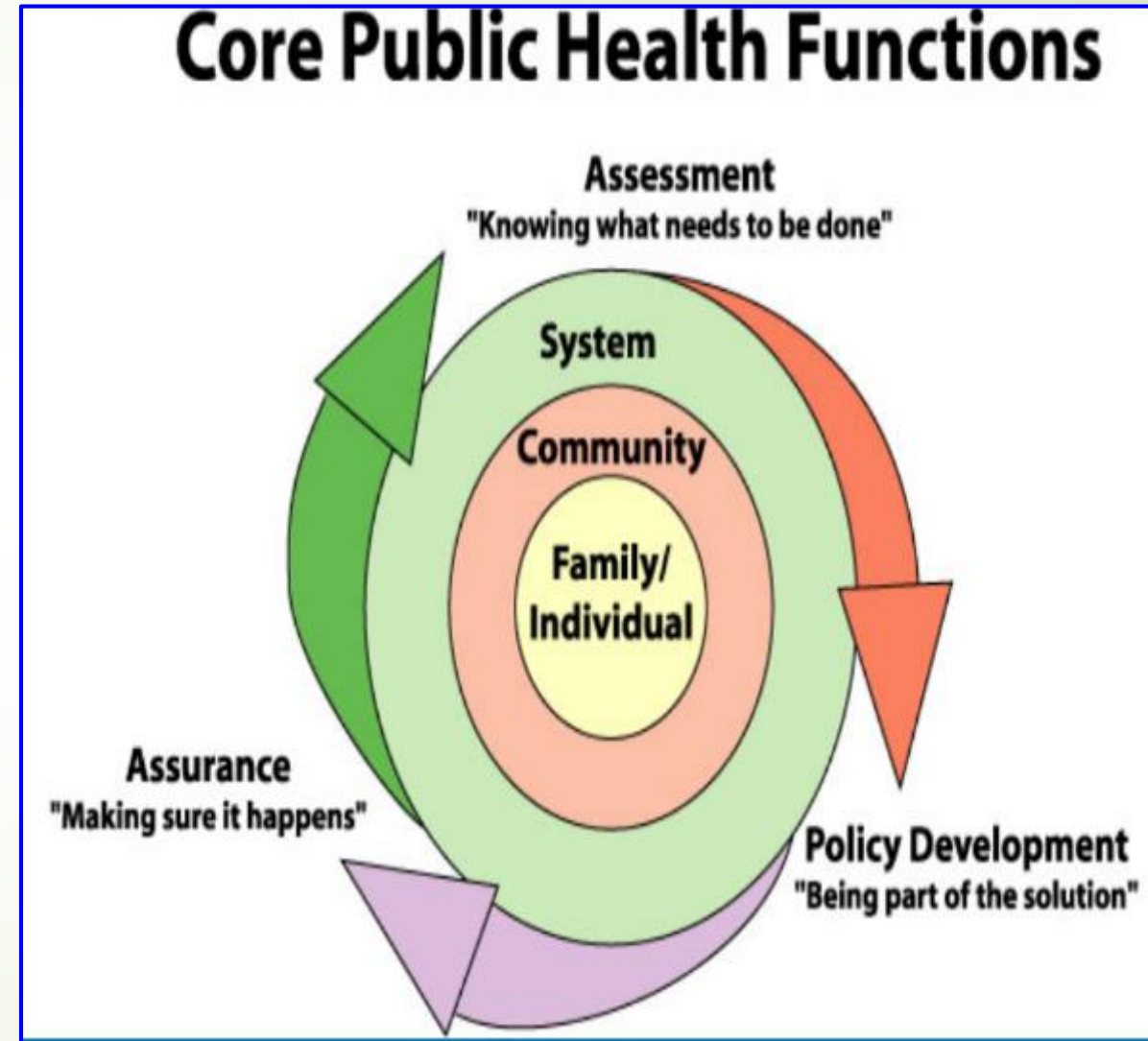


1. Monitor Health
2. *Diagnose and Investigate*
3. Inform, Educate, Empower
4. *Mobilize Community Partnership*
5. Develop Policies
6. *Enforce Laws*
7. Link to/Provide Care
8. *Assure a Competent Workforce*
9. Evaluate
10. *Research*

Core Functions at Government Levels

30

	Assessment	Policy Development	Assurance
Federal	National tobacco public health surveillance	Smoking ban on commercial flights	Federal grants for antismoking research
State	Monitor state tobacco use	Increase tobacco tax	Funding for campaign through Proposition 99
Local	Report on local tobacco use	County laws prohibiting smoking in bars	Resources to help smokers quit in multiple languages





Knowledge Check

Which of the following is **NOT** a core function of public health?

- A. Assurance
- B. Assessment
- ✓ C. Authority
- D. Policy development





Knowledge Check

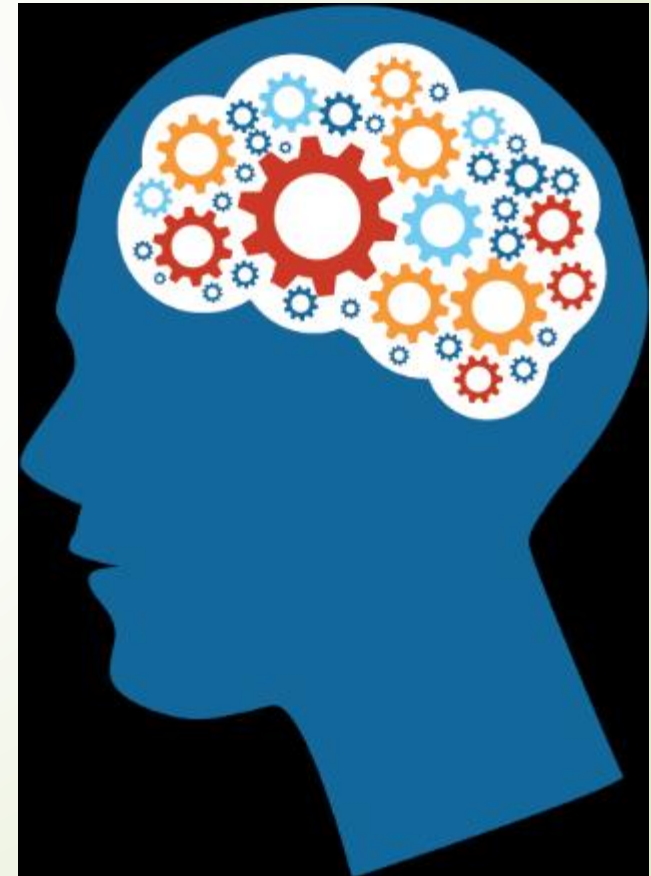
The essential health services of monitoring health and diagnosing and investigating disease relate to which core public health function?

A. Assurance



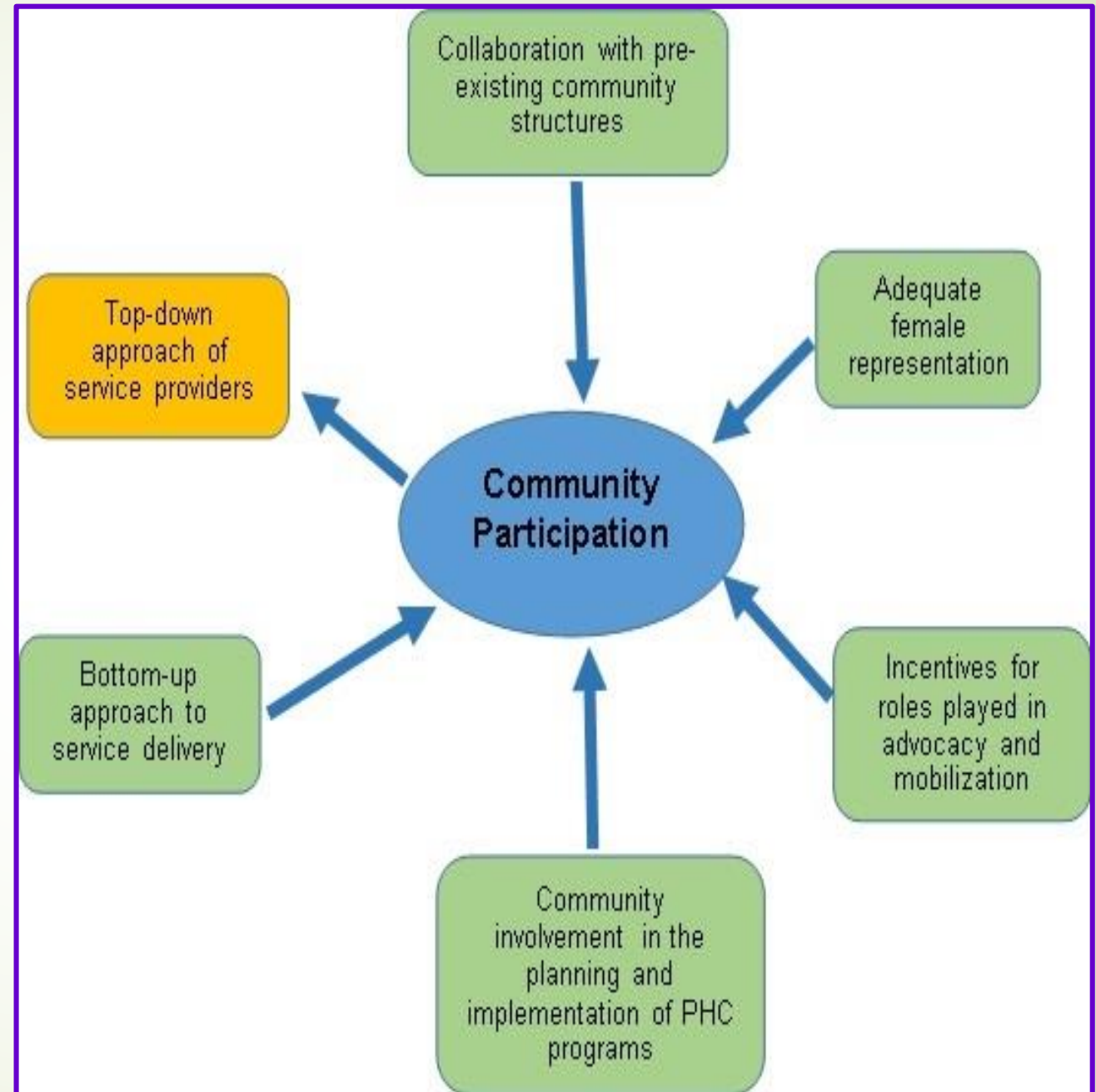
B. Assessment

C. Policy Development

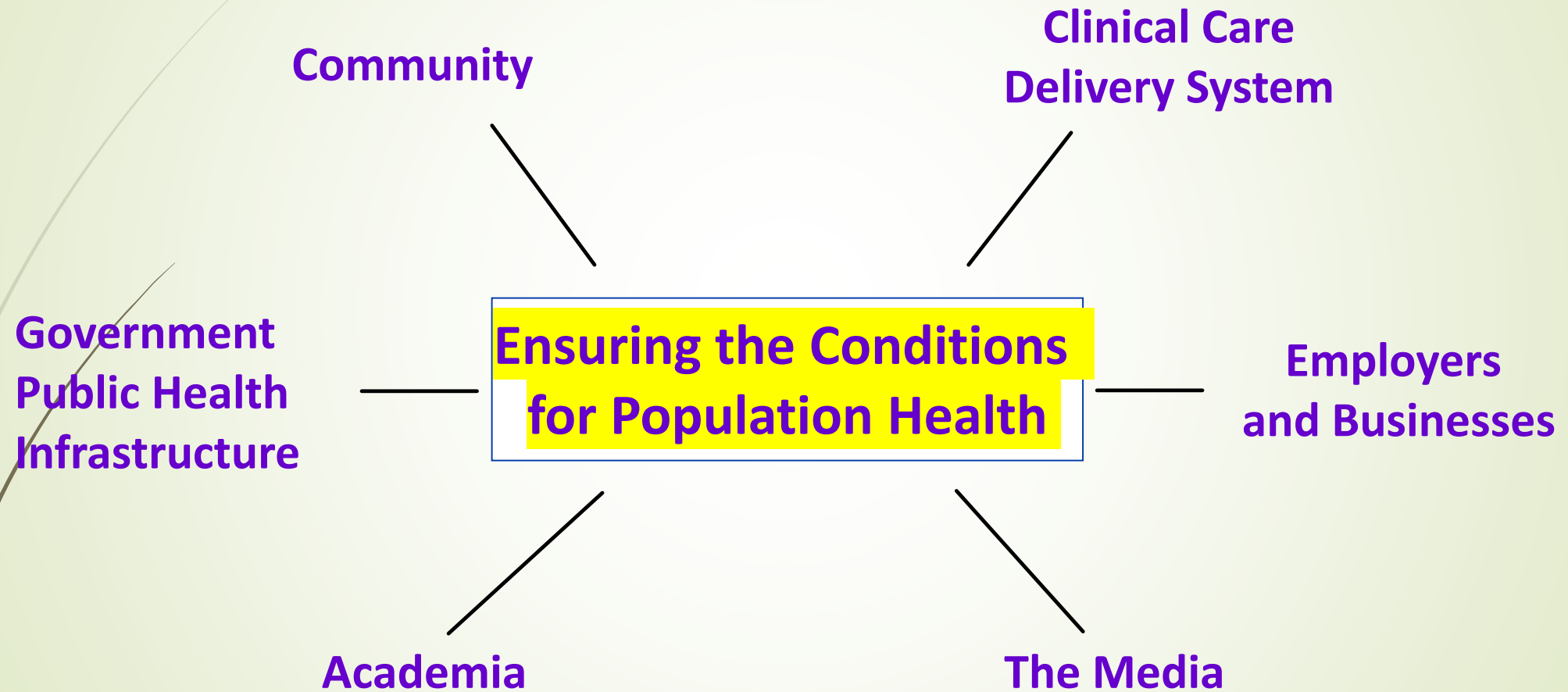


Topic 5

Stakeholder Roles in Public Health



Partners in the Public Health System



Non-governmental Organization (NGOs) Examples

Organization Type	Example
Professional membership organizations	American Public Health Association-APHA
Associations related to a specific health concern	American Cancer Society
<i>Organizations of citizens focused on health concerns</i>	<i>Americans for Nonsmokers Rights</i>
Foundations that support health projects and influence public policy development	Example : <i>Bill and Melinda Gates Foundation</i>

Institute of Medicine. Who will keep the public healthy? Workshop summary. Washington, DC: The National Academies Press; 2003.

Health Care as a Partner in Public Health

36

Public Health	Health Care
Population focus	Individual patient focus
<i>Public health ethic</i>	<i>Personal service ethic</i>
Prevention or public health emphasis	Diagnosis and treatment emphasis
<i>Joint laboratory and field involvement</i>	<i>Joint laboratory and patient involvement</i>
Clinical sciences peripheral to professional training	Clinical sciences essential to professional training
<i>Public sector basis</i>	<i>Private sector basis</i>



Public Health Code of Ethics Twelve Principles

1. Addresses causes of disease to prevent.
2. Respects the rights of individuals in the community.
3. Utilizes community input in program development.
4. Advocates “empowerment” of the disenfranchised.
5. Seeks the information needed before acting.
6. Provides the community with information to decide.
7. Acts in a timely manner on the information.
8. A variety of approaches anticipate and respect diversity.
9. Enhance the physical & social environment.
10. Confidentiality - Exceptions must be justified.
11. Professional competence.
12. Work collaboratively to build the public's trust.

Other Partners in Public Health

Media



- Vehicle for public discourse
- Health education and promotion
- Health communication
- Social media as catalyst

Employers and Businesses



- *Employer-sponsored health insurance programs*
- *Wellness initiatives and benefits*
- *Healthy workplaces and communities*

Government Agencies



- City planning
- Education
- Health in all policies

Academia



- *Education*
- *Training*
- *Research*
- *Public Service*





Knowledge Check

Match each stakeholder to its role in public health.

A. Academia

B. Employers and businesses

C. Government

D. Media

D. Media

1. Vehicle for public discourse

C. Government

2. Health in all policies

A. Academia

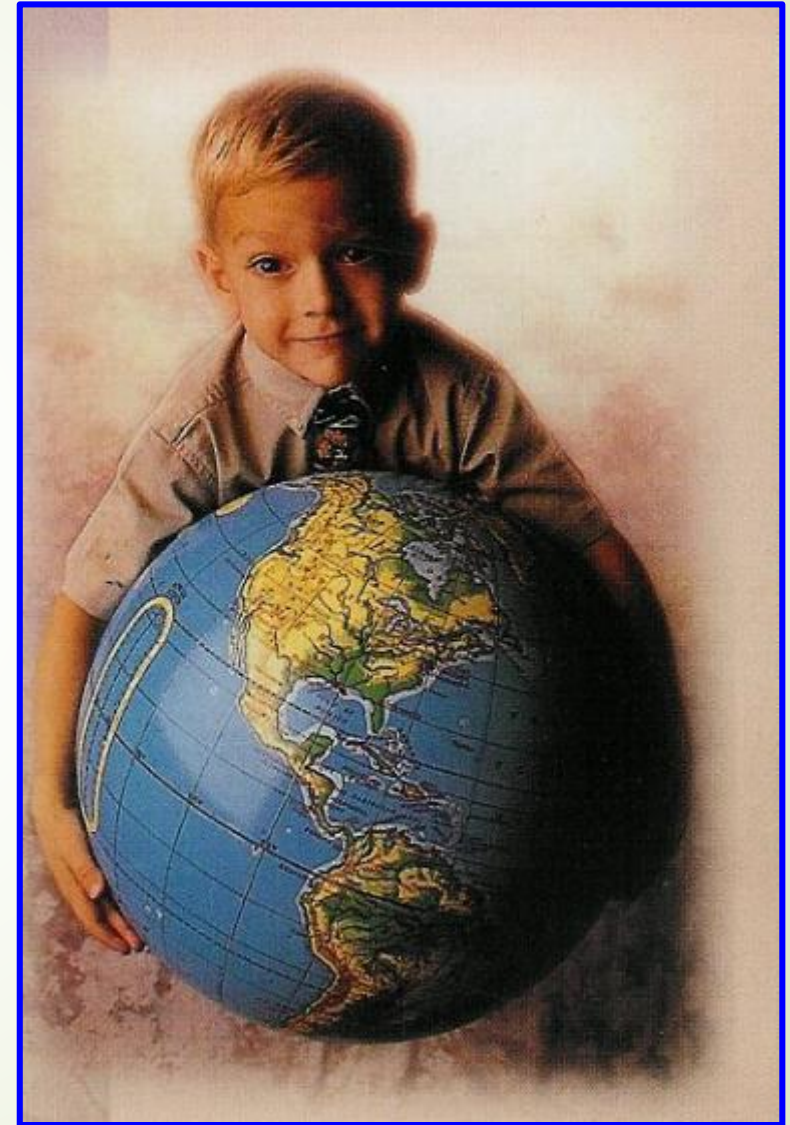
3. Education and training

B. Employers and businesses

4. Wellness initiatives and benefits

Topic 6

Determining and Influencing the Public's Health



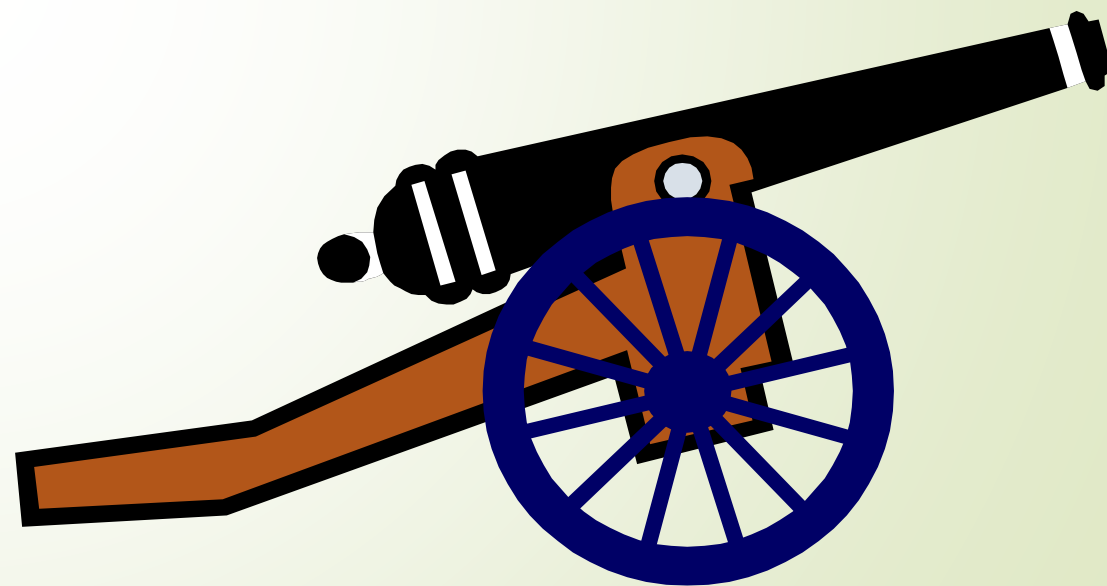
Health Determinants



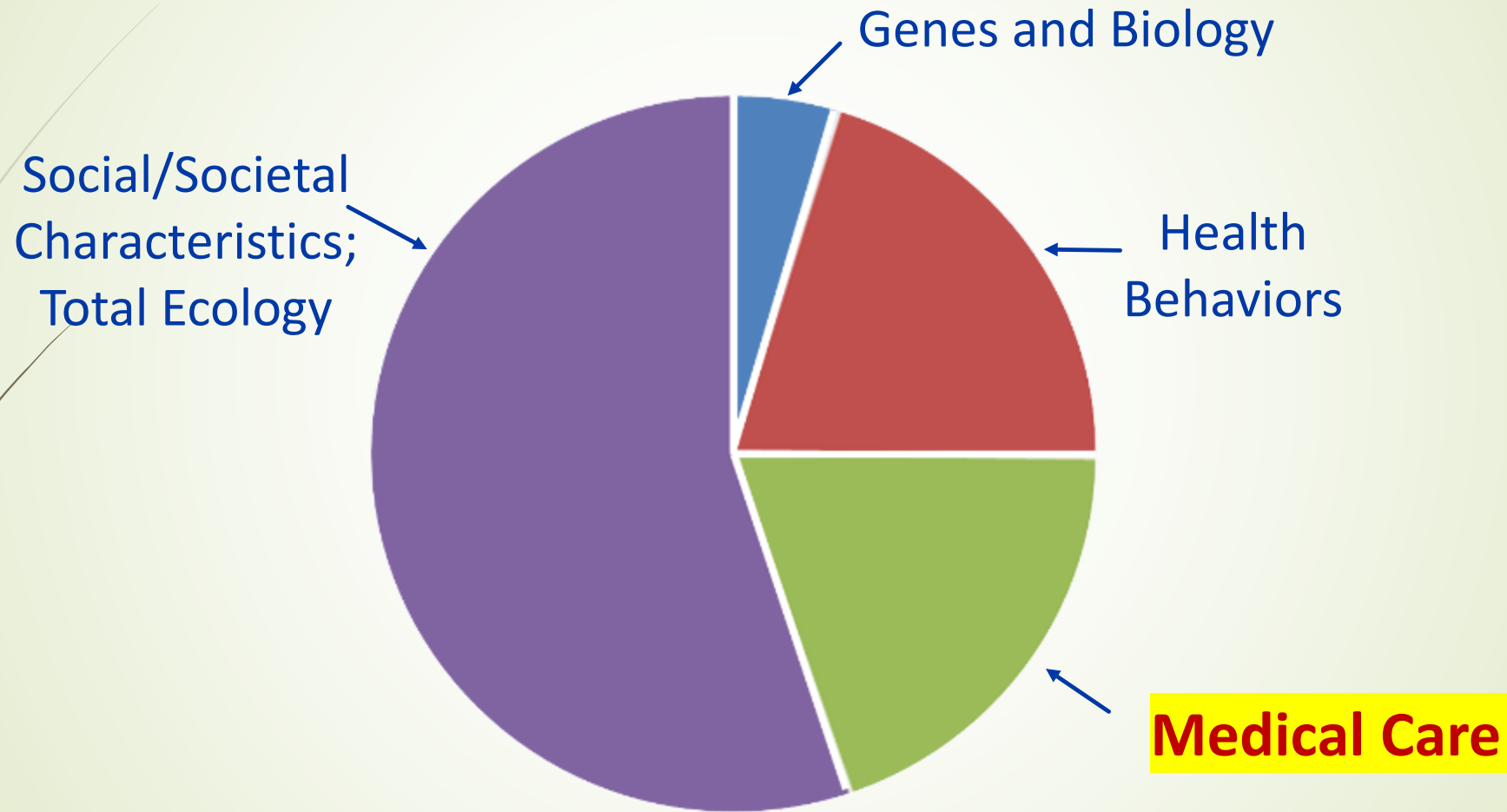
- *Genes and biology*
- *Health behaviors*
- *Social or societal characteristics, eg. **POVERTY***
- *Health services or medical care*

*“Genes load the gun.
Lifestyle pulls the trigger”*

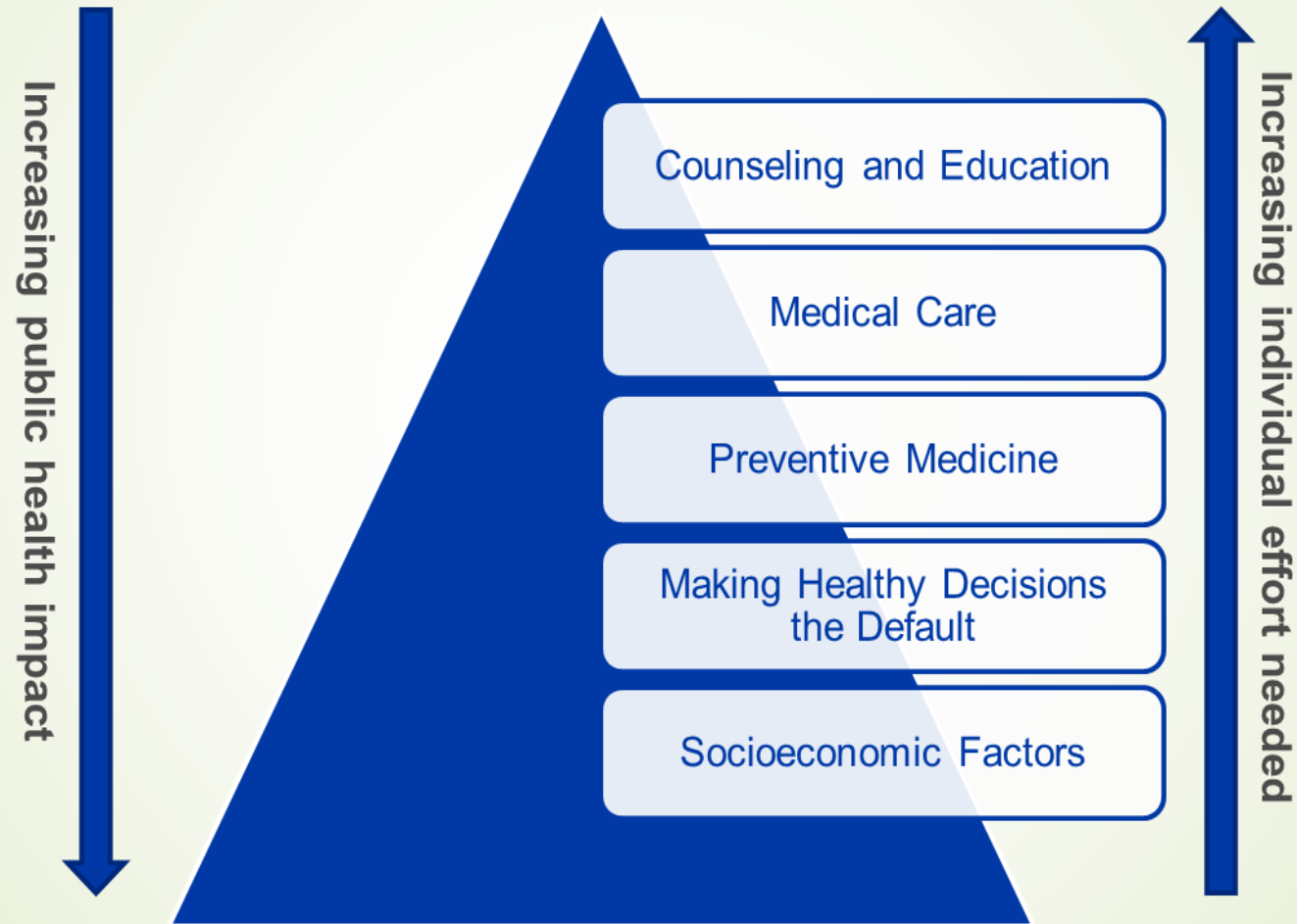
Dr. Elliot Joslin



What Determines the Health of a Population?

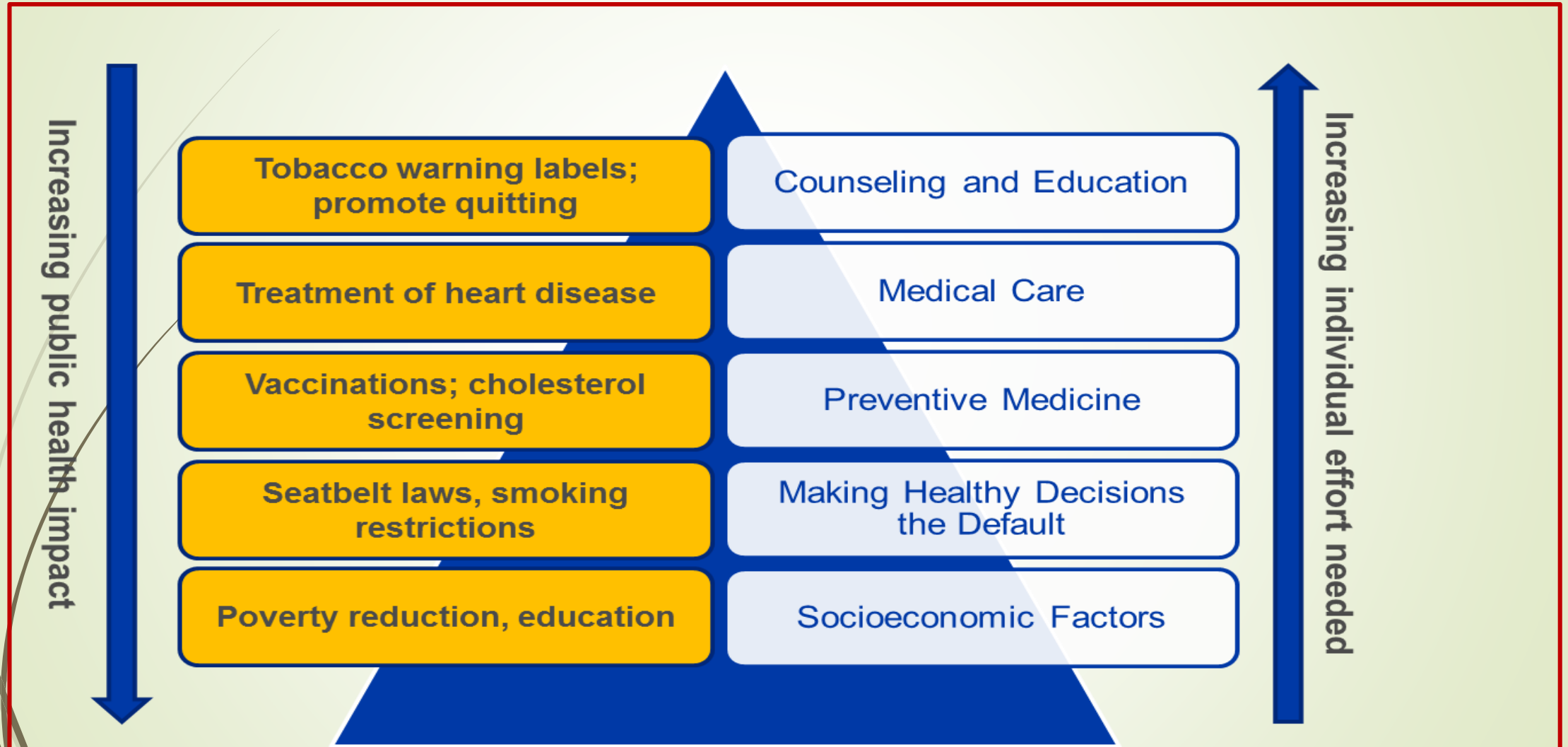


Health Impact Pyramid



Frieden TR. Framework for public health action: the health impact pyramid. Am J Public Health 2010;100:590–5.

Health Impact Pyramid





Knowledge Check

List the four determinants of health.

1. Genes and biology
2. Health behaviors
3. Social/societal characteristics
4. Health services or medical care





Knowledge Check

Fill in the blanks using the following choices.

A. down

B. up

1. As we move down the health impact pyramid, the public health impact grows greater.
2. As we move up the health impact pyramid, the amount of individual effort increases.

Public Health Core Sciences

47



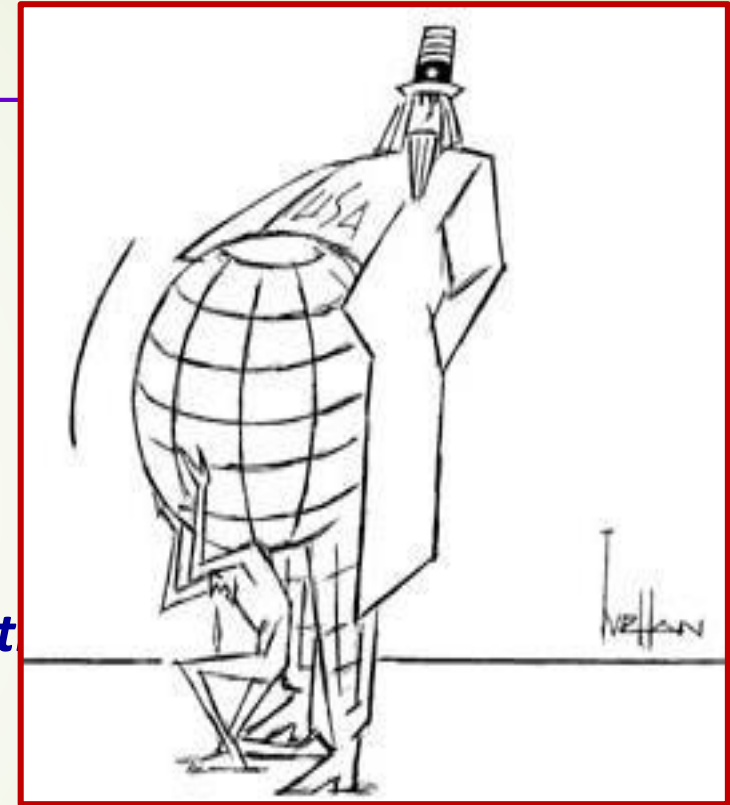
Epidemiology

is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.

Course Summary

During this course, you have learned to

- *describe the purpose of public health*
- *define key terms used in public health*
- *identify prominent events in the history of public health*
- *recognize the core public health functions and services*
- *describe the role of different stakeholders in the field of public health*
- *list some determinants of health*
- *recognize how individual determinants of health affect population health*



Thank you for your attention...