

Public Health 101 Series



Introduction to Public Health

Instructor name

Title

Organization

Note: This slide set is in the public domain and may be customized as needed by the user for informational or educational purposes. Permission from the Centers for Disease Control and Prevention is not required, but citation of the source is appreciated.



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

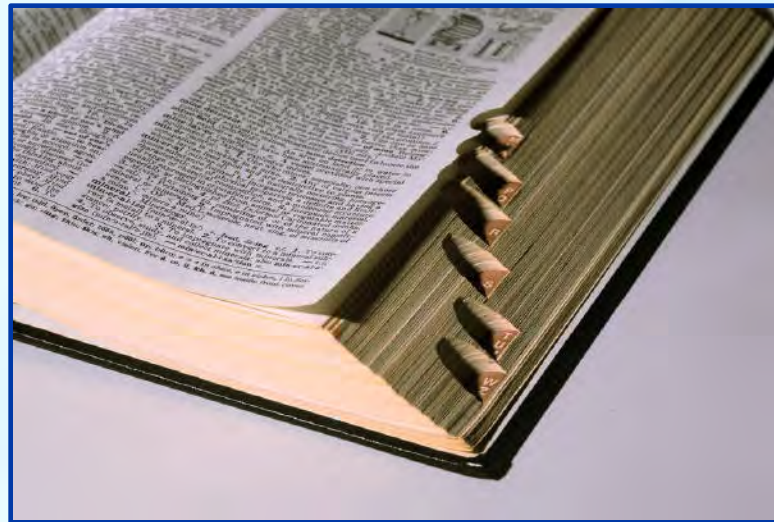
After this course, you will be able to

- 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



Topic 1

Public Health Definition and Key Terms



Public Health Defined



Photo: IF Fisher and EL Fisk

“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

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



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

Influenza



500 million infected
worldwide in 1918

Polio



Vaccine introduced
in 1955; eradication
initiative launched in
1988

HIV



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

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
first 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

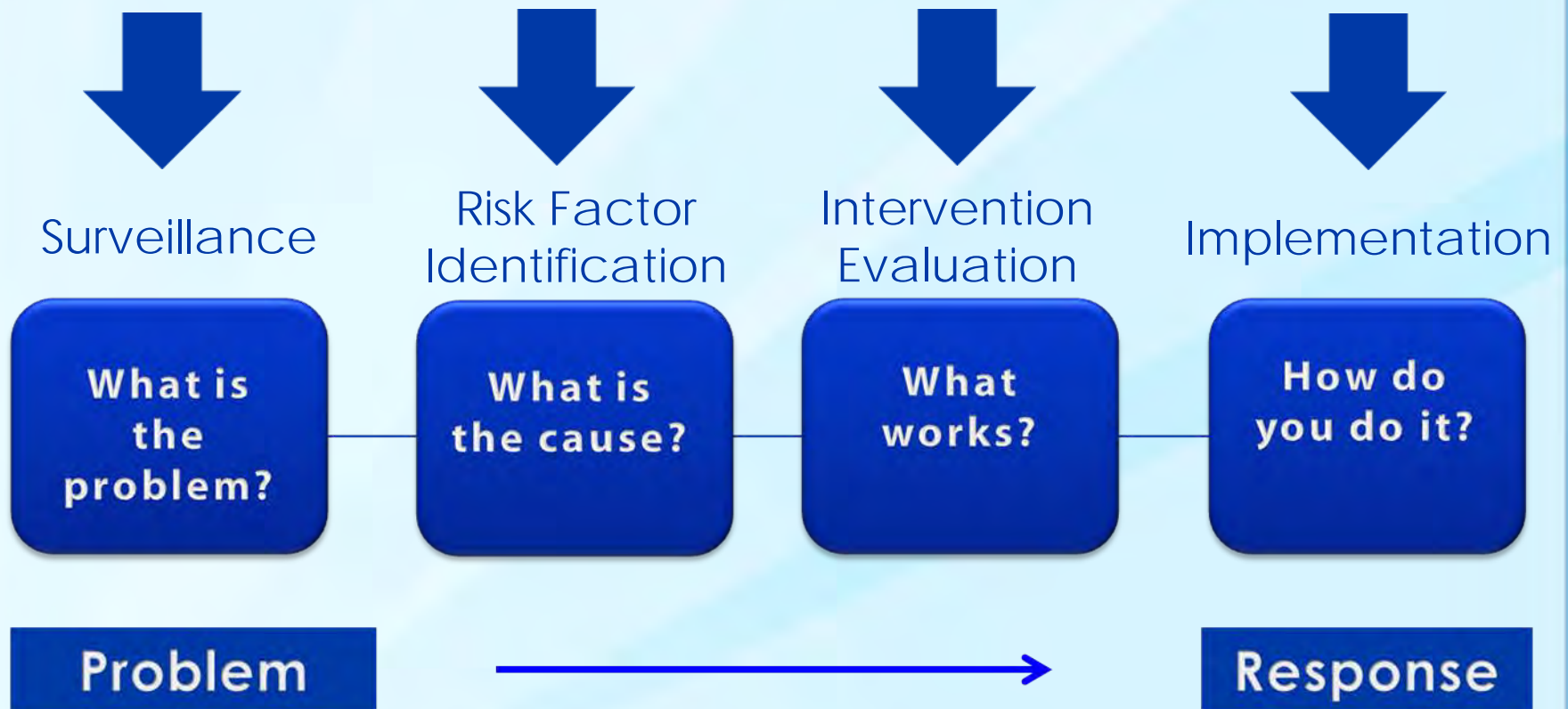
D. Hurricane Katrina

Topic 3

A Public Health Approach



A Public Health Approach



Public Health Core Sciences



Cholera — A Public Health Approach

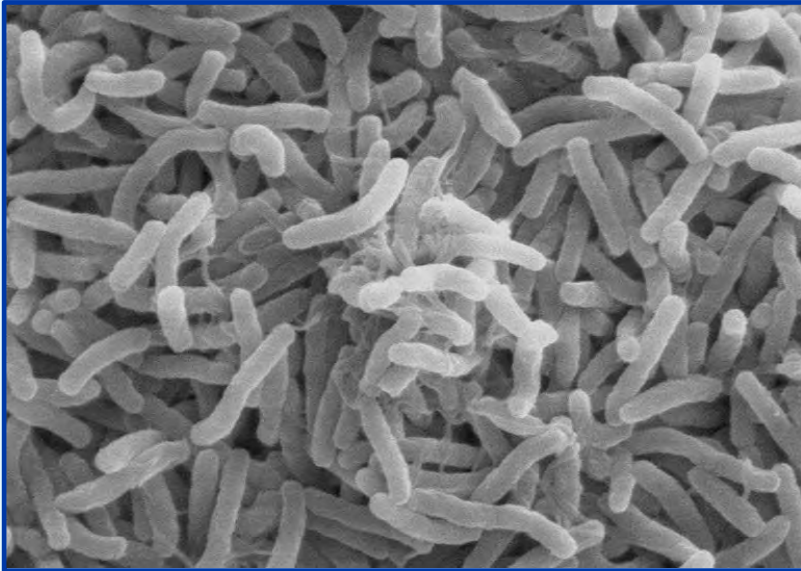


Photo: TJ Kirn, MJ Lafferty, CMP Sandoe, and R Taylor,
Dartmouth Medical School

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

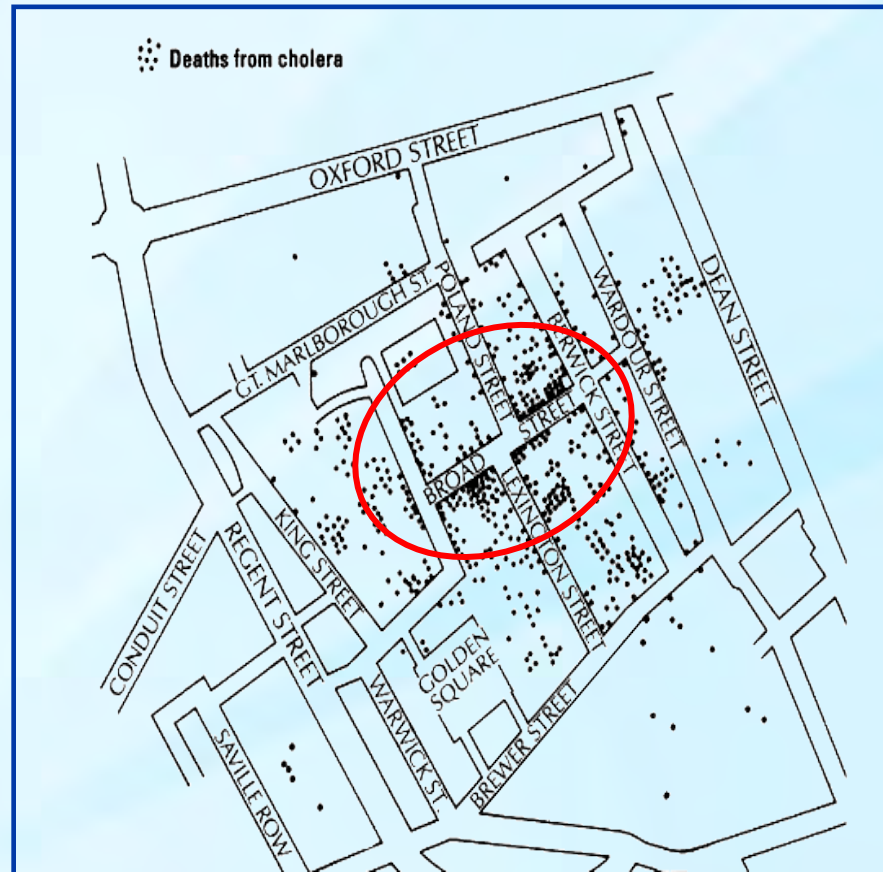


Image: The Geographical Journal

Risk Factor Identification — What Is the Cause?

Cluster of Cholera Cases and Pump Site Locations

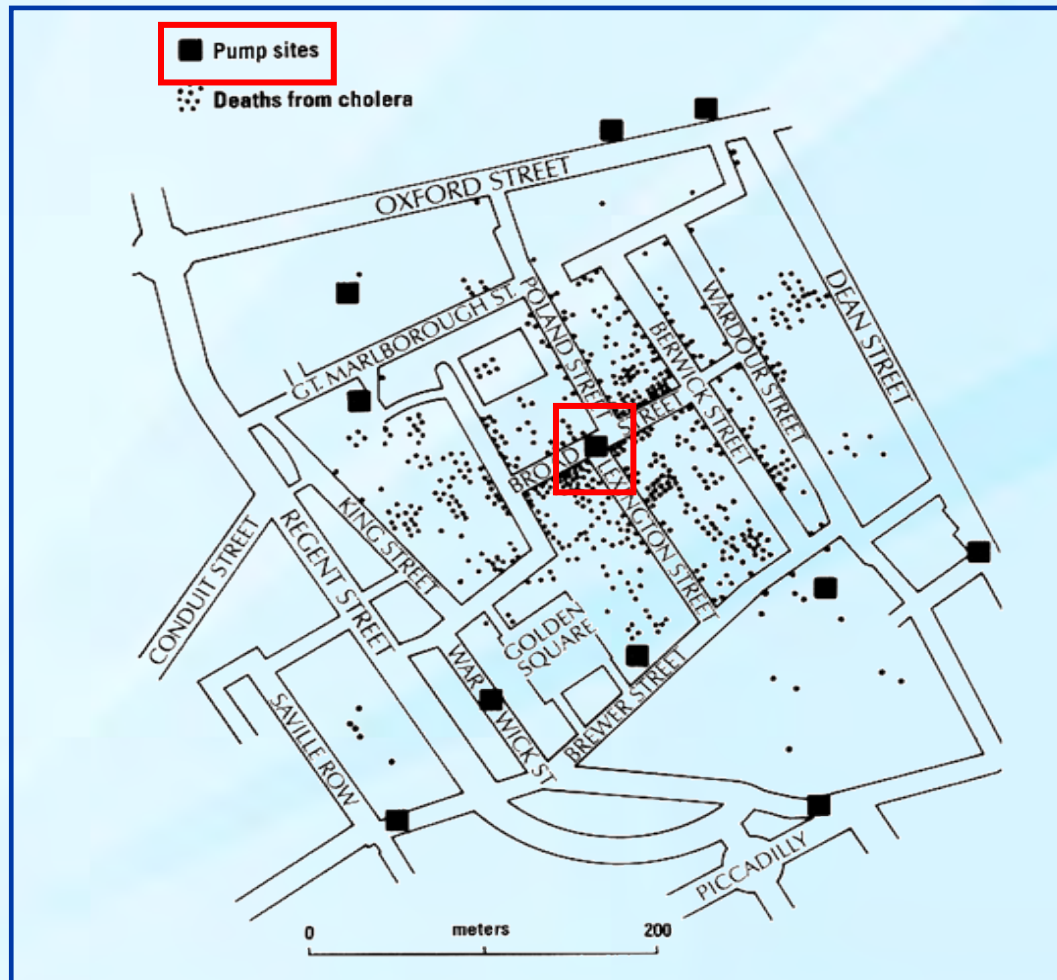


Image: The Geographical Journal



Intervention Evaluation — What Works?

Through continuous research, 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?



Photo: Justin Cormack

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?



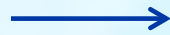
Topic 4

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

Ten 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

	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

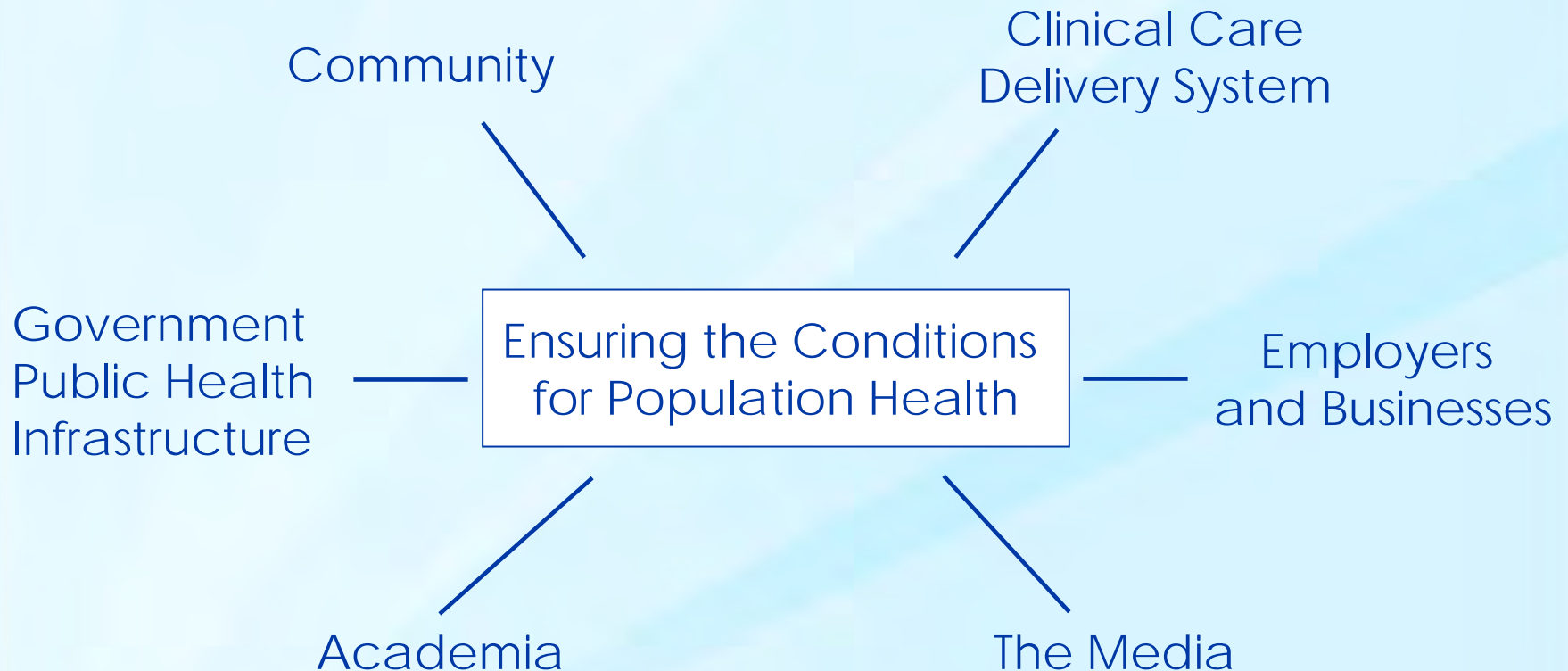
C. Policy Development

Topic 5

Stakeholder Roles in Public Health



Partners in the Public Health System





Nongovernmental Organization Examples

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



Health Care as a Partner in Public Health

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

Other Partners in Public Health

Media



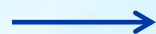
- Vehicle for public discourse
- Health education and promotion
- Health communication
- Social media as catalyst

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

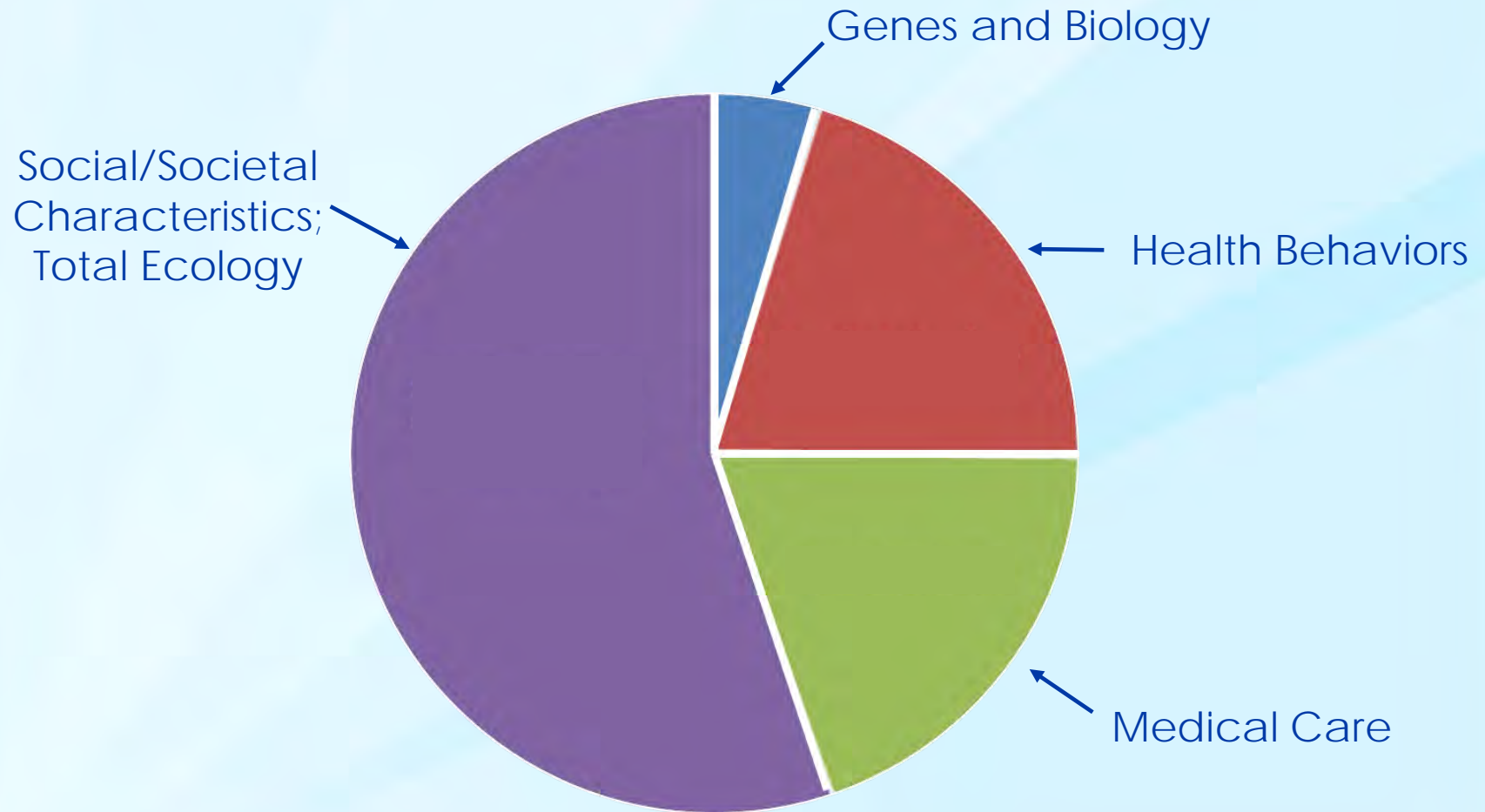


Health Determinants



- Genes and biology
- Health behaviors
- Social or societal characteristics
- Health services or medical care

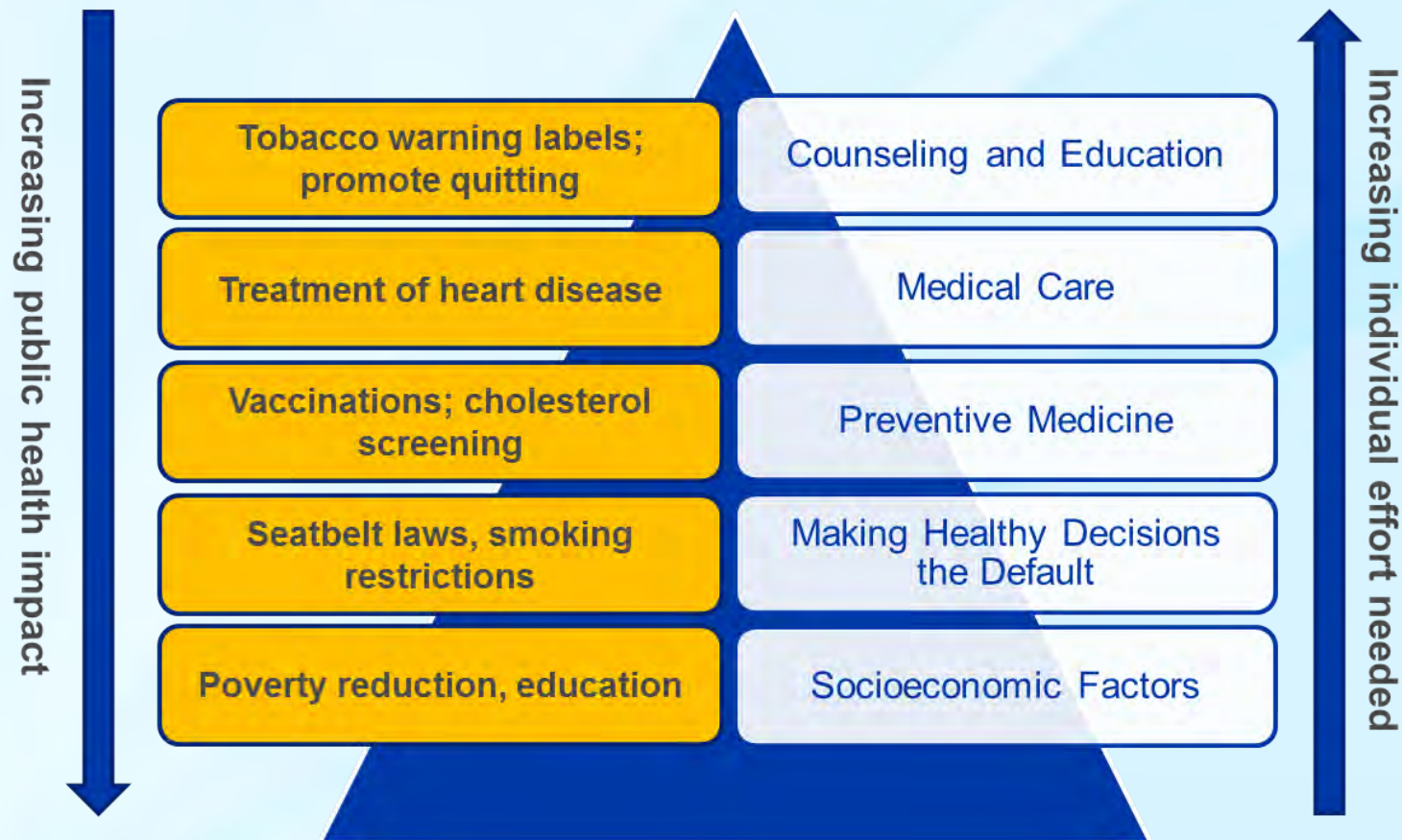
What Determines the Health of a Population?



Health Impact Pyramid



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





Course Summary

During this course, you 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



QUESTIONS?

Resources and Additional Reading

- American public health Association (APHA). The Prevention and public health Fund: a critical investment in our nation's physical and fiscal health. APHA Center for Health Policy Issue Brief. Washington, DC: APHA; 2012. http://www.apha.org/NR/rdonlyres/8FA13774-AA47-43F2-838B-1B0757D111C6/0/APHA_PrevFundBrief_June2012.pdf.
- California Department of public health. TobaccoFreeCA. <http://www.Tobaccofreeca.org>.
- Centers for Disease Control and Prevention. Key facts about seasonal flu vaccine. <http://www.cdc.gov/flu/protect/keyfacts.htm>.
- Centers for Disease Control and Prevention. Overweight and obesity. <http://www.cdc.gov/obesity/index.html>.
- Centers for Disease Control and Prevention. Social determinants of health. <http://www.cdc.gov/socialdeterminants/FAQ.html>.
- Centers for Medicare and Medicaid Services. National health expenditure projections: 2008–2018. <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/proj2008.pdf>.
- Dean H. Introduction to public health, epidemiology, and surveillance. Presented at the CDC Science Ambassador Program, July 16, 2012.
- Frieden, TR. Framework for public health action: the health impact pyramid. *Am J public health* 2010;100:590–5.
- Kindig D, Stoddart G. What is population health? *Am J public health*. 2003;93:380–3.
- Institute of Medicine. For the public's health: investing in a healthier future. Washington, DC: National Academies Press; 2012.
- Institute of Medicine. Primary care and public health: exploring integration to improve population health. Washington, DC: The National Academies Press; 2012.

Resources and Additional Reading

- Institute of Medicine. The future of public health. Washington, DC: The National Academies Press; 1988.
- Institute of Medicine. The future of the public's health in the 21st century. Washington, DC: The National Academies Press; 2002.
- Institute of Medicine. Who will keep the public healthy? Workshop summary. Washington, DC: The National Academies Press; 2003.
- Pearl R. Tobacco smoking and longevity. *Science* 1938;87:216–7.
- Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, June 19–July 22, 1946.
- Federal Communications Commission. Texting while driving. <http://www.fcc.gov/guides/texting-while-driving>.
- UNAIDS. UNAIDS World AIDS Day Report, 2012. http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/gr2012/JC2434_WorldAIDSday_results_en.pdf.
- Skelton A. Introduction to public health science and practice." Presented at the CDC Steven M. Teutsch Prevention Effectiveness Fellowship Orientation, August 15, 2012.
- US Department of Health, Education, and Welfare. Smoking and health. Washington, DC: public health Service; 1964. <http://profiles.nlm.nih.gov/ps/access/NNBBMQ.pdf>.
- Winslow CEA. The untilled field of public health. *Mod Med* 1920;2:183–91.
- World Health Organization (WHO). World report on violence and health. Geneva: WHO; 2002. http://www.who.int/violence_injury_prevention/violence/world_report/en/.



Disclaimers

Links provided in this course to nonfederal organizations are provided solely as a service to our users. These links do not constitute an endorsement of these organizations nor their programs by the Centers for Disease Control and Prevention (CDC) or the federal government, and none should be inferred. CDC is not responsible for the content contained at these sites.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the Division of Scientific Education and Professional Development, Center for Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention, the Public Health Service, or the U.S. Department of Health and Human Services.

The findings and conclusions in this course are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

For more information, please contact the Centers for Disease Control and Prevention

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: <http://www.cdc.gov> | Contact CDC at: 1-800-CDC-INFO or <http://www.cdc.gov/info>

The findings and conclusions in this course are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.