Public Health 101: History and Structure

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Public Health 101:
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

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
Public Health Definition and Key Terms

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

Public Health Defined

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

—World Health Organization

The Mission of Public Health

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

—Institute of Medicine
Public health aims to provide __________________ with the right to be healthy and live in conditions that support health.

**Knowledge Check**

Fill in the blank with the correct answer.

A. groups of people  B. individuals

Public health aims to provide __________________ 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) __________________ 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

Surveillance
Risk Factor Identification
Intervention Evaluation
Implementation

What is the problem?
What is the cause?
What works?
How do you do it?

Problem
Response

Cholera — A Public Health Approach

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.

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

John Snow, Physician

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

Photo: London School of Hygiene and Tropical Medicine
Epidemiology — What is the Problem?
Cluster of Cholera Cases, London — 1854

Risk Factor Identification — What Is the Cause?
Cluster of Cholera Cases and Pump Site Locations

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?

John Snow’s research convinced the British government that the source of cholera was water contaminated with sewage.

Photo: Justin Cornish

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

1. What is the problem?
2. What is the cause?
3. What works?
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

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Policy Development</th>
<th>Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
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<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Federal: National tobacco public health surveillance
- State: Monitor tobacco use
- Local: Report on local tobacco use

- Federal: Developing laws on tobacco
- State: In-state tobacco tax
- Local: Countersmoking messages

- Federal: Funding for antismoking research
- State: Proposing a statewide smoking ban
- Local: 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

Structure of Public Health in the United States

Office for State, Tribal, Local and Territorial Support
Centers for Disease Control and Prevention

Governmental Public Health

State and Local Health Departments
Retain the primary responsibility for health under the US Constitution
Federal Public Health Responsibilities

- Ensure all levels of government have the capabilities to provide essential public health services
- Act when health threats may span more than one state, a region, or the entire nation
- Act where the solutions may be beyond the jurisdiction of individual states
- Act to assist the states when they lack the expertise or resources to effectively respond in a public health emergency (e.g., a disaster, bioterrorism, or an emerging disease)
- Facilitate the formulation of public health goals (in collaboration with state and local governments and other relevant stakeholders)


Other Roles of Federal Public Health

Federal government plays a crucial role in:
- Providing leadership, through regulatory powers, in setting health goals, policies, standards
- Contributing operational and financial resources
- Financing research and higher education
- Supporting the development of scientific and technological tools needed to improve the effectiveness of public health infrastructure at all levels
State Health Departments
Roles and Responsibilities

State Roles
- Screening for diseases and conditions
- Treatment for diseases
- Technical assistance and training
- State laboratory services
- Epidemiology and surveillance

Local Health Departments
Roles and Responsibilities
State and Local Health Department Governance Classification System

- **Local/Decentralized**: Local health departments are units led by local governments, which make most fiscal decisions.
- **Mixed**: Some local health departments are led by state government, and some are led by local government. No one arrangement predominates in the state.
- **State/Centralized**: All local health departments are units of state government, which makes most fiscal decisions.
- **Shared**: All local health departments are governed by both state and local authorities.

Source: ASTHO Profile of State Public Health, Volume Two, 2011

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Wisconsin Local Governance

- **Constitutional Home Rule**
  - Allows municipalities to determine their local affairs and government
- **Statutory Home Rule**
  - Except as otherwise provided by law, management and control of the municipality's property, finances, highways, navigable waters, and the public services
Six Required Services of Wisconsin LHDs:

1. Communicable disease surveillance, prevention and control
2. Generalized public health nursing program
3. Services to promote health
4. Services to prevent other diseases
5. Abatement or removal of human health hazards
6. Services to prevent the future incidence of occupational disease, environmental disease and human health hazard exposure

https://www.dhs.wisconsin.gov/lh-depts/lhdlevelrequirements.doc

National Profile of Local Health Departments

Percentage of LHDs Providing the 10 Most Frequent Activities and Services Available Through LHDs Directly

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity or Service</th>
<th>Percentage of LHDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Child &amp; Adolescent Health Services</td>
<td>92%</td>
</tr>
<tr>
<td>2</td>
<td>Communicable/Massive Disease Control</td>
<td>92%</td>
</tr>
<tr>
<td>3</td>
<td>Child-Youth Violence Prevention</td>
<td>92%</td>
</tr>
<tr>
<td>4</td>
<td>Alcohol Screening</td>
<td>86%</td>
</tr>
<tr>
<td>5</td>
<td>Food Service Establishment Inspection</td>
<td>70%</td>
</tr>
<tr>
<td>6</td>
<td>Environmental Health Surveillance</td>
<td>77%</td>
</tr>
<tr>
<td>7</td>
<td>Food Safety Education</td>
<td>70%</td>
</tr>
<tr>
<td>8</td>
<td>Tobacco Use Treatment</td>
<td>70%</td>
</tr>
<tr>
<td>9</td>
<td>School/Daycare Center Inspection</td>
<td>74%</td>
</tr>
<tr>
<td>10</td>
<td>Population-based Nutritional Services</td>
<td>71%</td>
</tr>
</tbody>
</table>

Source: 2010 National Profile of Local Health Departments—NACCHO

Public Health in American Indian and Alaska Native Tribes
Tribal Public Health

- **Tribal Health Department**—a corporation or organization operated under the jurisdiction of a federally recognized tribe, or association of federally recognized tribes, and is funded by the tribe(s) and/or contract service(s) from the Indian Health Service (IHS).

- **Tribal Health Organizations**—include Tribal Health Departments, Indian Health Service Units, Area Indian Health Boards and Urban Indian Health Centers (a much broader group, and relates to a variety of entities that might provide health services in a tribal setting).

Wisconsin Tribal Health Departments

“...The determinants of health are beyond the capacity of any one practitioner or discipline to manage....We must collaborate to survive, as disciplines and as professionals attempting to help our communities and each other.”

—Institute of Medicine, 1999
“It is logical to expect that there is strength in numbers and that partnerships can mobilize material and human resources and be more effective at achieving desired goals than individuals working alone.”
– Karen Glanz, Health Behavior and Health Education, 2002
Our goal is an integrated system of partnerships

Federal DHHS
State Health Departments
Local Health Departments
Tribal Health
Healthcare Providers
Environmental Health
Mental Health

Community Coalitions
Transportation
Community Services

Media
Churches
Schools
Businesses
Philanthropy
Justice & Law Enforcement

Ensuring the Conditions for Population Health

Topic 5
Stakeholder Roles in Public Health

Partners in the Public Health System

Community
Government Public Health Infrastructure

Clinical Care Delivery System
Ensuring the Conditions for Population Health
Employers and Businesses

Academia
The Media


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Nongovernmental Organization Examples

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

Health Care as a Partner in Public Health

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

Other Partners in Public Health

- Media
  - Vehicle for public discourse
  - Health education and promotion
  - Health communication
  - Social media as catalyst
  - Employer-sponsored health insurance programs
  - Wellness initiatives and benefits
  - Healthy workplaces and communities
- Employers and Businesses
  - City planning
  - Education
  - Health in all policies
- Government Agencies
  - Education
  - Training
  - Research
  - Public Service
- Academia

Match each stakeholder to its role in public health.

- A. Academia
- B. Employers and businesses
- C. Government
- D. Media

1. Vehicle for public discourse
2. Health in all policies
3. Education and training
4. Wellness initiatives and benefits

Knowledge Check

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

QUESTIONS?
Resources and Additional Reading

- Skelton A. Introduction to public health science and practice.” Presented at the CDC Steven M. Teutsch Prevention Effectiveness Fellowship Orientation, August 15, 2012.

Resources and Additional Reading


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