



OVERVIEW

BIG IDEA

Public health seeks to improve health outcomes in populations.

OBJECTIVE

5.2: Identify examples of the ten essential functions of public health

AGENDA

1. What is public health?
2. Public Health vs. Medicine
3. Defining Public Health
4. 10 Public Health Achievements
5. Public Health Careers
6. 10 Essential Functions
7. Identifying Functions of PH
8. Do You Know Your Functions?

HOMEWORK

Think about your community. What is public health in your community? List five or more places where you would place a “This is Public Health” sticker in your community and explain each.

LESSON 5.2

Public Health

SUMMARY:

Students will explore the incredible realm of public health, as they examine various tasks that would be considered work of public health, contrast it with the traditional roles of medicine, and read about 10 great public health achievements of the 20th Century. Students will reflect upon careers in public health and learn the 10 essential functions of public health. By identifying these functions in real examples, students will begin to master an understanding of the scope of public health.

STANDARDS:

NHES 2.12.10: Analyze how public health policies and government regulations can influence health promotion and disease prevention.



MODULE 5: PUBLIC HEALTH**LESSON 5.2**

What is Public Health?

Obj. 5.2: Identify examples of the ten essential functions of public health

**What is Public Health?**

Circle the items that could be part of the work of a public health professional.

- Organize outreach efforts for the homeless
- Research the texting and driving epidemic
- Consult with companies to improve workplace safety
- Run support groups for cancer survivors
- Investigate outbreaks of food-borne illness
- ADVOCATE FOR HEALTHCARE REFORM
- Conduct studies to determine the risk factors for obesity
- Teach a course on statistics in health
- Educate teenagers about safe sex
- Advise lawmakers about health priorities
- Create ad campaigns to promote seat belt use
- Work with local governmental agencies to create clinics in developing nations
- Create websites to teach adolescents about positive health behaviors
- Analyze state chronic disease statistics

**Public Health vs. Medicine**

How is the role of a public health professional different from the traditional role of a physician?

**Defining Public Health**

Public health professionals focus on **populations** (also sometimes referred to as communities) rather than individuals. Public health also works to **prevent** problems before they occur.

"As opposed to medicine which concentrates on the treatment of disease once it has occurred, public health focuses on the **prevention** of disease and optimizing the physical and psychosocial status of **populations**" (UIC School of Public Health)

"Public Health is the science and art of protecting and improving the health of **communities** through education, promotion of healthy lifestyles, and research for disease and injury **prevention**." (ASPH)

DO NOW: The correct answer is that ALL of these items could be part of the work of public health. Ask students if any of them ever considered a career in public health (a show of hands would work here), and if they were surprised by at least one or more of the items being part of this career.

DISCUSS: Big idea: A physician diagnoses and treats individuals while public health focuses on improving health and preventing health problems among a population.

NEW INFO: The work of public health is often thankless and difficult to quantify the value of, this is due to the nature of the field: **PREVENTING** problems before they even happen. Ask students, "Why could we consider the work of public health sometime like an invisible force in our world?"



The 20th Century's 10 Great Public Health Achievements in the US

Top 10 Achievements in Public Health	
	1. Vaccination
	2. Motor-vehicle safety
	3. Safer workplaces
	4. Control of infectious diseases
	5. Decline in deaths from coronary heart disease and stroke
	6. Safer and healthier foods
	7. Healthier mothers and babies
	8. Family planning
	9. Fluoridation of drinking water
	10. Recognition of tobacco use as a health hazard

- 1. Vaccination:** Programs of population-wide vaccinations resulted in the eradication of smallpox; elimination of polio in the Americas; and control of measles, rubella, tetanus, diphtheria, & Haemophilus influenzae type b.
- 2. Motor-vehicle safety:** Improvements in motor-vehicle safety have contributed to large reductions in motor-vehicle-related deaths; engineering has made vehicles & highways safer, efforts to change personal behavior (e.g., increased use of safety belts, child safety seats, & motorcycle helmets; decreased drinking & driving).
- 3. Safer workplaces:** Work-related health problems, such as coal workers' pneumoconiosis (black lung), and silicosis -- common at the beginning of the century -- have been significantly reduced. Severe injuries and deaths related to mining, manufacturing, construction, and transportation also have decreased; since 1980, safer workplaces have resulted in a reduction of approximately 40% in the rate of fatal occupational injuries.
- 4. Control of infectious diseases:** Control of infectious diseases has resulted from clean water and better sanitation. Infections such as typhoid and cholera, major causes of illness and death early in the 20th century, have been reduced dramatically by improved sanitation. In addition, the discovery of antimicrobial therapy has been critical to successful public health efforts to control infections such as tuberculosis and STIs.
- 5. Decline in deaths from coronary heart disease and stroke:** Decline in deaths from coronary heart disease and stroke have resulted from risk-factor modification (e.g., smoking cessation, blood pressure control, improved access to early detection). Since 1972, death rates for coronary heart disease decreased 51%.
- 6. Safer and healthier foods:** Since 1900, safer and healthier foods have resulted from decreases in microbial contamination and increases in nutritional content. Identifying essential micronutrients and establishing food-fortification programs have almost eliminated nutritional deficiency diseases (e.g., rickets, goiter, pellagra).
- 7. Healthier mothers and babies:** Healthier mothers and babies are a result of better hygiene and nutrition, availability of antibiotics, greater access to health care, and technologic advances in maternal and neonatal medicine. Since 1900, infant mortality has decreased 90%, and maternal mortality has decreased 99%.
- 8. Family planning:** Access to family planning and contraceptive services has altered social and economic roles of women. Family planning has provided health benefits such as smaller family size and longer interval between the birth of children; increased opportunities for pre-conceptional counseling and screening; fewer infant, child, and maternal deaths; and the use of barrier contraceptives to prevent pregnancy and transmission of human immunodeficiency virus and other STDs.
- 9. Fluoridation of drinking water:** Fluoridation of drinking water began in 1945 and in 1999 reaches an estimated 144 million persons in the United States. Fluoridation safely and inexpensively benefits both children and adults by effectively preventing tooth decay, regardless of socioeconomic status or access to care. Fluoridation has helped reduce tooth decay for kids (40%-70%) & prevent tooth loss in adults (40%-60%).
- 10. Recognition of tobacco use as a health hazard:** Recognition of tobacco use as a health hazard in 1964 has resulted in changes in the promotion of cessation of use, and reduction of exposure to environmental tobacco smoke. Since the initial Surgeon General's report on the health risks of smoking, the prevalence of smoking among adults has decreased, and millions of smoking-related deaths have been prevented.

**Courtesy of CDC's MMWR Web Page*

NEW INFO: Ask students, "Which of these was most surprising to you? What might you expect to be on this list that is NOT included? Why?"

Source: <http://www.whatispublichealth.org/impact/achievements.html>



DISCUSS

Public Health Careers

Many kids decide they want to become a doctor from a very young age, however it is less common to say "I want to be a public health professional" among youngsters and even high schoolers. Many people don't discover public health until college or even later! Why do you think this is the case?



10 Essential Functions of Public Health

Public health systems are commonly defined as "all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction." This concept ensures that all entities' contributions to the health and well-being of the community or state are recognized in assessing the provision of public health services.

The public health system includes:

- Public health agencies at state and local levels
- Healthcare providers
- Public safety agencies
- Human service and charity organizations
- Education & youth development organizations
- Recreation and arts-related organizations
- Economic and philanthropic organizations
- Environmental agencies and organizations



Figure 1: The Public Health System

The **10 Essential Public Health Services** describe the public health activities that all communities should undertake. Public health systems should:

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.



Source: CDC, NPHSP, <http://www.cdc.gov/nphsp/essentialservices.html>

DISCUSS: Ask students for a show of hands of how many want to work in the healthcare field? Ask those who raise hands what professions they are interested in. Contrast this with the question asked at the beginning of the lesson (How many are interested in a public health career?)

DISCUSS:

Ask students to name some examples of specific institutions and organizations within these categories.

Emphasize with students that public health is really a field that draws together many fields: medicine, science, research, law, policy, consulting, activism, community organizing, etc.



Identifying Functions of Public Health

For each of the examples below, identify which of the 10 Essential Functions of Public Health is described. Write only the key words (from the wheel on the previous page) and the number for each function. Each function is only used once.

Example (related to motor vehicle safety)	Which of the 10 Essential Functions of Public Health (or Public Health Services) is this?
A. Visit local schools to present an lesson on the dangers of drinking and driving	
B. Determine whether a community program to provide free infant carseat installation is effective & accessible to parents	
C. Investigate the causes of motor vehicle injuries and deaths in the county	
D. Conduct a study measuring teenagers' attitudes toward texting and driving	
E. Consult with local police force about how to best enforce a law requiring safety helmets for motorcyclists	
F. Provide resources for parents of new teenage drivers to access information, guidance, and support for keeping their teens safe behind the wheel	
G. Help lawmakers understand the risks of distracted driving in order to implement fair laws that promote safety	
H. Test, evaluate, & observe driver education teachers to ensure they are delivering quality instruction	
I. Monitor tickets issued and motor vehicle collisions following the implementation of a new cell phone ban while driving	
J. Hold a community town hall on motor vehicle safety to better understand the concerns and ideas of stakeholders	



Which of these examples were most challenging to identify? Why?

THINK: Answer Key

A - 3. Inform, educate, empower

B - 9. Evaluate

C - 2. Diagnose & investigate

D - 10. Research

E - 6. Enforce laws

F - 7. Link to/Provide care

G - 5. Develop policies

H - 8. Assure competent workforce

I - 1. Monitor health

J - 4. Mobilize community partnerships



Do You Know Your Functions?

For each of the examples below, identify which of the 10 Essential Functions of Public Health is described. You may simply write the key words.

Example (related to vaccinations)	Which of the 10 Essential Functions of Public Health (or Public Health Services) is this?
1. Conduct a study on the knowledge, attitudes, and beliefs about vaccinations among first-time mothers and fathers of infants	
2. Hold a workshop on infant and childhood vaccinations focused on what these vaccinations prevent, how they work, and the common misunderstandings about vaccination	
3. Connect teen moms, mothers in poverty, and others in need to resources and information about obtaining free well-child visits, including immunizations	



This is Public Health



Public Health is Your Health. Most people don't understand what public health is or how it impacts their daily lives. The "This Is Public Health" campaign was created by Association of Schools of Public Health (ASPH) to let people know that public health affects them on a daily basis and that we are only as healthy as the world we live in. The campaign utilizes stickers with the slogan "This is Public Health" placed in strategic locations around communities to build awareness of the many ways in which public health impacts our well being.

Challenge: Join this global effort to promote public health awareness in your community. Visit <http://www.thisispublichealth.org/>

Assignment: Think about your community. What is public health in your community? List five or more places where you would place a sticker in your community and explain each.

ASSESS: Answers:

- 1) Research
- 2) Inform, educate, empower
- 3) Link to / Provide care

HOMEWORK: The purpose of this assignment is to get students to connect with what public health looks like in their own community.

Stickers can be obtained for students for a more authentic challenge assignment.

Source: <http://www.thisispublichealth.org/AboutCampaign.html>