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Fundamentals of Public Health

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How True Is The Old Saying?

"The federal government has most of the money;

the states have most of the authority; and

local governments have most of the responsibility;

to carry out public health programs."



OVERVIEW

- **What is public health?**
- **Structure and organization**
- **Legal authority**
- **Financing**
- **Case studies**
 - Biodefense
 - Vaccine mandates
 - Chronic disease consolidated grant proposal
- **The Patient Protection and Affordable Care Act (PPACA)**



WHAT IS PUBLIC HEALTH?

The mission of public health is to "fulfill society's interest in assuring conditions in which people can be healthy." Institute of Medicine

Public health is "the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of society."
World Health Organization (WHO)

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." WHO



The Public Health Approach

Focus on populations rather than individuals

Non-medical determinants of health; the daily conditions under which one lives and works or goes to school

- (Gender, race, and ethnicity)
- Income and occupation
- Educational level
- Socioeconomic status (SES), a combined metric
- Environment
- Health literacy
- Access to health care
- Others



The Prevention Continuum

	Absence of disease or of risk factors	Asymptomatic disease, or presence of risk factors	Symptomatic disease
	PRIMARY PREVENTION Community-based prevention	SECONDARY PREVENTION Clinical preventive services	TERTIARY PREVENTION Disease treatment
Influenza	Immunization	Antiviral drugs	Respiratory therapy
Breast Cancer	<i>Causation not well understood</i>	Screening mammography	Chemo- and radiation therapy
Smoking- related illnesses	Tobacco taxes, smoke-free laws	Reimbursement for smoking cessation	Treatment for cancer, care of premature infant, etc.



The 10 Essential Public Health Services

A working definition of public health, and a framework for the responsibilities of local public health systems

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships to identify and solve health problems.

Source: "Public Health in America," statement of the Core Public Health Functions Steering Committee (reps. from federal agencies and national organizations), 1994.



The 10 Essential Public Health Services (cont.)

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 new insights and innovative solutions to health problems.



STRUCTURE AND ORGANIZATION: Federal

Each branch of government plays a role.

Executive branch departments and agencies include

HHS: assistance to states, disease surveillance, health research, medical products and food safety regulation, health care safety net programs

EPA: enforcement of clean air and clean water laws, regulation of pesticides and hazardous materials

USDA: inspection of meat and poultry products, tracking of animal illnesses that can affect humans

DHS: help with border screenings to prevent introduction of diseases; coordination of biodefense detection activities.



STRUCTURE AND ORGANIZATION: States

Each state has a state health agency (SHA) and a state health official (SHO), the lead official for public health.



SHAs vary considerably in the scope of public health activities performed.

SHOs may be appointed by elected officials, may have short tenures.



STRUCTURE AND ORGANIZATION: State Health Agencies

90% or more of SHAs conduct the following activities:

- Childhood vaccine inventories, registries
- Testing for bioterrorism agents, foodborne illnesses
- Vital (birth and death) records
- Epidemiology and surveillance of injuries, chronic diseases (incl. cancer surveillance and registries), environmental health risks, behavioral risk factors, communicable diseases
- Newborn disease screening
- Tobacco control
- Prevention of injuries, HIV/AIDS, STDs
- Bioterrorism preparedness, response
- Services for children with special health care needs

Source: Association of State and Territorial Health Officials (ASTHO), *Profile of State Public Health, Volume One*, 2009, based on a 2007 survey. SHAs may conduct these activities directly or through grants and contracts.



STRUCTURE AND ORGANIZATION: State Health Agencies

Fewer SHAs conduct the following activities:

- Emergency medical services (58%)
- School health services:
 - Clinical (42%)
 - Non-clinical (53%)
- Poison control (59%)
- Private water supply safety (51%)
- Indoor air quality enforcement (52%)
- Inspections and licensing:
 - Laboratories (68%)
 - Jails/prisons (73%)
 - Hospitals (57%)
 - Waste haulers (72%)
- Health insurance regulation (12%)
- SCHIP management (14%)



STRUCTURE AND ORGANIZATION: Local Health Departments

Survey: 2,794 local health departments (LHDs)

Centralized: LHDs under state control in 6 states.



Decentralized: LHDs under local control (must abide by and enforce state and federal laws) in 29 states.

Mixed: Some LHDs are under state control and others are under local control, in 13 states.

Most LHDs serve small segments of the population. Some LHDs (e.g., cities) serve large populations.

Source: National Association of County and City Health Officials (NACCHO), "National Profile of Local Health Departments," 2008. HI and RI did not participate in survey.



LEGAL AUTHORITY: Federal

Federalism is key.

Constitution's enumerated powers most important for public health:

- Power to tax and spend (the “power of the purse”), Art. I, § 8, cl. 1
- Power to regulate commerce between states and with other nations (the Commerce Clause), Art. I, § 8, cl. 3



LEGAL AUTHORITY: Federal

These powers and others allow the federal government to:

- spend federal funds to support public health programs.
- impose taxes for public health purposes (e.g., tobacco).
- condition use of federal funds (e.g., *conditions of participation* for Medicare, Medicaid providers and facilities).
- regulate medical products.
- control diseases at borders (e.g., quarantine, compulsory vaccination requirements for immigrants).
- regulate safety of air, water, and food.



LEGAL AUTHORITY:

Key Federal Public Health Laws

Public Health Service Act [42 U.S.C. § 201 *et seq.*] Broad authority of HHS Secretary to study diseases, award grants, cooperate with state and foreign governments. PHSA authorizes many HHS agencies and programs.

Federal Food, Drug, and Cosmetic Act [21 U.S.C. § 301 *et seq.*] FDA's key authorities to regulate food and medical products.

Environmental Laws:

Clean Air Act [42 U.S.C. Chapter 85]

Clean Water Act [33 U.S.C. § 1251 *et seq.*]

Safe Drinking Water Act [42 U.S.C. § 300i *et seq.*], among others.

Occupational Safety and Health Act [29 U.S.C. § 651 *et seq.*]

Emergency Management:

Homeland Security Act [6 U.S.C. § 101 *et seq.*]

Stafford Act [42 U.S.C. § 5121 *et seq.*]



LEGAL AUTHORITY: States

Broad authority to make laws and regulations to assure the health and safety of citizens.



State “police power” is most important aspect of state sovereignty.

Gives states the right to make laws governing health, safety, and general welfare.

Also, under the doctrine of *parens patriae*, states may intervene to protect interests of persons who cannot do so for themselves (e.g., children, persons with mental illness).

LEGAL AUTHORITY: States

These powers allow states to, for example,

- license and oversee health care workers, and compel disease reporting.
- inspect health care facilities and restaurants, to assure healthy and safe conditions.
- compel disease testing, vaccination, quarantine, other control measures.
- use zoning and traffic laws to improve safety of housing and roadways.

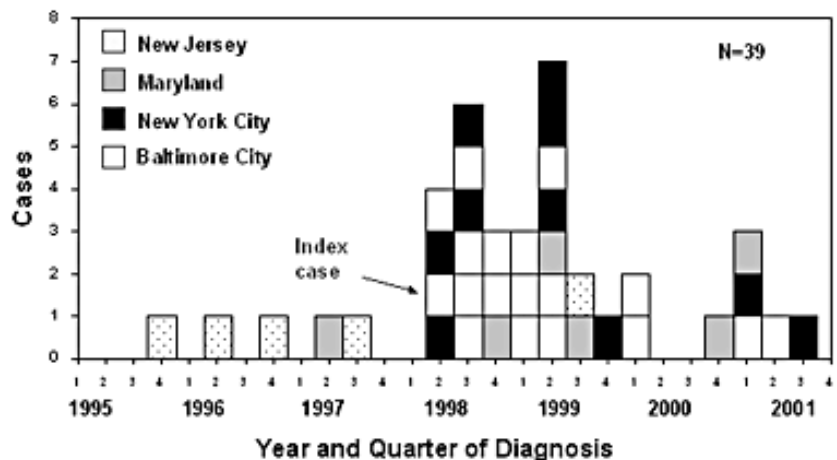


LEGAL AUTHORITY

Local public health activities are often carried out through delegation of state authority.



States and localities vary in the scope, depth, and specificity of public health laws and regulations.



FINANCING:

National Health Expenditure Accounts, 2009

National health expenditures (all sources)

- \$2.5 trillion total
- \$77.2 billion (3.1%) for public health
- Most health spending is on personal health care.

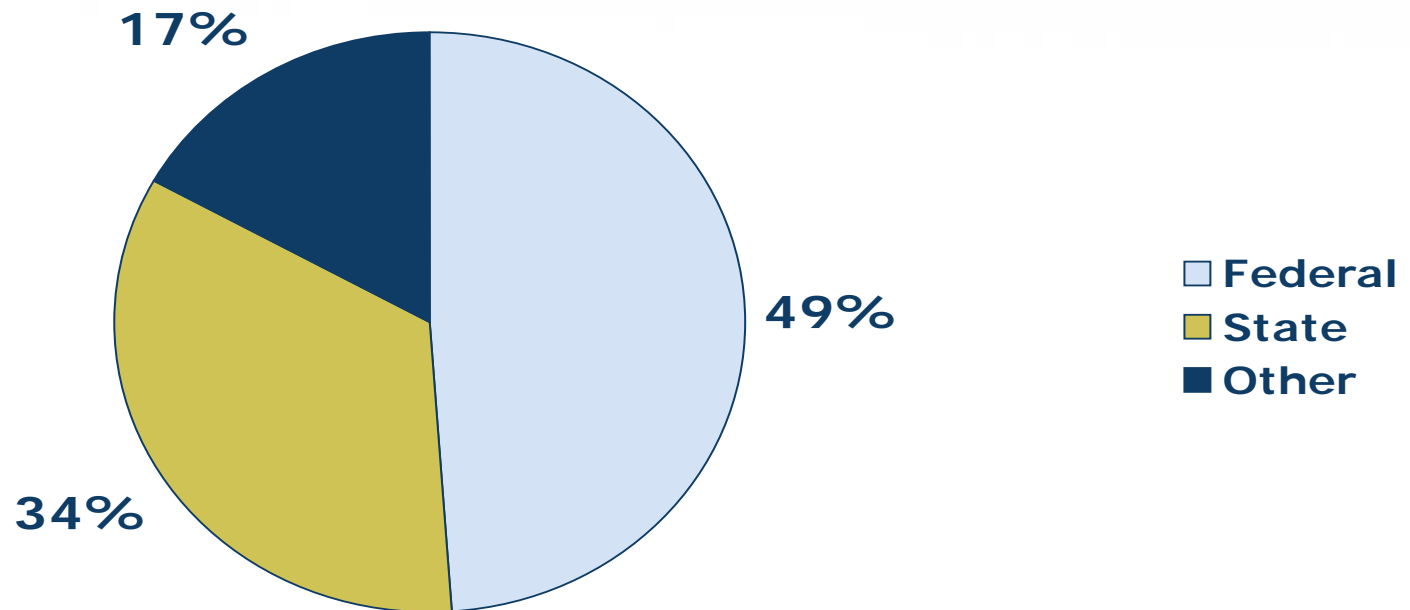
National *public health* expenditures (\$77.2 billion)

- Federal: \$11.5 billion (15%)
- State and local: \$65.7 billion (85%)

Source: CMS, National Health Expenditure Accounts, 2009,
<http://www.cms.gov/NationalHealthExpendData/>. Amounts for public health
exclude biomedical research, MCH funds, and some other related spending.



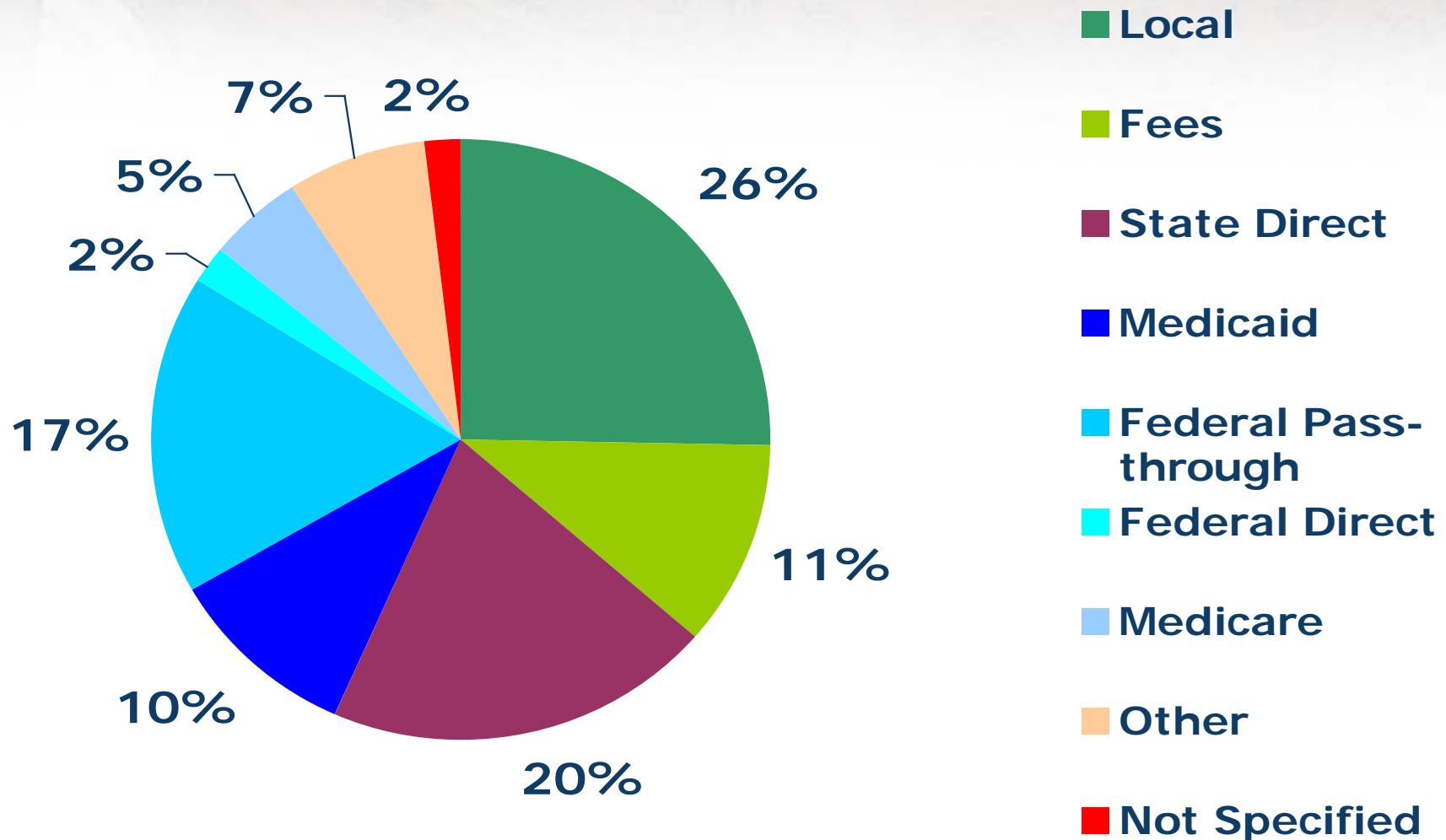
FINANCING: Sources of SHA Revenue



Source: ASTHO, "Impact of Budget Cuts on State and Territorial Public Health Services," survey, December 2010. "Other" includes patient and regulatory fees, tobacco settlement funds, and other sources.



FINANCING: Sources of LHD Revenue



Source: National Association of County and City Health Officials (NACCHO), "National Profile of Local Health Departments," 2008.

CASE STUDY: Biodefense



Authorities, roles, and funding depend on mode: preparedness or response

GAO: many federal players, not a single accountable party

GAO: Pillars of Biodefense and Examples of Associated Federal Departments

Threat Awareness	Prevention, Protection	Surveillance, Detection	Response, Recovery
DHS	HHS	HHS	DHS
FBI	USDA	USDA	HHS
DoD	DoD	Interior	USDA
Intelligence community	DHS	DHS	DoD
HHS			

Source: GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP, March 1, 2011, GAO analysis of Homeland Security Presidential Directive 10, p. 93.



Response to a Bioterrorism Incident

FBI leads law enforcement investigation and response.

States lead public health investigation and response.

HHS coordinates federal public health response efforts.



CASE STUDY: Vaccination Mandates (Schools)

All states and DC mandate vaccines for school attendance.
(Types of vaccines and opt-outs vary.)

Federal government:

- supports an expert panel.
 - Advisory Committee on Immunization Practices, ACIP
- publishes guidance re: use of vaccines.
 - CDC, usually follows ACIP recommendations.
- provides financial assistance.
 - "Section 317" grants to states
 - Vaccines for Children Program (VFC), Medicaid funds to vaccinate low-income and other at-risk children
- runs Vaccine Injury Compensation Program funded through excise taxes on vaccines.



CASE STUDY: Vaccination Mandates (Immigration)

HHS can make and enforce regulations "to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession." *

Some vaccines are required for immigrants.

CDC: Two diseases for which vaccines are recommended by ACIP—HPV and zoster (shingles)—do not have outbreak potential, so vaccines are not required for admission.

* Public Health Service Act § 361(a); 42 U.S.C. § 264(a).



CASE STUDY:

Chronic Disease Consolidated Grant Proposal

Historical example: Infectious disease grants

Trend away from “categorical” (disease-specific) funding, toward “core capacities”

- surveillance and epidemiology infrastructure
- laboratory infrastructure
- outbreak investigation capability
- information technology infrastructure
- workforce capabilities

Adaptable to new threats: SARS, pandemic flu



CDC Chronic Disease Prevention and Health Promotion Budget

(about 8.5% of CDC program level)

For FY2010, each activity below got a specific appropriation.

Heart disease and stroke	Skin cancer	Community health promotion
Diabetes	Oral health	Mind-Body Institute
Breast and cervical cancer	Nutrition, activity, obesity	Glaucoma
Breast cancer awareness	Arthritis	Visual Screening Education
Cancer registries	Psoriasis	Alzheimer's disease
Colorectal cancer	Epilepsy	Inflammatory bowel disease
Comprehensive cancer	National Lupus Registry	Interstitial cystitis
Gynecological cancers	Tobacco	Alcohol overuse
Ovarian cancer	Healthy Communities	Chronic kidney disease
Prostate cancer	Prevention Research Centers	Safe motherhood
Cancer education	Racial/ethnic approaches	Sudden infant death
Cancer survivors resources	Behavioral risk factor surv.	School health



Proposed: Comprehensive Chronic Disease Prevention Program (CCDPP)

CDC FY2012 budget proposal: consolidate “orange” programs;
keep “green” ones separate; eliminate Healthy Communities and
Racial/ethnic approaches.

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Consolidated Grants (vs. Categorical Funding): Pros

More flexibility to address 5 leading causes of death and disability

- heart disease
- cancer
- stroke
- diabetes
- arthritis

Focus on common risk factors and interventions

Broad approaches, incl. policy and infrastructure

Improved efficiency and effectiveness?



Consolidated Grants (vs. Categorical Funding): Cons

Maintenance of funding levels

Advocacy for specific diseases may be easier.

Accountability

- process measures
- intermediate measures (e.g., risk factors)
- outcomes

Evidence base is evolving.

Competitive vs. formula-based vs. “worst first”



Patient Protection and Affordable Care Act (PPACA, P.L. 111-148, as amended)

Strategic planning

- *National Prevention, Health Promotion and Public Health Council*
 - Developing national strategy and measurable goals

Funding

- *Prevention and Public Health Fund*
 - Permanent appropriation, \$15 billion over ten years

New grants and grant-making approach

- Focus on risk factors
 - *Community Transformation Grants*: “policy, environmental, programmatic, and infrastructure changes needed to promote healthy living and reduce health disparities.”



Additional Sources

Institute of Medicine, Committee for the Study of the Future of Public Health, Division of Health Care Services. 1988. *The Future of Public Health*. National Academy Press, Washington, DC.

WHO definition of health: Preamble to the WHO Constitution as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States, entered into force on 7 April 1948.

National League of Cities (NLC) and National Association of County and City Health Officials (NACCHO), "Promoting and Protecting Healthy Communities: A City Official's Guide to Public Health," Dec. 2003, <http://www.naccho.org/advocacy/resources/upload/City-Official-Guide.pdf>.



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