

# Informatika Kesehatan Masyarakat



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# Public Health Informatics

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- **Public health informatics is the systematic application of **information** and computer **science** and technology to public health practice, research, and learning**

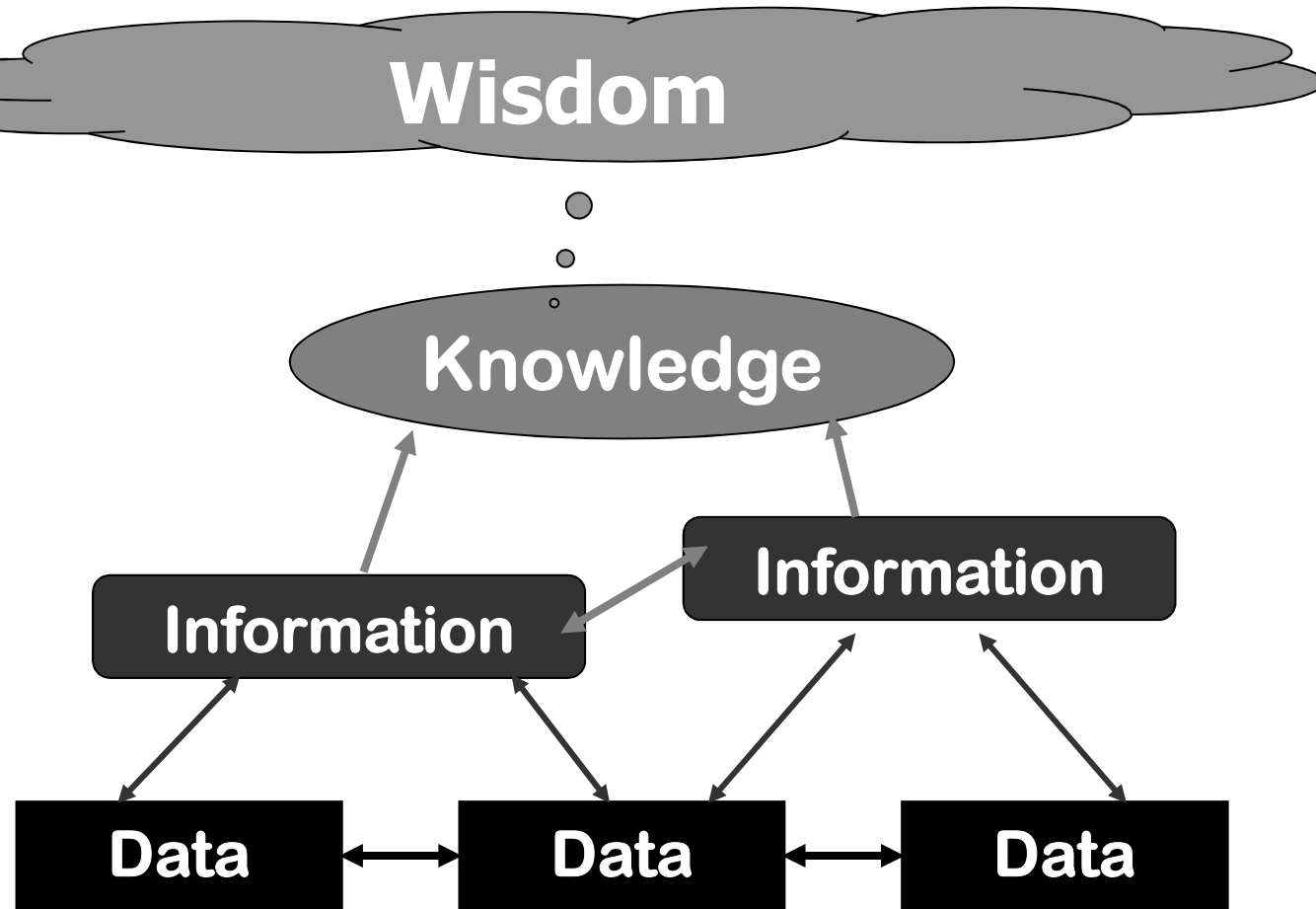


# *Information science*

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- **Theories in information science try to explain how we think, store, retrieve, and transmit information**

# *Information science*





# Computer Science

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- **Is the systematic study of algorithmic processes that describe and transform data and information – including the theory, analysis, design, efficiency, implementation and application**



# Computer Science

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- ❑ A foundational concept in computer science is the **algorithm**-- a precise sequence of instructions
- ❑ Basically, a computer program is an **executable algorithm**
- ❑ A second foundational concept in computer science is the **data structure**, or an abstract representation of information



# Information Technology

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**Information technology is the development and use of hardware, software, and supporting infrastructure to manage and deliver information.**

# Core Functions of Public Health Steering Committee: "Public Health in America"



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## Core Functions of Public Health

Assessment

Policy development

Assurance

## Purpose of Public Health

Prevent epidemics and spread of disease

Protect against environmental hazards

Prevent injuries

Promote and encourage healthy behaviors

Respond to disasters and assist communities in recovery

Assure the quality and accessibility of services

<http://iom.edu/Reports/1988/The-Future-of-Public-Health.aspx>

<http://www.health.gov/phfunctions/public.htm>





# The 10 Essential Public Health Services

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**Monitor health status** to identify and solve community health problems

**Diagnose and investigate** health problems and health hazards in the community

**Inform, educate, and empower** people about health issues

**Mobilize community partnerships** to identify and solve health problems

**Develop policies and plans** that support individual and community health efforts



# The 10 Essential Public Health Services

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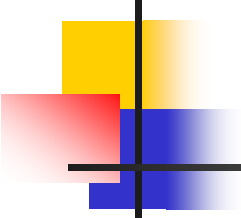
**Enforce laws and regulations** that protect health and ensure safety

**Link people to needed personal health services** and assure the provision of health **care** when otherwise unavailable

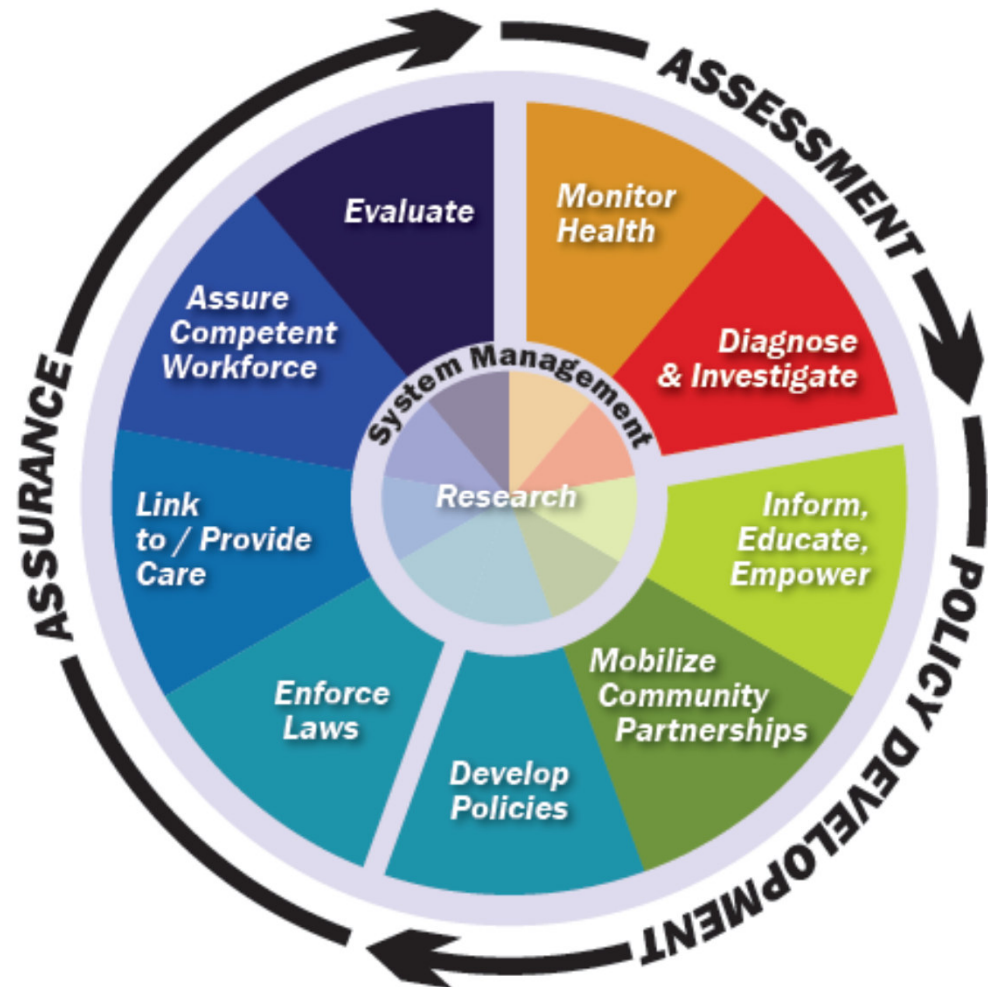
**Assure a competent** public and personal health care **workforce**

**Evaluate** effectiveness, accessibility, and quality of personal and population-based health services

**Research** for new insights and innovative solutions to health problems



# Essential Public Health Services



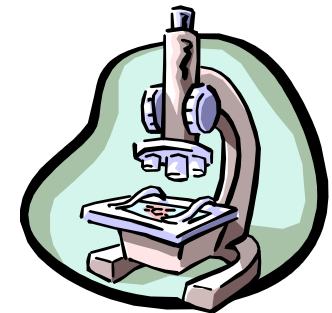
# Essential Service (ES) 1 – Monitor Health to Identify and Solve Community Health Problems

- **Accurate, periodic assessment of the community's health status**
  - Identification of health risks
  - Attention to vital statistics and disparities
  - Identification of assets and resources
- **Use of methods and technology (e.g., mapping technology) to interpret and communicate data**
- **Maintenance of population health registries**



## **ES 2 – Diagnose and Investigate Health Problems and Hazards in the Community**

- **Timely identification and investigation of health threats**
- **Availability of diagnostic services, including laboratory capacity**
- **Response plans to address major health threats**



# ES 3 – Inform, Educate, and Empower People About Health Issues

- **Initiatives using health education and communication sciences to**
  - Build knowledge and shape attitudes
  - Inform decision-making choices
  - Develop skills and behaviors for healthy living
- **Health education and health promotion partnerships within the community to support healthy living**
- **Media advocacy and social marketing**



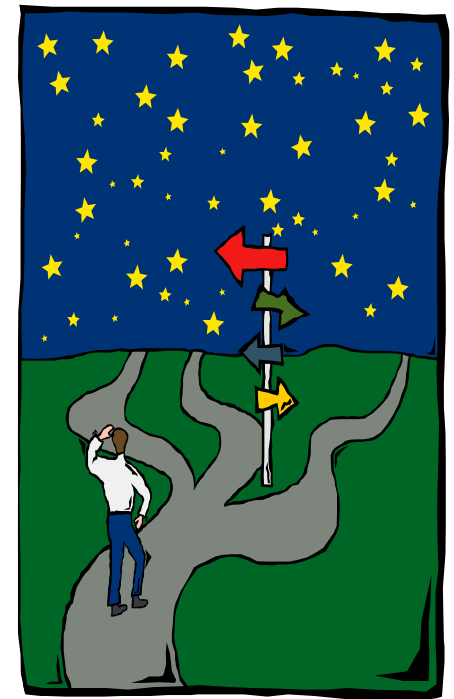
# **ES 4 – Mobilize Community Partnerships to Identify and Solve Health Problems**

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- **Constituency development**
- **Identification of system partners and stakeholders**
- **Coalition development**
- **Formal and informal partnerships to promote health improvement**

# ES 5 – Develop Policies and Plans That Support Individual and Community Health Efforts

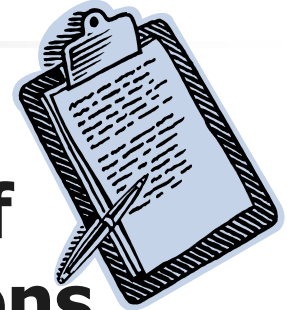
- **Policy development to protect health and guide public health practice**
- **Community and state improvement planning**
- **Emergency response planning**
- **Alignment of resources to assure successful planning**





# ES 6 – Enforce Laws and Regulations That Protect Health and Ensure Safety

- **Review, evaluation, and revision of legal authority, laws, and regulations**
- **Education about laws and regulations**
- **Advocating for regulations needed to protect and promote health**
- **Support of compliance efforts and enforcement as needed**

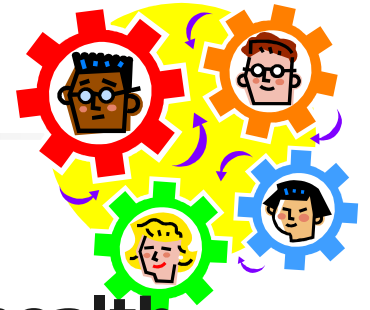


# **ES 7 – Link People to Needed Personal Health Services and Assure the Provision of Health Care When Otherwise Unavailable**

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- **Identification of populations with barriers to care**
- **Effective entry into a coordinated system of clinical care**
- **Ongoing care management**
- **Culturally appropriate and targeted health information for at risk population groups**
- **Transportation and other enabling services**

# ES 8 – Assure a Competent Public and Personal Healthcare Workforce



- **Assessing the public health and personal health workforce**
- **Maintaining public health workforce standards**
  - Efficient processes for licensing /credentialing requirements
  - Use of public health competencies
- **Continuing education and life-long learning**
  - Leadership development
  - Cultural competence

# ES 9 – Evaluate Effectiveness, Accessibility, and Quality of Personal and Population-Based Health Services

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- **Evaluation must be ongoing and should examine:**

- Personal health services
- Population based services
- The public health system

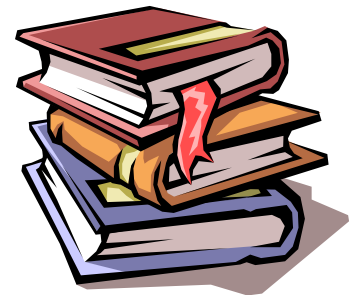
- **Quality Improvement**

- **Performance Management**



# **ES 10 – Research for New Insights and Innovative Solutions to Health Problems**

- **Identification and monitoring of innovative solutions and cutting-edge research to advance public health**
- **Linkages between public health practice and academic/research settings**
- **Epidemiological studies, health policy analyses and public health systems research**



# For More Information



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- 10 Essential Public Health Services and the Public Health in America Statement  
[www.health.gov/phfunctions/public.htm](http://www.health.gov/phfunctions/public.htm)
- Mobilizing for Action through Planning and Partnerships  
[www.naccho.org/topics/infrastructure/mapp/index.cfm](http://www.naccho.org/topics/infrastructure/mapp/index.cfm)
- National Public Health Performance Standards  
[www.cdc.gov/nphpsp](http://www.cdc.gov/nphpsp)
- Public Health Accreditation Board  
[www.phaboard.org](http://www.phaboard.org)

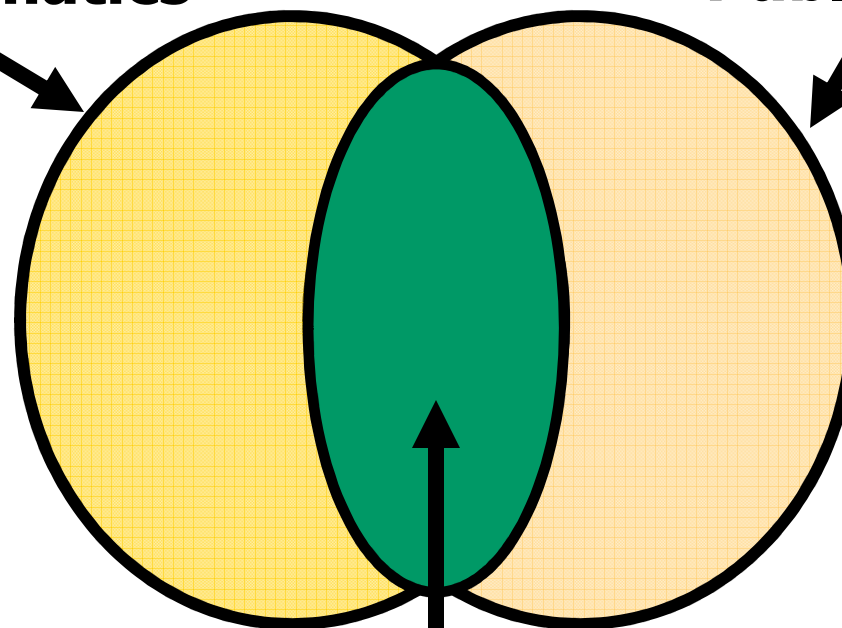


# Public health and informatics

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**Informatics**

**Public Health**



**Public Health  
Informatics**

Integrating  
Informatics Principles  
in Public Health  
Session 2018.0 -  
APHA 2006 - Boston