

# Public Health & Information Technology

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## Lecture 2

Prepared by Dr. Ibrahim AL-Jaafari

# Public Health Informatics Competencies

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**PHI competencies** is a public health worker's observable and measurable performance, skill, or knowledge related to the systematic application of information and computer science and technology to public health.

(U.S Department of Health and Human Services)



# Core Competencies of PHI Professionals

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## **Competency 1: Effective Use of Information**

- Analytics assessment skills
- Policy development/program planning
- Communication skills
- Community dimensions of practice
- Basic public health sciences
- Financial planning and management
- Leadership and systems thinking

*Effective use of information:* The following domains are covered under this competency (O'Carroll, 2002):

- *Analytics assessment skills:* These skills allow individuals to determine appropriate collection, analysis, interpretation, communication, and dissemination of both qualitative and quantitative data findings in the most ethical and effective manner.
- *Policy development/program planning:* This gives individuals the ability to utilize collected and summarized information in population health decision analysis and health planning.
- *Communication skills:* The ability to communicate effectively by using the media and advanced technologies so that information can be presented accurately.
- *Community dimensions of practice:* The ability to develop, implement, and evaluate community-based public health assessments.

- *Basic public health sciences:* The ability to apply basic public health sciences and research methods, and to identify current scientific evidence and related gaps so that determinants of health and illness can be defined.
- *Financial planning and management:* The ability to conduct cost-effective analysis.
- *Leadership and systems thinking:* The ability to conduct strategic planning, and promote team and organizational building.



# Core Competencies of PHI Professionals

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## **Competency 2: Effective Use of Information Technology**

- Digital literacy
- Electronic communications
- Selection and use of IT tools
- Online information utilization
- Data and system protection
- Distance learning
- Strategic use of IT to promote health
- Information and knowledge development

- *Effective use of information technology:* This competency describes an individual's ability to use IT to improve professional effectiveness (O'Carroll, 2002). The competency includes the following domains:
  - *Digital literacy:* The ability to utilize ITs for working with documents and other computerized files.
  - *Electronic communications:* The ability to utilize electronic communication.
  - *Selection and use of IT tools:* The ability to select and utilize software tools to facilitate data collection, storage, analysis, and dissemination.
  - *Online information utilization:* The ability to locate and interpret online public health-related information and data.

- *Data and system protection:* The ability to ensure integrity of all electronic files and apply all means to ensure protection of confidential information.
- *Distance learning:* The ability to utilize distance-learning technologies to support lifelong learning.
- *Strategic use of IT to promote health:* The ability to utilize technology to enhance population health.
- *Information and knowledge development:* The ability to integrate data from disparate sources to make informed decisions.



# Core Competencies of PHI Professionals

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## **Competency 3: Effective Management of IT Projects**

- System development
- Cross-disciplinary communication
- Databases and standards
- Confidentiality and security systems
- Project management
- Human resources management
- Procurement and accountability
- Research

- *Effective management of IT projects:* This competency describes the ability to effectively develop and manage information systems to improve the effectiveness of a public health enterprise. It includes the following domains (O'Carroll, 2002):
  - *System development:* Individuals should have the ability to put together and manage a team of professionals in areas ranging from information systems and computer science to epidemiology that can participate in the design, development, and evaluation of cost-effective public health information systems.
  - *Cross-disciplinary communication:* Individuals should have the ability to effectively communicate with IT and public health professionals regarding proven technologies that enhance public health practice.
  - *Databases:* Individuals should have the ability to apply good principles of database design.



- *Standards:* Individuals should have the ability to utilize data standards for storage and transmission.
- *Confidentiality and security systems:* Individuals should have the ability to develop confidentiality and privacy policies for the enterprise and support their implementation.
- *Project management:* Individuals should have the ability to use informatics principles to manage population health information projects.
- *Human resources management:* Individuals should have the ability to manage IT staff and health technology projects.
- *Procurement:* Individuals should have the ability to procure cost-effective technologies for public health organizations.
- *Accountability:* Individuals should ensure that technology is used to facilitate the openness of public health agency processes.
- *Research:* Individuals should have the ability to monitor and apply informatics research findings relevant to public health practice.

# Reference

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## CHAPTER 2

# **Population Health Informatics Workforce, Competencies, and Training Programs**

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**Ashish Joshi**



# Good Luck for All Students

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- Please do not hesitate to contact me if you have any questions.
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# سبحان الله وبحمده سبحان الله العظيم

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ذكر الله أعظم ما في الوجود ،، لعل الله يرحمنا بعلم تعلمناه في الحياة  
الدنيا

أستغفر الله