Notes to Instructors

This Instructor Manual is a resource for instructors using this component. Each component is broken down into units, which include the following elements:

- Learning objectives
- Suggested student readings, texts, reference links to supplement the narrated PowerPoint slides
- Lectures (voiceover PowerPoint in Flash format); PowerPoint slides (Microsoft PowerPoint format), lecture transcripts (Microsoft Word format); and audio files (MP3 format) for each lecture
- Self-assessment questions reflecting Unit Objectives with answer keys and/or expected outcomes
- Application Activities (e.g., discussion questions, assignments, projects) with instructor guidelines, answer keys and/or expected outcomes
# Contents

Notes to Instructors ................................................................. 2
Component Overview ................................................................. 4
Component Objectives ................................................................. 4
Component Authors .................................................................. 5
Disclaimer .................................................................................. 7
Component 13/Unit 1 ................................................................. 8
Component 13/Unit 2 .................................................................. 14
Component 13/Unit 3 ................................................................. 17
Component 13/Unit 4 ................................................................. 23
Component 13/Unit 5 ................................................................. 27
Component 13/Unit 6 ................................................................. 32
Component 13/Unit 7 ................................................................. 35
Component 13/Unit 8 ................................................................. 39
Component 13/Unit 9 ................................................................. 43
Component 13/Unit 10 ............................................................... 46
Component Acronym Glossary .................................................. 49
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported ........................................ 53
Component Overview
This component is specifically for individuals interested in a career in public health. This component will provide an overview of specialized public health applications such as registries, epidemiological databases, biosurveillance, public health reporting alerts, quality reporting, and how to adopt/use of population health functions for electronic health records and consumer functions for personal health records. In addition, this component will address the potential of public health information technology for health promotion and chronic disease prevention.

Component Objectives
At the completion of this component, the student will be able to:

• Distinguish (draw distinctions) among core functions and essential services of ‘public health’ and ‘clinical care’.
• Synthesize key reasons and current contextual factors for providers in clinical practice to improve public health services and practices using EHRs.
• Apply health data definitions and standards, as well as privacy and confidentiality issues, in typical public health scenarios.
• Summarize the strategies, features, and systems needed for public health agencies to define and build the necessary connections to EHRs as identified by meaningful use legislation.
• Describe the roles and functions of existing public health data and health databases and networks.
• Identify current needs and future directions for EHR biosurveillance, disaster-preparedness, and situational awareness in improving public health.
• Summarize/describe the main role, functions and applications of public health reporting, alerts and decision support systems.
• Summarize the role, functions and applications of public health IT for health promotion and chronic disease prevention.
• Delineate the critical role of advocacy in adoption/use of EHRs and Consumer functions for PHRs to improve public health.
Component Authors

Assigned Institution
Columbia University, New York, NY

Team Lead
Rita Kukafka, DrPH, MA
Associate Professor, Department of Biomedical Informatics (DBMI) and the Mailman School of Public Health (Sociomedical Sciences), and Director of the Health Communication and Informatics Laboratory at DBMI, Columbia University
Dr. Kukafka maintains an active, funded program of research and publication in public health informatics while being engaged in major leadership roles in the field. Her research is at the crossroads of Biomedical Informatics and Public Health and focuses on the use of Web 2.0 technologies (social software) to develop and strengthen communities and people-networks, and use of participatory action methods for re-engineering, system design and evaluation. One area of research is computer interventions for chronic disease self-management, health promotion and informed decision-making, patient-focused electronic health records and personal health records, tailoring health communication, and interactive computer graphics for communicating health risk probabilities to patients. Another area of her research focuses on how theory from the behavioral sciences can be applied to advance our understanding and to improve our capacity to implement information technology systems into health care organizations. She is a member of the American Medical Informatics Association (AMIA) Board of Directors and she is a past chair of that organization’s Working Group on Consumer Health Informatics.

Primary Contributing Authors

Lynda Carlson, Ph.D
Director of Health Information Technology at Borough of Manhattan Community College (BMCC)

Michael Buck, PhD
NYC Department of Health and Mental Hygiene (NYCDHMH) and Associate Research Scientist in the Department of Biomedical Informatics (DBMI) at Columbia University
Anna Ritko, PhD Candidate
Content Specialist, Department of Biomedical Informatics, Columbia University

Winfred Wu, MD
NYC Department of Health and Mental Hygiene (PCIP)

Sarah Shih, MPH
NYC Department of Health and Mental Hygiene (PCIP)

Marlena Plagianos, MS
NYC Department of Health and Mental Hygiene (PCIP)

Lecture Narration
Joel Richards

Sound Engineer
Acacia Graddy-Gamel
Columbia University, New York, NY

Team Members
Syncia Sabain, EdD
Project Manager, Columbia University

Elizabeth Oliver, BCC
Content Specialist, Bronx Community College

Madhabi Chatterji, PhD
Curriculum Developer, Teachers College, Columbia University

John Allegrante, PhD
Curriculum Developer, Teachers College, Columbia University

John Zimmerman, DDS
Instructional Designer, Columbia University

Cindy Smalletz, MA
Instructional Designer, Columbia University
Disclaimer

These materials were prepared under the sponsorship of an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Likewise, the above also applies to the Curriculum Development Centers (including Columbia University, Duke University, Johns Hopkins University, Oregon Health & Science University, University of Alabama at Birmingham, and their affiliated entities).
Component 13/Unit 1

Unit Title
Overview & Contribution to Public Health Through Electronic Health Record Use

Unit Description
This unit will synthesize key reasons and current contextual factors for providers in clinical practice to improve public health practice using Electronic Health Records (EHRs).

Unit Objectives
By the end of this unit, the student will be able to:
1. Explain what is public health?
2. Discuss what distinguishes public health from the other health sciences
3. Explain public health’s unique contributions to the health of the public
4. To define Public Health (PH) Information Technology and PH Informatics
5. To illustrate how innovative IT solutions are being applied to PH practice
6. To explain the role of electronic health records and data exchange to clinical care and health care improvement
7. Describe PH organizational structure

Unit Topics / Lecture Titles
A. Introduction to Public Health
B. Historical Context of Public Health
C. Opportunities for Public Health enabled electronic health records
D. Public Health + Health Information Technology (PHIT)
E. Public Health Informatics

Unit References
(All links accessible as of 1/1/2014)
Lecture 1a


*Indicates this link is no longer functional.


Lecture 1a Images

*Indicates this link is no longer functional.


Lecture 1b


Lecture 1b Charts, Tables and Figures


Lecture 1b Images


*Indicates this link is no longer functional.

*Indicates this link is no longer functional.

Health IT Workforce Curriculum
Public Health IT
Version 3.0/Spring 2012

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24HC000003.
Suggested Readings
None

Student Application Activities
comp13_unit1_discuss.doc
comp13_unit1_discuss_key.doc
comp13_unit1_self_assess.doc
comp13_unit1_self_assess_key.doc
Component 13/Unit 2

Unit Title
Privacy, Confidentiality and Security of Public Health Information

Unit Description
Apply health data definitions and standards, as well as privacy and confidentiality issues, in typical public health scenarios.
[Note: This outcome applies jointly to units 2 and 3, which are related.]

Unit Objectives
By the end of this unit, the student will be able to:
1. Identify the exercise of principles of privacy, confidentiality, and security of public health information, in scenarios involving patients and health practitioners.
2. Identify the types of laws/Acts applicable to the treatment of public health information.
3. Locate resources for applicable state, local, and federal laws and/or Acts
4. Interpret the treatment of and apply applicable laws/Acts to public health information in given patient or practitioner scenarios.
5. Identify the functions of a “covered entity” and a “business associate” in relation to the treatment of public health information.
6. Describe the objectives and roles of the HIPAA Privacy Rule and exceptions to HIPAA as they apply to public health.
7. Identify patient rights under the Notice of Privacy Practices
8. Describe the potential civil and criminal penalties for a HIPAA violation
9. Identify and summarize each HIPAA security requirement (administrative, physical, and technical)
10. Discuss policy, procedures, contracts, and plans in administrative safeguards
11. Describe how the physical environment can impact security of information and develop solutions
12. Discuss technical strategies that can be implemented for security purposes
13. Identify the type of information that requires protection (e.g., diseases, demographics) and list examples

*Indicates this link is no longer functional.

Health IT Workforce Curriculum Public Health IT
Version 3.0/Spring 2012

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.
14. Demonstrate the application of principles for the appropriate release of required patient information in given scenarios.
15. Identify examples of circumstances when patient information may be used without patient authorization.
16. Summarize the ARRA/HITECH amendments to HIPAA.

Unit Topics / Lecture Titles
A. Privacy
B. Confidentiality
C. Security
D. Laws, Acts & Public Health
E. Statutory & Regulatory
F. Health Insurance portability and Accountability Act

Unit References
(All links accessible as of 1/1/2014)

Lecture

Suggested Readings
None

Student Application Activities
comp13_unit2_discuss.doc
comp13_unit2_discuss_key.doc
comp13_unit2_self_assess.doc
comp13_unit2_self_assess_key.doc
Component 13/Unit 3

Unit Title
Data Standards in Public Health Information Technology

Unit Description
Apply health data definitions and standards, as well as privacy and confidentiality issues, in typical public health scenarios.
[Note: This outcome applies jointly to units 2 and 3, which are related.]

Unit Objectives
By the end of this unit, the student will be able to:
1. Discuss the New York City Department of Health and Mental Hygiene partnership with a commercial EHR vendor and how it created a public health-enabled EHR.
2. Demonstrate knowledge of public health-oriented clinical decision support including an integrated strategy using multiple tools such as alerts, order sets, smart forms, and quality reporting.
3. Describe the EHR “meaningful use” movement and how it could transform existing clinical/public health practices.
4. Describe the strategies, features, and systems needed for public health agencies to define and build the necessary connections to EHRs as identified by the “meaningful use” legislation.
5. Identify the essential features of four primary public health IT functions, including syndromic surveillance, bi-directional immunization registries, public health alerts, ad-hoc reporting, and more.

Unit Topics / Lecture Titles
A. Identify the architecture categories for information systems and explain the differences
B. Summarize objectives of an enterprise architecture plan
C. Identify the objectives of data standards for public health
D. Describe the different types of standards required (e.g., information, clinical data representation, technical, medication terminology, and privacy and security)
E. Identify the factors involved in grammar data standards for communicating in public health informatics

*Indicates this link is no longer functional.
F. Identify the principles of context regarding data standards for communicating public health informatics

G. Identify universal vocabularies and classification systems applicable to public health (CPT, ICD-0)

H. Identify and compare associations and/or organizations developing standards (e.g., CCHIT, HL7, American Society for Testing and Materials)

Unit References
(All links accessible as of 1/1/2014)

Lecture

*Indicates this link is no longer functional.
30. HIMSS Health Information Exchange http://www.himss.org/ASP/topics_rhio.asp

*Indicates this link is no longer functional.
33. HIMSS Overview of HIE & RHIOs. Retrieved on July 10th, 2010 from www.himss.org/content/files/RHIO/RHIO_HIE_11_10_07.pdf*

Lecture Images

Suggested Readings
1. Accredited Standards Committee X12: http://www.x12.org/
2. American College of Radiology national Electrical Manufactures
Association (ACR-NEMA): http://www.nema.org/media/pr/20061101a.cfm*
3. HL7: http://www.hl7.org/
4. CCHIT: http://www.cchit.org/
5. Institute of Electrical and Electronics Engineers: http://www.ieee.org/index.html
11. Office of Surveillance, Epidemiology, and Laboratory Services: http://www.cdc.gov/osels/
15. Association for Information and Image Management: http://www.aiim.org/

*Indicates this link is no longer functional.
24. Analysis of Unique Patient Identifier Options Final report http://ncvhs.hhs.gov/app0.htm*
27. Sample Universal Healthcare Identifier http://ncvhs.hhs.gov/app7-2.htm*
31. HIMSS Overview of HIE & RHIOs http://www.himss.org/content/files/RHIO/RHIO_HIE_11_10_07.pdf*
32. HIMSS Health Information Exchange http://www.himss.org/ASP/topics_rhio.asp

*Indicates this link is no longer functional.
36. Privacy and Security and Health Information Technology (Health IT)
   http://www.hhs.gov/healthit/privacy/*
37. Healthcare Information Technology Standards Panel
   http://www.hitsp.org/default.aspx

Student Application Activities
comp13_unit3_discuss.doc
comp13_unit3_discuss_key.doc
comp13_unit3_self_assess.doc
comp13_unit3_self_assess_key.doc

*Indicates this link is no longer functional.
Component 13/Unit 4

Unit Title
Public Health Enabled Electronic Health Records and the Role of Public Health in Health Information Exchange

Unit Description
This unit will summarize/describe the main role, functions and applications of public health-enabled Electronic Health Records (EHRs).

Unit Objectives
By the end of this unit, the student will be able to:
1. Discuss the New York City Department of Health and Mental Hygiene partnership with a commercial EHR vendor and how it created a public health-enabled EHR.
2. Demonstrate knowledge of public health-oriented clinical decision support including an integrated strategy using multiple tools such as alerts, order sets, smart forms, and quality reporting.
3. Describe the EHR “meaningful use” movement and how it could transform existing clinical/public health practices.
4. Describe the strategies, features, and systems needed for public health agencies to define and build the necessary connections to EHRs as identified by the “meaningful use” legislation.
5. Identify the essential features of four primary public health IT functions, including syndromic surveillance, bi-directional immunization registries, public health alerts, ad-hoc reporting, and more.

Unit Topics / Lecture Titles
A. Public health enabled electronic health records and the role of public health in health information exchange.
B. New York City Public Health Goals
C. Syndromic Surveillance
D. Immunization Registries
E. Public Health Alerts & Ad-Hoc Reporting

Unit References
(All links accessible as of 1/1/2014)

*Indicates this link is no longer functional.
Lecture 4a


2. Dr. Farzad Mostashari is currently serving as Deputy National Coordinator for Programs and Policy http://healthit.hhs.gov/portal/server.pt?open=512&mode=2&objID=1249&PageID=18220*


Lecture 4a Charts, Tables, Figures


Lecture 4a Image


Lecture 4b


Lecture 4b Charts, Tables, Figures

1.1 Table: Buck, M. (2010). Syndromic data. New York Department of Health and Mental Hygiene, Primary Care Information Center.

Lecture 4b Images


*Indicates this link is no longer functional.


Lecture 4c


Lecture 4c Images


Suggested Readings
4. Dr. Farzad Mostashari is currently serving as Deputy National Coordinator for Programs and Policy http://healthit.hhs.gov/portal/server.pt?open=512&mode=2&objID=1249&PageID=18220*

Student Application Activities
comp13_unit4_discuss.doc
comp13_unit4_discuss_key.doc
comp13_unit4_self_assess.doc
comp13_unit4_self_assess_key.doc

*Indicates this link is no longer functional.
Component 13/Unit 5

Unit Title
Epidemiology Databases and Registries—Public Health Information Tools

Unit Description
This unit will explain how varying types of information technologies have application in public health practice.

Unit Objectives
By the end of this unit the student will be able to:
1. Identify the functions and key issues of epidemiology compared to clinical practice
2. Define and distinguish among the components that make up epidemiology
3. Identify the difference between environmental and mechanistic causes of disease
4. Describe the components of epidemiological reasoning
5. List the different types of epidemiology
6. Define clinical epidemiology and its relationship with evidence-based practice
7. Explain the current applications of epidemiology and how the results influence evidence-based practice
8. Identify different sources of epidemiological databases and how information is updated and exchanged with clinical entities
9. Describe the purpose of a registry, the types of information contained within a public health registries and how this information can be used
10. Identify the defining characteristics of epidemiological registries
11. Identify different entities that operate registries and how information from clinical practice gets imported into these registries
12. Identify security and access issues in the information exchange between communities, clinical institutions, public health departments and federal agencies involved in public health prevention and control.
Unit Topics
A. Epidemiology- Introduction
B. Epidemiology Databases & Registries
C. Information Exchange

Unit References
(All links accessible as of 1/1/2014)

Lecture 5a
1. Improving the Effectiveness of Health Care and Public Health: A Multiscale Complex Systems Analysis
3. Editorial: Clinical Epidemiology – a fast new way to publish important research, Henrik Toft Sørensen. Published Date February 2009, Volume 2009:1 Pages 17 – 18

Lecture 5b

*Indicates this link is no longer functional.
6. Combined Health Information Database. Retrieved on October 3rd, 2011 from pathmicro.med.sc.edu/chidmic.htm*

*Indicates this link is no longer functional.


**Lecture 5b Image**


**Unit Required Readings**


2. Editorial: Clinical Epidemiology – a fast new way to publish important research Henrik Toft Sørensen. Published Date February 2009, Volume 2009:1 Pages 17 18


**Unit Suggested Readings**


2. Editorial: Clinical Epidemiology – a fast new way to publish important research Henrik Toft Sørensen. Published Date February 2009, Volume 2009:1 Pages 17 18


4. A State-Based Approach to Privacy and Security For Interoperable Health Information Exchange

*Indicates this link is no longer functional.

Health IT Workforce Curriculum  Public Health IT  30
Version 3.0/Spring 2012

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.
5. Linda Dimitropoulos and Stephanie Rizk Health Affairs, 28, no. 2 (2009): 428-434
6. Fletcher R. Clinical epidemiology: the essentials. 4th ed. Chapter 1. Philadelphia: Lippincott Williams & Wilkins; 2005. a “paywall” or not easily accessible, since it is suggested.

Student Application Activities
comp13_unit5_discuss.doc
comp13_unit5_discuss_key.doc
comp13_unit5_self_assess.doc
comp13_unit5_self_assess_key.doc
Component 13/Unit 6

Unit Title
Biosurveillance, Situational Awareness and Disaster Response

Unit Description
This unit will focus on identifying current needs and future directions for EHR biosurveillance, disaster-preparedness, and situational awareness in improving public health.

Unit Objectives
By the end of this unit the student will be able to:
1. Describe the traditional means used to monitor and report on disease spread within a community
2. Identify current data sources used to track disease
3. Describe the typical process of syndromic surveillance.
4. Identify strengths and weaknesses of using EHRs for biosurveillance
5. Describe process for monitoring, reporting, and analyzing EHR biosurveillance data
6. Identify how current and future findings from EHR biosurveillance improve public health operations and services

Unit Topics
A. Syndromic Surveillance Overview
B. Electronic Health Record Syndromic Surveillance during 2009-Pandemic H1N1 in NYC

Unit References
(All links accessible as of 1/1/2014)

Lecture

*Indicates this link is no longer functional.
Lecture Charts, Tables, Figures
1.1 Table: Buck, M. (2010). New and exciting data types. New York Department of Health and Mental Hygiene, Primary Care Information Center.
1.2 Table: Buck, M. (2010). Aggregate Level Syndromic Data. New York Department of Health and Mental Hygiene, Primary Care Information Center
1.3 Table: Buck, M. (2010). Data processing and syndrome coding. New York Department of Health and Mental Hygiene, Primary Care Information Center
1.4 Table: Buck, M. (2010). A table of results from the first phase of the ILI outbreak- April-May. New York Department of Health and Mental Hygiene, Primary Care Information Center.
1.5 Table: Buck, M. (2010). A table of results from the first phase of the ILI outbreak- May-June. New York Department of Health and Mental Hygiene, Primary Care Information Center.

Lecture Images
Slide 12: eClinicalWorks System Screenshot used by permission.
Slide 34: Buck, M. (2010). A graph of the level of ILI at the emergency departments in red, the PCIP primary care practices in green and the IFH primary care practices in blue. New York Department of Health and Mental Hygiene, Primary Care Information Center.

Unit Suggested Readings
1. International Society of Disease Surveillance: http://www.syndromic.org/
2. HHS Biosurveillance Use Case http://www.hhs.gov/healthit/documents/BiosurveillanceUseCase.pdf*

*Indicates this link is no longer functional.

4. Aaron T Fleischauer, PhD; Pamela S Diaz, MD; Daniel M Sosin MD. Biosurveillance: A Definition, Scope and Description of Current Capability for a National Strategy. Advances in Disease Surveillance 2008;5:175

5. Hripcsak G, Soulakis ND, Li L, Morrison FP, Lai AM, Friedman C, Calman NS,


**Student Application Activities**

comp13_unit6_discuss.doc
comp13_unit6_discuss_key.doc
comp13_unit6_self_assess.doc
comp13_unit6_self_assess_key.doc

*Indicates this link is no longer functional.*
Component 13/Unit 7

Unit Title
Public Health Reporting, Alerts and Decision Support

Unit Description
This unit will summarize the essential public health services and methods by which they can be improved through the use of EHRs in the context of the clinical care environment.

Unit Objectives
By the end of this unit the student will be able to:

1. Describe the current role of public health in the context of the clinical care environment
2. Identify and describe three essential to public health services: Monitor Health; Diagnose/Investigate; Inform, Educate, Empower
3. Identify current public health practices challenges in the essential public health services of: Monitor Health; Diagnose/Investigate; and Inform, Educate, Empower
4. Identify the opportunities and limitations for EHRs to address these challenges in three primary areas (syndromic surveillance, notifiable disease reporting, and public health case investigation)
5. Describe challenges & limitations of EHRs to address these service areas

Unit Topics / Lecture Titles
A. Public health reporting, alerts, and decision support
B. Monitoring Health
C. Pre-Population
D. Syndromic Challenges
E. Diagnose & Investigate Health Issues
F. Translating Public Health Information
G. Integration of Public Health Information via Electronic Health Records
H. Testing Performed at Visits
I. E.Coli Alerts, Legionella Alerts, and Measles Alerts

Unit References
(All links accessible as of 1/1/2014)

*Indicates this link is no longer functional.
Lecture


Lecture Images


Slide 11: Retrieved October 1st, 2010 from Image is Microsoft office clip art.


Slide 14: Sample image of syndromic surveillance compares with WHO viral isolate data during a recent influenza season.


Slide 23: Public domain images of cells, European landscape, and pills.


*Indicates this link is no longer functional.

Slide 26: Image of two computers sharing information exchange. Public domain image.


Lecture Charts, Tables, Figures

Unit Suggested Readings

Student Application Activities
comp13_unit7_discuss.doc
comp13_unit7_discuss_key.doc

*Indicates this link is no longer functional.
Component 13/Unit 8

Unit Title
The potential of public health IT for health promotion and chronic disease prevention

Unit Description
This unit will explain a novel approach to developing and implementing health promotion programs in public health practice.

Unit Objectives
By the end of this unit the student will be able to:
1. Describe and categorize issues/questions, data sets and factors (variables) that are used in descriptive epidemiology.
2. Describe how evidence-based recommendations may be appropriately used in implementing and evaluating health promotion and disease prevention.
3. Describe different types of health promotion and disease prevention and different methods of enacting health promotion programs.
4. Identify the steps in the process of implementing and evaluating prevention programs and interventions.
5. Identify the clinical preventive services that are linked to health promotion and disease prevention.
6. Describe how informatics can be incorporated into clinical preventive services.
7. Describe the history and foundation of geographic information systems and explain its role in evidence-based practice.
8. Identify the barriers to incorporating public health IT into clinical practice and potential methods for resolving these limitations.
9. Identify the existing and innovative methods for communicating and sharing health information with the public.

Unit Topics / Lecture Titles
A. Descriptive Epidemiology
B. Health Research
C. Health Prevention

*Indicates this link is no longer functional.
D. Intervention Methods  
E. Innovation  
F. Synthesis & Translation  
G. Interactive Health Technologies  

**Unit References**  
(All links accessible as of 1/1/2014)  

**Lecture**  

*Indicates this link is no longer functional.*


15. Retrieved on October 1st, 2010 from Georgia Department of Health OASIS [http://oasis.state.ga.us/]


*Indicates this link is no longer functional.
Benefits of PHRs
http://www.accesshealthrecord.com/advantages.html
27. Retrieved on October 1st, 2010 from National Committee on Vital
and Health Statistics http://ncvhs.hhs.gov/0602nhiirpt.pdf*
americantelemed.org/i4a/pages/index.cfm?pageid=3333
29. Retrieved on October 1st, 2010 from Telemedicine and e-health

Student Application Activities
Comp13_unit8_discuss.doc
Comp13_unit8_discuss_key.doc
Comp13_unit8_self_assess.doc
Comp13_unit8_self_assess_key.doc
Component 13/Unit 9

Unit Title
Quality Reporting

Unit Description
This unit will summarize/describe the main role, functions and applications of public health reporting, alerts and decision support systems.

Unit Objectives
By the end of this unit the student will be able to:

1. Identify/describe important characteristics and components of useful health care quality measurement systems.
2. Identify the past and present efforts to transform medical practice through pay-for-performance initiatives.
3. Identify national group efforts involved in the establishment of quality standards/metrics (NCQA, NQF, etc.) based upon claims and EHR data.
4. Describe how quality metrics are integrated, tracked, and used in EHRs and describe real-world implementations in eClinicalWorks, EPIC, NextGen.
5. Describe the use of EHR-based quality metrics in pay-for-performance incentive projects.
6. Summarize the preliminary findings/conclusions from the EHR pay-for-performance project and possible future directions.

Unit Topics / Lecture Titles
A. Health Systems and Quality Care (Principles)
B. Data Sources
C. Pay for Performance Design Quality Measures for Rewards
D. using Quality Measures to Achieve Meaningful Use

Unit References
(All links accessible as of 1/1/2014)

Lecture

*Indicates this link is no longer functional.
2. Donabedian, A. Evaluating the Quality of Medical. 1966 (reprinted in Milbank Quarterly, 2005, visit: http://www.milbank.org/quarterly/830416donabedian.pdf*

Lecture Charts, Tables, Figures
1.1 Table: Shih, S. (2010). Health care quality measurement in use by the health care industry. Primary Care Information Center, New York Department of Health and Mental Hygiene.

*Indicates this link is no longer functional.

Lecture Images

Unit Suggested Readings
None

Student Application Activities
Comp13_unit9_discuss.doc
Comp13_unit9_discuss_key.doc
Comp13_unit9_self_assess.doc
Comp13_unit9_self_assess_key.doc

*Indicates this link is no longer functional.
Component 13/Unit 10

Unit Title
Encouraging Adoption/Use of Population Health Functions for Electronic Health Records (EHRs) and Consumer Functions for Personal Health Records (PHRs)

Unit Description
This unit will delineate the critical role of advocacy in adoption/use of EHRs and consumer functions for PHRs to improve public health.

Unit Objectives
By the end of this unit the student will be able to:

1. Identify and describe population health functions of EHRs.
2. Describe the meaningful use criteria that are applicable to public health, population health, disease management and prevention.
3. Provide examples of common PHR systems (Microsoft HealthVault, Vendor-specific PHRs) and identify embedded consumer functions.
4. Describe EHR adoption and use, with a focus on fidelity to public health goals.
5. Describe the challenges in and barriers to adoption and use of population health functions for EHRs and Consumer functions for PHR.
6. Explain and apply a rationale that would encourage adoption and use of public health functions for EHRs and Consumer functions for PHR.
7. Demonstrate the ability to formulate a plan to encourage adoption and use of population health functions for EHRs and Consumer functions for PHR, given a setting, population and workflow environment.

Unit Topics / Lecture Titles
A. Population Health Functions of Electronic Health Records (Introduction)
B. Meaningful Use Criteria for Public Health, Population Health, Disease Management & Prevention
C. Common Personal Health Record Systems (PHRs)
D. Electronic Health Record Adoption and Use

*Indicates this link is no longer functional.
E. Barriers to Adoption and Use of Population Health Functions for Electronic Health Records and Personal Health Records
F. Encourage Adoption and Use of Population Health functions for EHRs and PHRs

**Unit References**
(All links accessible as of 1/1/2014)

**Lecture**

**Lecture Images**

**Lecture Charts, Tables, Figures**
1.1 & 1.2 Table: Khan, S. Population health meaningful use measures-list. Department of Biomedical Informatics. Columbia University Medical Center.

*Indicates this link is no longer functional.
Unit Suggested Readings
None

Student Application Activities
comp13_unit10_discuss.doc
comp13_unit10_discuss_key.doc
comp13_unit10_self_assess.doc
comp13_unit10_self_assess_key.doc
Component Acronym Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Glossary</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABCS</td>
<td>Aspirin therapy, blood pressure control, cholesterol control and smoking cessation interventions</td>
</tr>
<tr>
<td>ACR-NEMA</td>
<td>American College of Radiology National Electrical Manufactures Association</td>
</tr>
<tr>
<td>AHRQ</td>
<td>The Agency for Health Care Research and Quality</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>APHA</td>
<td>American Public Health Association</td>
</tr>
<tr>
<td>AQA</td>
<td>Ambulatory Quality Alliance</td>
</tr>
<tr>
<td>ARRA</td>
<td>American Reinvestment and Recovery Act</td>
</tr>
<tr>
<td>ASP</td>
<td>Application Service Provider</td>
</tr>
<tr>
<td>ASPH</td>
<td>Association of Schools of Public Health</td>
</tr>
<tr>
<td>ASTHO</td>
<td>Association of State and Territorial Health Officials</td>
</tr>
<tr>
<td>ASTM</td>
<td>American Society for Testing and Materials</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>BP</td>
<td>Blood pressure</td>
</tr>
<tr>
<td>BRFSS</td>
<td>Behavioral Risk Factors Surveillance System</td>
</tr>
<tr>
<td>CAHPS</td>
<td>Consumer Assessment of Health Providers Survey</td>
</tr>
<tr>
<td>CCHIT</td>
<td>Certification Commission for Health Information Technology</td>
</tr>
<tr>
<td>CCR</td>
<td>Community of Care Record</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control</td>
</tr>
<tr>
<td>CDER</td>
<td>FDA Center for Drug Evaluation and Research Data Standards Manual</td>
</tr>
<tr>
<td>CDSS</td>
<td>Clinical Decision Support Systems</td>
</tr>
<tr>
<td>CE</td>
<td>Covered Entity</td>
</tr>
<tr>
<td>CHCs</td>
<td>Community Health Centers</td>
</tr>
<tr>
<td>CHFC</td>
<td>California Healthcare Foundation</td>
</tr>
<tr>
<td>CIR</td>
<td>Citywide Immunization Registry</td>
</tr>
<tr>
<td>CMS</td>
<td>Centers for Medicaid and Medicare Services</td>
</tr>
<tr>
<td>CSTE</td>
<td>Council of State and Territorial Epidemiologists</td>
</tr>
<tr>
<td>CT Scan</td>
<td>Computerized Tomography Scan</td>
</tr>
<tr>
<td>CUSUM</td>
<td>Cumulative Sum Control Chart</td>
</tr>
<tr>
<td>DNA</td>
<td>Deoxyribose Nucleic Acid</td>
</tr>
<tr>
<td>DOHMH</td>
<td>Department of health and Mental Hygiene</td>
</tr>
<tr>
<td>ECW</td>
<td>eClinicalWorks</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency Department</td>
</tr>
</tbody>
</table>

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24CO000003.
EHEC Infection- Enterohaemorrhagic Escherichia Coli Infection
EHR- Electronic Health Record
EMS- Emergency Medical Services
EPA- Environmental Protection Agency
f/u- Follow up
FDA- Food and Drug Administration
FTE- Full Time Employee
GDP- Gross Domestic Product
GI- Gastrointestinal Illness
GIS- Geographical Information Systems
HALE- Health Adjusted Life Expectancy
HAN- Health Alert Network
HbA1c- Hemoglobin A1c
HCPCS- Healthcare Common Procedure Coding System
HEDIS- Health Care Effectiveness Data and Information Set
HHS- Health and Human Services
HIE- Health Information Exchange
HIPAA- Health Insurance Portability and Accountability Act
HIT- Health Information Technology
HITECH- Health Information Technology for Economic and Clinical Health Act
HIV- Human Immunodeficiency Virus
HL7- Health Level 7
HMO- Health Maintenance Organization
HQIN-Healthcare Quality Information Network
HTML- Hypertext Markup Language
ICD-CM/PCS- International Classification of Diseases- Clinical Modification/ Procedural Coding system
ICD-O- International Classification of Diseases for Oncology
ICU- Intensive Care Unit
IEEE- Institute of Electrical and Electronics Engineers
IFH- Institute of Family Health
IHT- Interactive Health Technologies
IIHI- Individually Identifiable Health Information
ILI- Influenza like illness
ILINET- Influenza –like Illness Network
IOM- Institute of Medicine
ISDS- International Society for Disease Surveillance
IUFH-Institute for Urban Family Health
IVD-Ischemic Vascular Disease
JCAHO- Joint Commission on the Accreditation of Hospital Organizations
LDL- (Low Density Lipoprotein)—marker for cholesterol level
LOINC- Logical Observation Identifiers Names and Codes
MCO- Managed Care Organizations
MMWR- Morbidity and Mortality Weekly Report
MySQL- My Structure Query Language
NAACCR- North American Association of Central Cancer Registries
NACCHO- National Association of Country and City Health Officials
NCDB- National Cancer Database
NCI- National Cancer Institute
NCPDP- National Council for Prescription Drug Programs
NCPDP- National Council on Prescription Drug Programs
NCQA- National Committee for Quality Assurance
NEJM- New England Journal of Medicine
NIH- National Institutes of Health
NPI- National Provider Identifier
NQF- National Quality Forum
NRT – Nicotine Replacement Therapy
NYC REACH- NYC Regional Electronic Adoption Center for Health
NYP- New York Presbyterian
OCR- Office of Civil rights
P4P- Pay for performance
P4Q- Pay for quality
PBR- Population Reference Bureau
PCIP- The Primary Care Information Project
PCMH- Patient Centered Medical Home
PCP- Primary Care Provider
PDF- Portable Document Format
PH HIT- Public Health Information technology
PHI- Protected Health Information
PHR- Personal Health Record
QALE*- Quality Adjusted Life Expectancy
QALY- Quality adjusted life years
QI- quality Improvement
RCB- Recognized Certification Body
RHIO- Regional Health Information Organizations
SCD- Semantic Clinical Drug of RxNorm
SDOs- Standard Development Organizations
SFTP- Secure File Transfer Protocol
SNOMED-CT- Systematized Nomenclature of Medicine Clinical Terms
SPL- Special Product Labeling
SQL code-Structured Query language
TCNY- Take Care New York
URI- Upper Respiratory Infection
USB- Universal Serial Bus
VGI- Voluntary Geographic Information
WFR- Web File Repository
WHO- World Health Organization
XML- Extensible Markup Language