

**NEW YORK UNIVERSITY
WAGNER GRADUATE SCHOOL OF PUBLIC SERVICE
HEALTH POLICY AND MANAGEMENT PROGRAM**

**HPAM-GP 4822 - HEALTH INFORMATION TECHNOLOGY:
PUBLIC POLICY AND MANAGEMENT**

Fall, 2011

Instructor: Roger Kropf, Ph.D.
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Day, Time and Location: Wednesdays, 6:45-8:25 pm, 25W4, Room C-20

Prerequisites: P11.1833, Health Services Management, or HPAM-GP 4833 and 4834, or permission of the instructor.

Credits: 2 credits

Required of all health management specialization students

COURSE DESCRIPTION

This course describes the growing involvement of government in stimulating and directing the development of information technology in healthcare organizations. Included is a discussion of attempts to exchange information for the purposes of improving the quality of personal healthcare and public health. Methods for determining the financial value of information technology are described. Techniques for insuring the security and privacy of health information are presented. How information systems and technology can improve the quality of service provided to consumers and the clinical quality of health care is examined.

RELATED HEALTH MANAGEMENT COMPETENCIES

Competencies - Course Focus

- The ability to use information systems and evidence-based management principles for problem-solving, strategic planning and decision-making and implementing and measuring change

Relevant Content for the following competencies is also included

- The ability to hold people accountable to standards of performance and/or ensure organizational, professional and ethical compliance

- The ability to measure, monitor and improve safety, quality, access and system/care delivery processes in health care organizations
- The ability to communicate and interact productively (via listening, speaking and writing) on matters of healthcare with a diverse and changing industry, work force and citizenry
- The ability to present convincingly to individuals and groups the evidence to support a point of view, position or recommendation

LEARNING OBJECTIVES

At the end of this course, students will be able to:

1. describe the principal programs of the Federal government to encourage the adoption of information technology and data sharing among organizations;
2. identify the obstacles to achieving the objectives of those programs and describe potential ways to reduce their impact;
3. describe methods for sharing digital information among organization and be able to state the obstacles to increased sharing as well as potential solutions;
4. define the major risks to the security and privacy of information stored in computer-based information systems and identify measures for avoiding or reducing those risks;
5. describe methods for determining the financial value of information systems and identify the strengths and weaknesses of those methods;
6. identify information systems and technologies which could improve the satisfaction of consumers or the clinical quality of a health care service;

REQUIRED READINGS

All required readings are available via links on the course Blackboard website.

OPTIONAL COURSE MATERIALS

Those of you who feel the need to learn about (or update your knowledge of) information systems topics not specific to health services should review a recent text. An example is: Kenneth C. Laudon and Jane P. Laudon, **Management Information Systems**, 12th Edition (Upper Saddle River, N.J.: Prentice Hall, 2011, <http://www.prenhall.com/laudon/>). The important thing is to find a very recent text, since this field changes rapidly.

Three excellent reference sources for a range of healthcare IT topics are:

Roger Kropf and Guy Scalzi, **Making Information Technology Work: Maximizing the Benefits for Health Care Organizations** (Chicago: Health Forum/AHA Press, 2007). For more information, go to <http://www.nyu.edu/classes/kropf/>

Karen A. Wager, Frances Wickham Lee and John P. Glaser, **Health Care Information Systems:**

A Practical Approach for Health Care Executives (San Francisco: Jossey-Bass, 2009).

Gerald Glandon, Detlev Smaltz and Donna Slovensky, **Information Systems for Healthcare Management, Seventh Edition** (Chicago: Health Administration Press, 2008).

INTERNET REFERENCE RESOURCES ON INFORMATION SYSTEMS

1. HIMSS Topics and Tools
<http://himss.org/ASP/topicsHome.asp>
2. Journals and newsletters:
 - [Health Data Management](http://www.healthdatamanagement.com/issues/) <http://www.healthdatamanagement.com/issues/>
 - [iHealthBeat](http://www.ihealthbeat.org) <http://www.ihealthbeat.org> A free daily email from the California Health Care Foundation.
<http://www.chcf.org>
 - [Informatics Review](http://www.informatics-review.com/) <http://www.informatics-review.com/>
3. Webopedia, an on-line dictionary for computer and Internet terms.
<http://www.webopedia.com/>
4. TechEncyclopedia <http://www.techweb.com/encyclopedia/>
5. Kropf's Favorite Links at www.nyu.edu/classes/kropf/favorite_links.htm
6. American Medical Informatics Association <http://www.amia.org/>
- 7.. CMIO Magazine is aimed at Chief Medical Information Officers in healthcare organizations. A free newsletter is available. <http://www.cmiomagazine.com/>
8. Leapfrog Group <http://www.leapfroggroup.org>
9. Open Directory Project-Medical Informatics <http://dmoz.org/Health/Medicine/Informatics>
10. HlStalk offers news and commentary on the healthcare information technology industry.
<http://histalk2.com/>
11. Connected Health Initiative <http://www.connected-health.org>
The Connected Health Initiative focuses on extending the care community beyond the traditional walls of healthcare institutions by bringing healthcare to the everyday surroundings of the health consumer and their families.
12. Agency for Healthcare Research and Quality National Resource Center for Health Information Technology <http://www.healthit.ahrq.gov>
13. Certification Commission for Healthcare Information Technology <http://www.cchit.org/>
14. Software Advice - Medical Software. A vendor supported directory of medical software.
<http://www.softwareadvice.com/medical/>
- 15.. HIMSS, "Economic Stimulus for the Healthcare IT Industry" (a list of links to resources)
<http://www.himss.org/EconomicStimulus/>
16. American Telemedicine Association <http://www.americantelemed.org>
17. Pam Pohly's Net Guide <http://www.pohly.com/>
18. Office of the National Coordinator for Health Information Technology
<http://healthit.hhs.gov>
19. National eHealth Collaborative's NeHC University is a web-based education program designed to provide stakeholders with timely and relevant information on health

information technology and health information exchange in the United States. Some courses are free. <http://www.nationalehealth.org/NeHCUniversity.aspx>

CIO Blogs

1. John D. Halamka, MD, MS, is Chief Information Officer of the CareGroup Health System, Chief Information Officer and Dean for Technology at Harvard Medical School <http://geekdoctor.blogspot.com/>
2. Will Weider, CIO of Ministry Health Care and Affinity Health System. <http://candidcio.com/>
3. Ed Marx, CIO of Texas Health Resources. <http://histalk2.com/category/ed-marx/>

Wikis

1. HIMSS, Computerized Provider Order Entry (CPOE) Wiki. <https://himsscpoewiki.pbworks.com/w/page/10258531/FrontPage>

ASSIGNMENTS AND GRADING

The assignments and due dates are:

Assignment	Percent of Grade	Date Distributed	Date Returned
Memo Assignment	20%	Dates distributed on 9/7/11	As assigned
Final Exam	80%	10/12/11	10/26/11

INCOMPLETES

See the Wagner School's policy on Incomplete Grades at: <http://wagner.nyu.edu/current/policies/incompletes.php>

STATEMENT OF ACADEMIC INTEGRITY

As members of the NYU Wagner community, we are all expected to adhere to high standards of intellectual and academic integrity. You can view our Academic Code at: <http://wagner.nyu.edu/current/policies/>. This is a good resource for issues of academic integrity, especially regarding writing.

COURSE OUTLINE & READING ASSIGNMENTS

September 7 Class 1: Introduction; Government Initiatives to Support Healthcare IT

1. Roger Kropf, "Information Management" in Kovner and Knickman, Health Care Delivery in the United States, 10th Edition (New York: Springer Publishers, 2011). Full-text available at: <http://www.nyu.edu/classes/kropf/index.htm>
2. David Blumenthal, "Stimulating the Adoption of Health Information Technology" *NEJM* Volume 360 — April 9, 2009 — Number 15. Full-text available at <http://content.nejm.org/cgi/reprint/360/15/1477.pdf>
3. David Blumenthal and Marilyn Tavenner, "The 'Meaningful Use' Regulation for Electronic Health Records," *NEJM* 363:6 (August 5, 2010): 501-504. Free-text at: <http://healthcarereform.nejm.org/?p=3732>
4. A. Ahmad, "Electronic Health Records – Beyond Meaningful Use," *Appl Clin Inf* 2010; 1: 265–267. Full-text available at: <http://dx.doi.org/10.4338/ACI-2010-06-IE-0037>

Additional Resources/Optional Reading:

1. Office of the National Coordinator for Health Information Technology <http://healthit.hhs.gov>
2. The Official Web Site for the Medicare and Medicaid Electronic Health Records (EHR) Incentive Programs <http://www.cms.gov/EHRIncentivePrograms/>
3. HIMSS, "The American Recovery and Reinvestment Act of 2009: Summary of Key Health Information Technology Provisions" (March 6, 2009) Full-text at: http://www.himss.org/content/files/HIMSS_SummaryOfARRA.pdf
4. HIMSS, "Economic Stimulus for the Healthcare IT Industry" (a list of links to resources) <http://www.himss.org/EconomicStimulus/>
5. PriceWaterhouseCoopers, Health Research Institute, "Rock and a Hard Place: An analysis of the \$36 billion impact from Health IT stimulus funding" (April, 2009). (BB) Full-text available (registration required) at: <http://www.pwc.com/us/en/healthcare/publications/rock-and-a-hard-place.jhtml>
6. Ashish Jha, Catherine DesRoches, et. al., "A Progress Report On Electronic Health Records In U.S. Hospitals" *Health Affairs* 29:10 (October, 2010). Full-text available at: <http://content.healthaffairs.org/cgi/content/abstract/hlthaff.2010.0502>
7. Thomas R. Frieden and Farzad Mostashari, "Health Care As If Health Mattered" *JAMA* 299:8 (February 27, 2008): 950-952. (BB)

September 14 Class 2: Integrating Health Systems Through Technology: Federal and Local Initiatives

1. John Morrissey, "HIE: Health Information Exchange" Hospital and Health Networks, February, 2011. (BB)

2. First Consulting Group, *Overcoming Ten Non-Technical Challenges of RHIOs* (Long Beach, CA, 2006). (BB) Full text available:
<http://www.himss.org/content/files/OvercomingRHIOChallengesRpt.pdf>
3. Joy M. Grossman, Thomas S. Bodenheimer, and Kelly McKenzie, "Hospital-Physician Portals: The Role Of Competition In Driving Clinical Data Exchange," *Health Affairs* 25: 6 (November/December 2006), p. 1629-1636. (BB)
4. Visit the websites of two local HIEs.
 - The New York Clinical Information Exchange (NYCLIX), Inc., is a RHIO for the New York Metro area
 - The Brooklyn Health Information Exchange (BHIX)
<http://www.bhix.org/index.html>

Other Resources/Optional Reading:

1. HIMSS RHIO/Health Information Exchange Resources
http://himss.org/ASP/topics_rhio.asp
2. J. Marc Overhage, *Indiana Health Information Exchange Business Plan*. Report to the Office of the National Coordinator for Health Information Technology U.S. Department of Health and Human Services. Contract No. HHSP23320074102EC (January 12, 2009). (BB)
3. Micky Tripathi et. al., "Engaging Patients For Health Information Exchange" *Health Affairs*, 28, no. 2 (2009): 435-443. (BB),
4. Robert H. Miller and Bradley S. Miller, "The Santa Barbara County Care Data Exchange: What Happened?" *Health Affairs*, 26, no. 5 (2007): w568-w580. (BB)
5. John Halamka, "Marketing Interoperability" *Life As A Healthcare CIO*, November 23, 2009. Full-text at:
<http://geekdoctor.blogspot.com/2009/11/marketing-interoperability.html>

September 21 Class 3: HIPAA: Security And Privacy

1. "Security of Health Care Information Systems", Ch. 10 in Karen A. Wager, Frances Wickham Lee and John P. Glaser, *Health Care Information Systems: A Practical Approach for Health Care Executives* (San Francisco: Jossey-Bass, 2009). (BB)
2. Kate Huvane Gamble , "High Stakes - HITECH's privacy provisions will make costly security breaches even more painful to bear" *Healthcare Informatics* (July 2009) Full-text available at:
<http://www.healthcare-informatics.com/ME2/dirmod.asp?sid=&nm=&type=Publishing&mod=Publications%3A%3AArticle&mid=8F3A7027421841978F18BE895F87F791&tier=4&id=9FE977F174334052BE47DA907F68D133>
3. Deborah Gage and Kim Nash, "Identity Theft: Providence Health's Serious Pain," *Baseline Magazine* (December 6, 2006). Full-text available at:
<http://www.baselinemag.com/article2/0,1540,2069952ddd,00.asp>

4. RSA SecurID Two-Factor (BB) - a “two-factor” security solution (BB)
http://www.rsa.com/products/securid/sb/10695_SIDTFA_SB_0210.pdf
5. 3M™ VeriMe™ Biometric Verification Device factsheet (BB) - a “three-factor security solution.

Additional Resources/Optional Reading:

1. HIMSS Privacy/Security/ resource
http://www.himss.org/asp/topics_privacy.asp
2. HIMSS Privacy & Security Toolkit
http://www.himss.org/ASP/topics_privacySecurityToolkit.asp?faid=388&tid=4
2. Official HHS websites on HIPAA. <http://www.hhs.gov/ocr/hipaa/> and
<http://aspe.hhs.gov/admsimp>
3. HIMSS, “A Quick Guide to Navigating the Privacy and Security Provisions of the American Recovery & Reinvestment Act of 2009 (November 25, 2009). Full-text at:
http://www.himss.org/content/files/QuickGuide_ARRA_PS_20091125.pdf

September 28 Class 4: Assessing Value Before Implementation

1. “Part One : Assessing Value Before Implementation”, Kropf and Scalzi, Making Information Technology Work (BB). Chapter 1, 3 and Case Study - NextCare Urgent Care.
2. Kaushal, Rainu, Ashish Jha, and Calvin Franz et. al. "Return on Investment for a Computerized Physician Order Entry System." *Journal of the American Medical Informatics Association* 13, no. 3 (May/June 2006). (BB)
3. Wang, Samuel, et al. "A Cost-Benefit Analysis of Electronic Medical Records in Primary Care." *The American Journal of Medicine* 114 (April 1 2003): 397-403. (BB)

Additional Resources/Optional Reading:

1. Gary Baldwin, “Measuring ROI” *Health Data Management* (June, 2009) Full-text at: http://www.healthdatamanagement.com/issues/2009_67/-28263-1.html
2. Milt Freudenheim, “As Medical Charts Go Electronic, Rural Doctor Sees Healthy Change ” *New York Times* April 10, 2009). Full-text at:
<http://www.nytimes.com/2009/04/11/technology/11records.html?scp=8&q=A%20rural%20medical%20practice%20moves%20to%20digital%20records&st=cse>
3. GAO, Information Technology: Benefits Realized for Selected Health Care Functions, Report GAO-04-224 (Washington, D.C.: GAO, 2003). Full-text available at: <http://www.gao.gov/new.items/d04224.pdf>

October 5 Class 5: Improving Healthcare Service Quality Through Technology

1. Donald Berwick, "Knowledge Always On Call." *Modern Healthcare* (September 27, 1999), p. 2-4. (BB)
2. Catherine Chen et.al., "The Kaiser Permanente Electronic Health Record: Transforming And Streamlining Modalities Of Care" *Health Affairs*, 28, no. 2 (2009): 323-333 (BB)
3. Michael Matheny et. al., "Impact of an Automated Test Results Management System on Patients' Satisfaction About Test Result Communication," *Archives of Internal Medicine* 167:20 (November 12, 2007), p. 2233-2239. (BB)
4. Francesca Cariello, "Computerized Telephone Nurse Triage: An Evaluation of Quality and Cost," *Journal of Ambulatory Care Management* 26:2 (April-June, 2003), p. 124-137. (BB)

October 12 Class 6: Improving Clinical Quality Through Information Technology (Part I)

Final Exam Distributed - Due October 26, 2011

1. Donald Berwick, "My Right Knee," *Annals of Internal Medicine* 2005:142: 121-125. (BB)
2. David Bates and Atul Gawande, "Improving Safety with Information Technology," *New England Journal of Medicine* 348:25 (June 19, 2003), p. 2526-2534..(BB)
3. Edward H. Shortliffe and Leslie E. Perreault, Editors. Medical Informatics: Computer Applications In Health Care. (Reading, MA: Addison-Wesley Publishing Co., 1990), p. 469, 475-480.
4. David Bates et al., "Ten Commandments for Effective Clinical Decision Support: Making the Practice of Evidence-based Medicine a Reality," *Journal of the American Medical Informatics Association* 10:6 (Nov/Dec, 2003), p. 523-530.
5. Ted E. Palen, David W. Price, et. al., "Computerized Alert Reduced D-Dimer Testing in the Elderly," *The American Journal of Managed Care* 16:11 (November, 2010), p. e267-275. Full-text at: http://www.ajmc.com/articles/managed-care/AJMC_10novPalenWebX_e267to275

Additional Resources/Optional Reading:

1. United States Government Accountability Office, Health Care Delivery: Features of Integrated Systems Support Patient Care Strategies and Access to Care, but Systems Face Challenges GAO-11-49 (November 16, 2010) Full-text at: <http://www.gao.gov/new.items/d1149.pdf>
2. Fran Turisco and Jared Rhoads, "Equipped for Efficiency: Improving Nursing Care Through Technology" (Oakland: California Healthcare

Foundation, 2008). Full text available at:

<http://www.chcf.org/documents/hospitals/EquippedForEfficiency.pdf>

3. The Johns Hopkins University Evidence-based Practice Center, Impact of Consumer Health Informatics Applications. (Washington, D.C.: AHRQ Publication No. 09(10)-E019, 2009). Full-text at:
<http://www.ahrq.gov/downloads/pub/evidence/pdf/chiapp/impactchia.pdf>
4. Milt Freudenheim, “Wired Up at Home to Monitor Illnesses” *New York Times*, November 22, 2010. Full-text at:
<http://www.nytimes.com/2010/11/23/health/23monitor.html? r=1>
5. Sandeep S. Mangalmurti, Lindsey Murtagh, Michelle M. Mello, Ph.D. “Medical Malpractice Liability in the Age of Electronic Health Records” *N Engl J Med* 2010; 363:2060-2067 (November 18, 2010). Full-text at: <http://www.nejm.org/doi/full/10.1056/NEJMhle1005210>
6. Christopher A. Longhurst, “Decrease in Hospital-wide Mortality Rate After Implementation of a Commercially Sold Computerized Physician Order Entry System,” *Pediatrics* (May 3, 2010) 2010; 0: 200932711-20093271.

October 19 Class 7: Improving Clinical Quality (Part II: Managing The Use of Drugs)

1. Victoria M. Bradley et. al., “Evaluation of Reported Medication Errors Before and After Implementation of Computerized Practitioner Order Entry,” *Journal of Healthcare Information Management* 20:4 (Fall, 2006), p. 46-53.
2. Brian L. Strom, Rita Schinnar, Faten Aberra, et. al., “Unintended Effects of a Computerized Physician Order Entry Nearly Hard-Stop Alert to Prevent a Drug Interaction.” *Archives of Internal Medicine* Vol. 170 No. 17, September 27, 2010.
3. David W. Bates, “CPOE and Clinical Decision Support in Hospitals: Getting the Benefits.” *Arch Intern Med.* 2010;170(17):1583-1584.
4. Eric Poon et. al.” Effect of Bar-Code Technology on the Safety of Medication Administration *N Engl J Med* 2010;362:1698-707. (May 6, 2010). Also Supplementary Appendix.

Additional Resources/Optional Reading:

1. Thomas Isaac et. al., “Overrides of Medication Alerts in Ambulatory Care” *Arch Intern Med.* 2009;169(3):305-311
2. Ross Koppel et. al., “Workarounds to Barcode Medication Administration Systems: Their Occurrences, Causes, and Threats to Patient Safety” *Journal of the American Medical Informatics Association* 2008;15(4):408-423. Full-text available at:
<http://www.jamia.org/cgi/content/abstract/M2616v1>

3. Judy McNulty, RN; Eileen Donnelly, RN; and Kris Iorio, "Methodologies for Sustaining Barcode Medication Administration Compliance: A Multi-Disciplinary Approach," *Journal of Healthcare Information Management* 23:4 (Fall 2009), p. 30-33

Final Exam Due October 26, 2011. Give a paper copy to Prof. Kropf in class and submit a copy on Blackboard in the Assignments section.