P11.2821 - HEALTH CARE MANAGEMENT INFORMATION SYSTEMS
Spring, 2009

Instructor: Roger Kropf, Ph.D.
212-998-7458 (office)
212-995-4162 (fax)
roger.kropf@nyu.edu
www.nyu.edu/classes/kropf

Day, Time and Location: Mondays, 6:45-8:25 p.m., 194 Mercer, Room 203
Prerequisites: P11.1833, Health Services Management, or permission of the instructor.

COURSE DESCRIPTION

The major purpose of this course is to provide students with an understanding of how
information systems and technology can be used to implement an organization's strategy. How
information systems and technology can improve the quality of service provided to consumers
and the clinical quality of health care is examined, as well as the technology selection,
acquisition and implementation processes.

Issues related to organizing and managing the information services function in a health care
organization are discussed, and how they are being resolved. By the end of this course, students
should be able to work more productively with information systems professionals to plan,
justify, select, and implement an information system. This requires both an understanding of the
concepts and techniques used by information systems professionals and the ability to define
what information is needed to effectively manage health services.

COURSE OBJECTIVES

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

1. state how information systems and technology can be used to implement an
   organization's strategy;
2. define one or more information systems and technologies which could improve the
   satisfaction of consumers receiving a health care service;
3. identify one or more information systems or technologies which could improve the
   clinical quality of a health care service;
4. describe a process for selecting an information system or technology to help implement a
   strategy; and
5. state how individual and group responses to information systems and technology can inhibit implementation, and define techniques for increasing the chances of successful implementation.

REQUIRED COURSE MATERIALS


Readings listed below posted on Blackboard, available on-line or handed out in class, as indicated below.

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: Managing the Digital Firm, Tenth Edition (Upper Saddle River, N.J.: Prentice Hall, 2007, http://www.prenhall.com/laudon/). The important thing is to find a very recent text, since this field changes rapidly.

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


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/
   iHealthBeat http://www.ihealthbeat.org A free daily email from the California Health Care Foundation.
3. Webopedia, an on-line dictionary for computer and Internet terms.  
   http://www.webopedia.com/
5. Kropf's Favorite Links at www.nyu.edu/classes/kropf/favorite_links.htm
7. American Medical Informatics Association  http://www.amia.org/
8. Leapfrog Group  http://www.leapfroggroup.org
9. Open Directory Project-Medical Informatics  
   http://dmoz.org/Health/Medicine/Informatics
10. Center for Information Technology Leadership http://www.citl.org/
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

Resources on mobile and handheld computing


CIO Blogs

16. 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/
17. Will Weider, CIO of Ministry Health Care and Affinity Health System.  
    http://candidcio.com/
18. Edward Marx joined Texas Health Resources (THR) in 2007 as senior vice president 

ASSIGNMENTS AND GRADING

All assignments will be graded as Pass or Fail and returned with comments. Grades will 
be assigned based on the number of assignments completed

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<th>Grade</th>
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The assignments and due dates are:

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<tr>
<th>Assignment</th>
<th>Date Distributed</th>
<th>Date Returned</th>
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<tbody>
<tr>
<td>Oral presentation (5 min.)</td>
<td>Assigned randomly</td>
<td>One week later</td>
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<tr>
<td>Case analysis</td>
<td>March 23</td>
<td>March 30</td>
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<tr>
<td>In-class exam on the readings</td>
<td>April 27</td>
<td>April 27</td>
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<tr>
<td>Quality improvement project (counts as 2 assignments for grading)</td>
<td>February 9</td>
<td>May 11</td>
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There will be two major written assignments during the semester which will be completed outside of class and returned, typed double-spaced, on the date shown below.

**REPORT TO A CIO**

The first assignment will ask you to apply what you have learned by responding to questions posed by the CIO of a healthcare organization. The assignment is in two parts. Part one will be a memo to the CIO. Part two will be a memo to the instructor explaining how the concepts and knowledge in the course have been applied, and will include appropriate footnotes.

**QUALITY IMPROVEMENT PROJECT**

The Quality Improvement Project will be to present an information systems or technology plan for improving the quality of a health care service. Students will select a service (e.g., ambulatory pediatric services in a small group practice or hospital radiology services) and define an information system (or enhancement to an existing system) that would improve customer satisfaction, clinical quality, or both. The addition of an information technology (e.g., voice data input and output) can also be included.

You will determine client needs (e.g., by interviews, observation), look at systems on the market, and make a recommendation on which one should be considered for a purchase. You will observe at least two software products available for a particular application in operation at two different locations similar to the client organization. With the permission of the instructor, on-
line demos can be substituted. Further instructions on what should be included in a plan will be provided by the instructor. Students should submit a one-page proposal describing the service and the quality objective or problem that they would like to focus on by March 23.

With prior approval, students can work in a team of up to two people. Approval will be based on the complexity of the service selected. Late papers will not be accepted without prior approval by the instructor.

INCOMPLETES

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

COURSE OUTLINE & READING ASSIGNMENTS

January 26  Healthcare Information Systems: Vision And Priorities


February 2  Information and Technology As Strategic Resources; IT Governance

1.“Introduction,” Roger Kropf and Guy Scalzi, Making Information Technology Work

February 9  Assessing Value Before Implementation

a Computerized Physician Order Entry System." Journal of the American Medical Informatics Association 13, no. 3 (May/June 2006). (BB)

Additional Resources/Optional Reading:


Description of Quality Improvement Project distributed

February 16 NYU Holiday - No Class

February 23 Integrating Health Systems Through Technology: Federal and Local Initiatives


Other Resources/Optional Reading:

2. HIMSS RHIO/Health Information Exchange Resources
March 2 HIPAA: Security And Privacy


Additional Resources/Optional Reading:

1. HIMSS Privacy/Security/ resource
http://www.himss.org/asp/topics_privacy.asp

March 9 Improving Healthcare Service Quality Through Technology

4. 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)

Additional resource/Optional Reading:

March 16 No Class - Spring Break

March 23 Improving Clinical Quality Through Information Technology (Part I)

Additional Resources/Optional Reading (Not in reading packet):

Case analysis distributed. Due on March 30
Submit a one-page proposal describing the service and the quality objective or problem that they would like to focus on by March 23.

March 30  Improving Clinical Quality (Part II: Managing The Use of Drugs)


Case analysis due on March 30 by 6:45 pm.

April 6  System Evaluation and Selection

Guest Speaker: Helen Levine is nationally recognized as an advocate for leveraging information technology to achieve breakthroughs in patient care and healthcare delivery. She works with the industry as an executive, consultant, educator, and speaker. She has come up through the ranks at Exxon Corporation and Booz Allen and Hamilton, launched and managed the consulting practices of Healthcare Management Counselors and Park City Solutions, taught at New York University and Harvard, and served as a CIO in integrated delivery systems.

April 13  Project Management

2. Re-read University Hospitals: IT Governance and Creation of a Project Management Office” from Roger Kropf and Guy Scalzi

Additional Resources/Optional Reading:


**April 20**  
**Managing Implementation: Outsourcing and Service Level Agreements**

1. “Chapter 9: Service Level Agreements - A Tool for Negotiating and Sustaining Performance” in Kropf and Scalzi  
2. “University of Pennsylvania Health System (UPHS) Development and Use of Service Level Agreements (SLAs) in Kropf and Scalzi  

Guest Speaker: **Guy Scalzi** is a Principal with Aspen Advisors, a professional services firm that works with healthcare organizations to optimize the value of their information technology. He was previously Executive Vice President of Veloz Global Solutions. From 1999-2006, he was Senior Vice President and Managing Director of FCG's Group Management Services business. He has held the position of CIO at the New York-Presbyterian Hospital, New York/Cornell Medical Center and the Hospital for Joint Diseases, a division of New York University Medical Center.

**April 27**  
**Performance Management After Implementation**

2. “Banner Estrella Medical Center: Determining the Benefits of Care Transformation and IT Implementation” in Kropf and Scalzi

**In-class exam on the readings.**

**May 4**  
**Clinician Acceptance And Use of Information Systems**

3. Patricia Skarulis, John Brill and Martha Lehman, “Rush Physician Order Entry:

May 11 No Class - Quality Improvement Papers Due