PH 747: Quality Improvement and Program Evaluation
Fall 2012

Class day/time: Thursday, 4pm
Class location: HH 150
Schedule number: 22272

Instructor: Jong-Deuk (JD) Baek
Office location: HT 158
Office hours: Thursday 3-4pm & by appointment.

Instructor contact information:
Office phone: 619-594-3540
Email: jbaek@mail.sdsu.edu

COURSE DESCRIPTION:
Health services quality measurement and improvement to include safety policy and management; outcomes and performance measurement; process quality improvement methods; and strategic information technology management including electronic medical records and administrative databases.

Prerequisites: Completion of PH 647 or permission of the instructor.

COURSE COMPETENCIES & LEARNING OBJECTIVES:
This course has the following learning objectives. Each learning objective is linked to HMP competency. HMP competency is found on GSPH website (http://publichealth.sdsu.edu/miscfiles/hmp-competencies.pdf)

BRIEF COURSE LEARNING OBJECTIVES

| 1. | Apply concepts and methods for measuring and improving quality of healthcare including total quality management (TQM), continuous quality improvement (CQI) and six sigma techniques | A1, B10, C9 |
| 2. | Articulate and evaluate forces (professional, environmental, and/or organizational) affecting health care organizations in the transformation of health care achieving high care quality | A3, B9 |
| 3. | Discuss the activities of important agencies/organizations involved in regulation, report card development, consumer advocacy, and quality assurance in healthcare. | A7, B10, C9 |
| 4. | Evaluate the issues regarding safety and medical error. | A1, B10, C4 |
| 5. | Understand theories regarding a comprehensive set of organizational performance indicators, including outcomes, service quality, patient satisfaction, balanced scorecard, dashboard indicators | C9, C10, D5, D6 |
| 6. | Public health informatics and information technology management: Describe the central role of networks in current health information technologies. Apply basic concepts in the management of health information systems and also | A1, A3, C7, C8, C9 |
understand the importance and the role of health information technology in health care process improvement.

7. Apply and improve software skills in the pursuit of learning CQI techniques and presentation skills.

FULL COURSE LEARNING OBJECTIVES LINKED TO HMP COMPETENCIES;

HMP Competency: A1
Discuss health care organizations and their relationship to access, quality, cost, accountability, and the health of patients and the community.
- Compare and contrast various definitions of quality of care.
- Define quality dimensions in various health care settings.
- Compare and contrast two approaches (QA vs. QI) for improving quality in health care.
- Understand theories and practices regarding patient safety and medical errors such as the Swiss Chess model.
- Understand basic public health information networks such as RHIO, NHIN, and PHIN and their roles and implications in current health care reform.

HMP Competency: A3
Describe how changes in technology, politics, regulation, health systems, and other factors interact with individual behavior and the social and physical environments to determine individual and population health.
- Understand basic public health information networks such as RHIO, NHIN, and PHIN and their roles and implications in current health care reform.
- Discuss aims and driving forces of health care system transformation including health information technology in health care organizations with different delivery settings.

HMP Competency: A7
Compare and contrast characteristics of different health care delivery models and evaluate their effectiveness in the current health environment.
- Acknowledge the roles and functions of important agencies/organizations such as JCAHO, NCQA, AHRQ, and CMS involved in regulating, report card development, consumer advocacy and quality assurance in various healthcare delivery settings.

HMP Competency: B9
Compare alternatives for health care transformation and reform at the state, national, and international levels, and assess their potential impacts on health care organizations.
- Discuss aims and driving forces of health care system transformation including health information technology in health care organizations with different delivery settings.

HMP Competency: B10
Understand and articulate economic models, concepts, and tools necessary to engage in effective policy analysis, formulation, evaluation, and advocacy.
- Apply CQI/Six Sigma tools and techniques such as RCA, control chart, Fishbone diagram and so forth for the quality improvement planning/implementation.
- Understand and apply theories and practices regarding patient safety and medical errors such as
the Swiss Chess model.

- Apply relevant CQI tools to improve health care safety and reduce errors.
- Apply and improve software skills in the pursuit of learning CQI techniques and presentation techniques.

**HMP Competency: C7**

Articulate how health information systems support and contribute to the financial and nonfinancial performance of health care organizations.

- Identify factors and barriers for health information technology adoption/implementation and evaluation of HIT performance (including economic evaluation using ROI).
- Discuss importance of health information technology in delivering effective, efficient, and patient-centered care.

**HMP Competency: C8**

Understand the importance of compliance for health organizations related to data privacy, confidentiality, data security, coding, billing, and government regulations.

**HMP Competency: C9**

Discuss managerial roles in planning, adopting, implementing, and evaluating interventions designed to improve the performance of health care organizations.

- Apply CQI/Six Sigma tools and techniques such as RCA, control chart, Fishbone diagram and more for the quality improvement planning/implementing purpose.
- Know the roles and functions of important agencies/organizations such as JCAHO, NCQA, AHRQ, and CMS involved in regulating, report card development, consumer advocacy and quality assurance in various healthcare delivery settings.
- Discuss performance indicators such as balanced scorecard and dashboard indicators to evaluate/monitor in health care organizational performance.
- Discuss types of health information technology, the types of health information systems, issues related to make or buy decision and maintenance of an information system; issues related to security and confidentiality of protected health information.
- Identify factors and barriers for health information technology adoption/implementation and evaluation of HIT performance (including economic evaluation using ROI).
- Analyze, interpret patient satisfaction for health care organizations.

**HMP Competency: D5**

Form and lead teams to improve organizational, project, and task performance.

- Discuss performance indicators such as balanced scorecard and dashboard indicators to evaluate/monitor in health care organizational performances.
- Identify factors and barriers for health information technology adoption/implementation and evaluation of HIT performance (including economic evaluation using ROI).
- Discuss types of health information technology, the types of health information systems, issues related to make or buy decision and maintenance of an information system; issues related to security and confidentiality of protected health information.

**HMP Competency: D6**
Apply professional standards of business and medical ethics in the analysis of health care problems and issues.

- Discuss ethical approaches in quality performance evaluation.

**COURSE MATERIALS:**

Textbook (Required):


Selected Chapters


**CLASS FORMATS:**

Three difference learning methods this course applies: lecture, class exercise and discussion. This class formats are to develop competence of implementing quality improvement projects in healthcare organizations.

1. Lecture: based on textbook(s) and readings.
2. Class Exercise/Discussion: For important QM concepts and CQI tools.

**COURSE REQUIREMENTS:**

Grading for the course will be based upon performance in the following assignments totaling 100% of the final course grade:

- Exams (50%): written tests (T/F, Multiple choice, short and long essay).
  - 1st exam (25%) and 2nd exam (25%, not comprehensive)
- Assignments (40%) 
  - Article critique (20%)
  - CQI tool presentation OR HIT acquisition paper (20%)
- Class attendance (10%)
ASSIGNMENTS:

<table>
<thead>
<tr>
<th>(%) value</th>
<th>Description</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article summary and critique (10%)</td>
<td>Two articles will be assigned to a student. Each student is required to peruse the article and summarize important lessons. One page handout (double spaced, 12 font size, front and back) that includes 1) brief summary on background, methods, and conclusion, 2) critiques and lessons (implications, discussions, conclusions, and further study) is expected for a brief presentation. The presentation will take about 10 minutes. No PPT required for the presentation. Total of 18 articles listed in weekly schedule</td>
<td>See class schedule</td>
</tr>
<tr>
<td>OR</td>
<td>CQI tool presentation and class practice/ demonstration (20%)</td>
<td>A group assignment. Each group (&lt;= 2 students) will be required to study an assigned CQI tool (list of CQI tools will be provided below) and to present the tools (what, why, how) to class with a practice/demonstration (specifically on how-to). No written report is required but PPT presentation is expected to introduce the assigned tool and to carry out a class practice/demonstration.</td>
</tr>
<tr>
<td>HIT acquisition paper (20%)</td>
<td>A group assignment (&lt;= 2 students per group). Each group will be asked to compare alternatives of HIT applications for a selected organization, and choose the one with the best fit. A report (10 to 15 pages) and presentation are required. Details will be discussed in class</td>
<td>Week 15</td>
</tr>
</tbody>
</table>

List of CQI tools:
1) Activity network diagrams,
2) Affinity diagrams and/or Interrelationship diagrams,
3) Matrix diagrams,
4) Prioritization matrices,
5) Process decision program charts (PDPC)
6) Cause-and-Effect diagram,

COURSE GRADING SCALE:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>96-93</td>
</tr>
<tr>
<td>A-</td>
<td>92-90</td>
</tr>
<tr>
<td>B+</td>
<td>89-87</td>
</tr>
<tr>
<td>B</td>
<td>86-83</td>
</tr>
<tr>
<td>B-</td>
<td>82-80</td>
</tr>
<tr>
<td>C+</td>
<td>79-77</td>
</tr>
<tr>
<td>C</td>
<td>76-73</td>
</tr>
<tr>
<td>C-</td>
<td>72-67</td>
</tr>
<tr>
<td>D</td>
<td>66-63</td>
</tr>
<tr>
<td>F</td>
<td>62 or less</td>
</tr>
</tbody>
</table>
BLACKBOARD, EMAIL, AND COMPUTER RESOURCES:
All of material used in class including announcements, course documents, weekly reading and lecture handouts will be posted on Blackboard. Students must check the Blackboard regularly, several times a week. Lecture handout (in a pdf format) will usually be posted a day before each class.

Expectations: Students are expected to:
- Arrange your schedule now to insure full attendance. The instructor will be available to discuss issues related to class attendance, check the office hours.
- Be on time for all class sessions. For guest lectures, dress and behave professionally. Especially put your cell phone off or, at least, silent.
- Read/study the assigned chapters, journal readings, websites, and other materials prior to class sessions and prepare for class.
- Participate in class practice and discussions. You are expected to arrive at each class session with a carefully thought-out set of ideas, observations and questions related to the week’s topic based on: assigned readings in the texts; materials posted on the course’s web site; and your own experiences.
- Log-on to the Blackboard site regularly and; monitor announcements; complete assignments and read materials posted in the documents section. All class material will be posted in a pdf format including lecture handouts (3 slides per page).

COURSE POLICIES:
Missing class: If you miss a class, it is your responsibility to contact the instructor to discuss alternatives to any quiz or exercise you miss, and to obtain lecture notes, handouts, other materials or instructions from the course Blackboard site or a classmate.

Religious holidays: The University Policy File includes the following statement on absence for Religious Observances: By the end of the second week of classes, students should notify the instructors of affected courses of planned absences for religious observances.

Extenuating circumstances: If severe difficulties (e.g., illness, injury, death of a family member) prevent you from completing an assignment on time, please contact the instructor to discuss alternative arrangements as soon as possible.

Academic misconduct: Misconduct by a student shall include, but not be limited to: disrupting classes; giving or receiving unauthorized aid on examinations, reports or other assignments; knowingly misrepresenting the source of any academic work; falsifying research results; plagiarizing another’s work; violating regulations or ethical codes for the treatment of human subjects; or otherwise acting dishonestly. If an instance of academic misconduct is suspected, the student will be informed of the infraction and the penalty to be imposed. If appropriate, the matter will be referred to the Department Chair and Dean of the College for mediation. Potential sanctions include a warning, an admonition, censure, reduction of grade (including a grade of F for the course), disciplinary probation, suspension, or expulsion.

Safety: Students are encouraged to consult with SDSU public safety regarding parking and other safety issues. San Diego State University is dedicated to a safe, supportive and nondiscriminatory
environment. It is the responsibility of all students to familiarize themselves with University policies regarding nondiscrimination, misconduct and academic honesty.

**Statement on Nondiscrimination Policy**
San Diego State University complies with the requirements of Title VI and Title VII of the Civil Rights Act of 1964, as well as other applicable federal and state laws prohibiting discrimination. No person shall, on the basis of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any program of the California State University.

SDSU does not discriminate on the basis of disability in admission or access to, or treatment or employment in, its programs and activities. Students should direct inquiries concerning San Diego State University’s compliance with all relevant disability laws to the Director of Student Disability Services (SDS), Calpulli Center, Room 3101, San Diego State University, San Diego, CA 92128 or call 619-594-6473 (TDD: 619-594-2929).

SDSU does not discriminate on the basis of sex, gender, or sexual orientation in the educational programs or activities it conducts. More detail on SDSU’s Nondiscrimination Policy can be found in the SDSU General Catalog, University Policies.

**Student Conduct and Grievances**
SDSU is committed to maintaining a safe and healthy living and learning environment for students, faculty and staff. Sections 41301, Standards for Student Conduct, and Sections 41302-41304 of the University Policies regarding student conduct should be reviewed.

If a student believes that a professor’s treatment is grossly unfair or that a professor’s behavior is clearly unprofessional, the student may bring the complaint to the proper university authorities and official reviewing bodies. See University policies on Student Grievances.

**Statement on Plagiarism and Academic Dishonesty**
Academic dishonesty includes cheating, plagiarism or other forms of academic dishonesty that are intended to gain unfair academic advantage. See section 41301 of the University policies. Plagiarism is an important element of this policy. Plagiarism is defined as ‘formal work publicly misrepresented as original; it is any activity wherein one person knowingly, directly and for lucre, status, recognition, or any public gain resorts to the published or unpublished work of another in order to represent it as one’s own’. Any work, in whole or in part, taken from the Internet or other computer-based source without referencing the source is considered plagiarism. [http://its.sdsu.edu/classic/resources/turnitin/pdf/Plagiarism_AcadSen.pdf](http://its.sdsu.edu/classic/resources/turnitin/pdf/Plagiarism_AcadSen.pdf).
# WEEKLY SCHEDULE (subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>HMP Competency</th>
</tr>
</thead>
</table>
| 1    | Aug 30   | **Introduction:**  
- Syllabus  
- Video on QM in Health Care | A1             |
| 2    | Sep 6    | **Quality Assurance/Quality Improvement: History and Philosophy**  
Lecture Topics:  
- Evolution of Total Quality Management  
- US healthcare system: cost and quality  
- History of quality movement in the U. S.  
- QA vs. QI: Paradigm shift  
Class Exercise/Discussion:  
Readings:  
- Ransom, Chs 4 and 17  
- IOM Reports Executive summaries: To Err is Human/ Crossing Quality Chasm  
- Bad Apple or Bad System (Hsia, 2003)  
- Keys for successful implementation of TQM in hospitals (Carman et al, 2010) | A1, A7, B6, C6, D1 |
| 3    | Sep 13   | **Patient Safety and Medical Errors**  
Lecture Topics:  
- Concept and Theories of Patient Safety  
- Human Factor Engineering in Health care  
- FMEA, RCA  
Class Exercise/Discussion:  
Readings:  
- Ransom, Ch 11  
- Josie King (Kenny, 2008)  
- Human errors (Reason, 2000)  
- Human factors and Ergonomics in the emergency department (Wears and Perry, 2002)  
- HIT and patient safety (Parente and McCullough, 2009) | A1, C4, D1 |
| 4    | Sep 20   | **Quality in Healthcare: Definition and Dimensions & Measurement.**  
Lecture Topics:  
- Quality of health care  
- Service quality in health care  
- Quality measurement: Structure, Process, and Outcome  
Class Exercise/Discussion:  
Readings:  
- Ransom, Chs 2 and 9  
- Service Quality in Health Care (Kenagy, Berwick, and Shore, 2008)  
- Viewing Health Care Delivery as Science (Pronovost & Goeschel, | A1, C6, C10, D1 |
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Lecture Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Sep 27</td>
<td><strong>QI Approach</strong></td>
<td><strong>Lecture Topics:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- QI Foundation and Approaches:</td>
<td><strong>Ransom, Chs 4</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FOCUS-PDSA, DMAIC</td>
<td><strong>Six sigma in healthcare (Sehwail and De Yong, 2003)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Six Sigma quality improvement</td>
<td><strong>Integrating six sigma with TQM (Revere, 2003)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Class Exercise/Discussion:</strong></td>
<td><strong>Addressing variation in hospital quality (Woodard, 2005)</strong></td>
</tr>
<tr>
<td>6 Oct 4</td>
<td><strong>Implementing Quality as the Core Organizational Strategy</strong></td>
<td><strong>Lecture Topics:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- CQI and HIT</td>
<td><strong>Ransom, Chs 15 and 10</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Strategic Alliance: scorecard and dashboards</td>
<td><strong>VMMC and the Toyota (Kenny, 2008)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Strategic QM: Change Management.</td>
<td><strong>Culture and QA Program (Kaissi et al., 2004)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Patient satisfaction</td>
<td><strong>Hospitalization from the Hell (Cleary, 2003)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Class Exercise/Discussion:</strong></td>
<td><strong>Measure, learn, and improve (Audet, 2005)</strong></td>
</tr>
<tr>
<td>7 Oct 11</td>
<td>1st Exam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Oct 18</td>
<td><strong>Mid-Term Debrief</strong></td>
<td><strong>Lecture Topics:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Statistical Process Control</td>
<td><strong>Lighter Ch. 4 and 5</strong></td>
</tr>
<tr>
<td>9 Oct 25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-11 Nov 1</td>
<td><strong>American Public Health Annual Meeting, No Class</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-11 Nov 8</td>
<td><strong>QI/QM tools</strong></td>
<td><strong>Lecture Topics:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Types of variations.</td>
<td><strong>Lighter Ch. 4 and 5</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Class Exercise/Discussion:</strong></td>
<td><strong>SPC as a tool for research and healthcare improvement (Plsek, 2003)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Control charts in various situations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- CQI Tools Presentation</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Lecture Topics</td>
<td>Readings</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>11~12 Nov 8</td>
<td>Health Care Information Systems:</td>
<td>- History and evaluation of health care information systems</td>
<td>Wager, Chs 4 and 5 (optional: chs 1 and 3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Types and quality of health care data</td>
<td>Value of health information exchange and interoperability (Walker, 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clinical Information systems: EMR and CPOE.</td>
<td>Impact of HIT on quality, efficiency, costs of medical care (Chaudhry, 2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Interoperability and HIT networks.</td>
<td>Overcoming barriers to adopting and implementing CPOE (Poon et al., 2004)</td>
</tr>
<tr>
<td>13 Nov 22</td>
<td>Thanksgiving, No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Nov 29</td>
<td>System Acquisition, Implementation, and Support</td>
<td>- Strategic IS acquisition process.</td>
<td>Wagner chs 6 and 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IS project management tools.</td>
<td>Public health informatics (Yasnoff et al, 2000)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IS implementation process</td>
<td>Making business case for hospital information systems (Garrido et al, 2004).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Managing organizational aspects</td>
<td>Determinants of successful inpatient clinical information systems (Van Der Mija.mden et al, 2003)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- System support and evaluation</td>
<td>Reviewing the benefits and Cost of EHR (Menachemi and Brooks, 2006)</td>
</tr>
<tr>
<td>15 Dec 6</td>
<td>Security of Health Care Information Systems</td>
<td>- Threat of health care information</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- HIPAA security rule.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ethical use of health information.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Dec 13</td>
<td>2nd Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List of Articles for Summary and critique:

1. Keys for successful implementation of TQM in hospitals (Carman et al, 2010)
2. Human factors and Ergonomics in the emergency department (Wears and Perry, 2002)
3. HIT and patient safety (Parente and McCullough, 2009)
4. Service Quality in Health Care (Kenagy, Berwick, and Shore, 2008)
5. Viewing Health Care Delivery as Science (Pronovost & Goeschel, 2010)
6. Six sigma in healthcare (Sehwail and De Yong, 2003)
7. Integrating six sigma with TQM (Revere, 2003)
9. Culture and QA Program (Kaissi, 2004)
10. Hospitalization from the Hell (Cleary, 2003)
11. Measure, learn, and improve (Audet, 2005)
12. Value of health information exchange and interoperability (Walker, 2005)
13. Impact of HIT on quality, efficiency, costs of medical care (Chaudhry, 2006)
14. Overcoming barriers to adopting and implementing CPOE (Poon et al., 2004)
16. Determinants of successful inpatient clinical information systems (Van Der Miajden et al, 2003)
17. Reviewing the benefits and Cost of EHR (Menachemi and Brooks, 2006)
18. Privacy rule, and health care (Slutsman et al, 2005)