Continuous Quality Improvement (CQI)

Introduction

This course encourages students to think creatively about what it means for a healthcare organization to make quality the highest priority. We will explore the current forces driving the push toward quality outcomes and accountability at all levels and settings of healthcare, while focusing on the philosophy of continuous improvement through teamwork and statistical thinking. Students will use structural tools for analysis, decision making and performance measurement.

Prerequisites:
- CORE-GP.1011 Statistical Methods for Public, Nonprofit, and Health Management,
- HPAM-GP.4833 Health Care Management I: Control and Organizational Design, and
- Computer Proficiency.

Students lacking the prerequisites must obtain permission to enroll in the course.

Learning Outcomes

At the successful completion of this course, students will be able to:
- Appreciate the historical evolution of healthcare quality improvement,
- Understand the current forces driving changes in healthcare quality,
- Describe the major models for improvement that provide a framework for change,
- Apply a systematic method of improving a process using a team approach,
- Understand the use of structural, process, and outcome indicators for measuring quality,
- Recognize the implications of organization-wide transformation to continuous systems improvement,
- Appreciate the challenges facing leaders in sustainability and spread of improvement efforts, and
- Determine skills in working collaboratively.

**Learning Strategies**

This course is based on:

1. Discussion of current events and the common themes emerging that are affecting the delivery of healthcare services and
2. Learning by doing, i.e. applying methods learning in class to process improvement assignments.
3. Process analysis provides the student the opportunity to think, read, write and present ideas logically in an organized manner. Emphasis will be placed on oral and written communication and **working in teams**.

In this course, students will take the role of a team in a specific department or service in a healthcare organization. Students will use management tools and techniques, diagnose problems and develop innovative, practical and cost-effective solutions to address a process needing improvement. Assignments are geared toward analyzing a specific process that is producing a less than optimum outcome, identifying the data required to analyze the problem and using specific QI tools and techniques for innovative solutions.

This course will integrate with the IHI Open School for Health Professions, an online school for helping students learn about quality improvement and patient safety competencies.

**Course Expectations**

- Attend every class on time,
- Read all assigned materials prior to class,
- Actively participate in-class discussions and exercises,
- Work with team members to complete assignments, and
- Complete online and written assignments on time.

Please discuss with me as soon as possible should you foresee difficulty in adhering to any course expectation. **All class absences must be excused in advance. Extensions for assignment completion are granted only in cases of emergency.**
Expectations of The Instructor

- In-person meetings: please make prior arrangements with me.
- Email: this is the best way to communicate with me. I will do my best to provide a timely response; however, please allow yourself 24 hours to ensure responses to any pertinent questions related to an assignment.

Grading

1. **Written assignments. Total 50 points.**
   - This course relies heavily on teamwork and communication. Because written assignments represent a team effort, all team members will receive the same written assignment grade, unless the team evaluation forms reflect a lack of involvement deemed unacceptable by fellow team members.
   - All written assignments are submitted in-person on the due date in class.

2. **IHI Open School course completion. Total 16 points.**
   - Each IHI course (16 total) completed by the due date earns 1 point
   - IHI Open School Courses completed past the due date without approved extensions will not be credited.

3. **Team charter and evaluations. Total 14 points.**
   - Team charter completion earns 4 points.
   - Mid-semester and final team evaluation completions are each worth 5 points. Depending on your team members’ evaluation of you, such an evaluation may affect your final course grade, e.g. your active participation in team meetings and completing assignments.
   - Team charter to be submitted with Assignment 1.
   - All team evaluations are to be handed to me in-person on the due date in class.

4. **Final presentation. Total 10 points.**

5. **Class Participation/Attendance. Total 10 points.**
   - A point will be deducted for any unexcused absence.

6. Each written assignment, including team charter and evaluations handed in late without approved extensions will be penalized 2 points per day after the due date.
Wagner’s Academic Honesty and Grading Policy
All students are expected to pursue and meet the highest standards of academic excellence and integrity. This course will abide by Wagner’s general policy guidelines on grading and academic honesty, including plagiarism. It is the student’s responsibility to become familiar with these policies.

- Grading Guidelines: http://wagner.nyu.edu/students/policies/grading.php
- Incomplete Grades: http://wagner.nyu.edu/students/policies/incompletes.php
- Academic Honesty: http://wagner.nyu.edu/students/policies/

Proper citation of ideas, data and published work is expected in this course.

- Writing references: http://wagner.nyu.edu/students/services/tutoring.php

Recommended References

Required Articles
Posted on NYU Classes under “Resources.”

Required Online Courses
IHI Open School online courses are free to students and provide important lessons in patient safety, quality improvement and leadership.

**Completion by the required date as noted in the syllabus is required. To receive credit for each completed course:**

1. Generate the course completion certificate (you must complete the evaluation at the end of each course to generate the certificate)

2. Submitted the certificate through the NYU Classes site under “Assignments” as an attachment.

The IHI Open School offers a basic certificate of completion for the 16 “core courses.” An IHI Open School iPhone/iPad app is also available to view and complete the courses.
Written Assignments

Team Charter (4 points)
Complete the provided charter template. Use this charter to set team expectations and roles, including acceptable forms of communication, process used to complete assignments and process used if an expectation of a team member “does not meet team standards.” Be as clear and detailed as possible. Feel free to revise the charter throughout the semester.

Grading
1. Description of team expectation and roles [1 point]
2. Description of process should an expectation is not met by a team member [2 points]
3. Grammar, formatting, spelling [1 point]

Mid-Semester and Final Team Evaluations (total 10 points)
Complete the provided evaluation forms. Use the mid-semester evaluations as a gauge of successfully meeting team expectations and if needed, to alter team dynamics. Use the final team evaluations to learn and develop your “personal style” as a healthcare manager. I will be sharing comments among appropriate team members for professional growth. To obtain your final course grade, you must submit your final team evaluation form to me by the due date.

Grading (for each team evaluation)
1. Completion of team evaluation form [2 points]
2. Constructive criticism for improvement [3 points]

Process for Improvement Submission
In teams of 3-5, students will select an organization, to which at least one team member has access and investigate a process that needs improvement. The process you choose should be meaningful to the organization so that recommended changes can be adapted. You must be able to collect data (concurrently or retrospectively) about the process over time, so be sure to choose a process that is well-defined and lends itself to measurement.

Note: Teams will be formed during the first and/or second class. Each team will submit its process for improvement to the instructor for approval no later than the third class session.
Assignment #1: Flowchart (10 points)
The first step on the improvement journey is to select the process for improvement. Answer the 3 Model for Improvement (MFI) questions and diagram the process flow. When selecting the process to analyze, consider “measurability” since you will be collecting data on this process for your next assignments. Identify the process concretely and think about the type of information needed. Be sure your flowcharts are well-defined with beginning and end points. Label your flowchart to clearly state the process being mapped.

Format
1. Cover page with team member names, organization and process being examined.
2. One-page description of process being analyzed, ending with MFI questions/answers. You can use the IHI Open School’s Charter Form as a guide.
   a. What are we trying to accomplish?
   b. How will we know that a change is an improvement?
   c. What changes can we make that will result in improvement?
3. Flowcharts: each team creates a chart based on interviews of at least 2 key and relevant stakeholders (e.g. physician, health care provider, manager, and/or patient).

Grading
3. Flowchart: appearance and flow, including correct use of basic flow chart symbols [5 points]
4. Written description of process – start with why you picked this process [3 points]
5. MFI questions with answers – one sentence answers [1 point]
6. Grammar, formatting, spelling [1 point]

Assignment #2: Run/Control Chart (10 points)
Run charts are graphs of data taken over time. Control charts build on the run chart and are one of the key tools used to display variation in the process, and identify the presence or absence of special or common cause variation. The purpose is to determine the type and cause of variation so that appropriate actions can be taken. Gather data and prepare a run chart (≥ 25 data points). Add upper and lower control limits (ideally 3 standard deviations), to turn your run chart into a control chart, which will help you identify causes of variation. Label your chart to clearly state the content. Prepare a written summary of your analysis of the variation.

Format
1. Cover page as in Assignment #1.
2. Run chart/control chart
3. Brief (1 page) written analysis of variation
Grading
1. Technical quality of run/control chart [5 points]
2. Analysis of variation: special and/or common cause [4 points]
3. Grammar, formatting, spelling [1 point]

Assignment #3: Cause and Effect Diagram (10 points)
A cause and effect diagram (also known as an Ishikawa or fishbone diagram) is a tool used to explore the relationship between causes and an effect. Brainstorm possible causes of process variation as identified in Assignment #2.
1. Use the problem as your effect (the head of the fish);
2. Brainstorm the causes using the categories discussed in class
   a. Use a combination of 5M’s: man, machine, methods, materials, measurement, 4P’s: people, plant, policies and procedures and/or Vincent et al’s “Contributory Factors.”
   b. Group individual causes them under the appropriate “main cause” category (the scales of the fish).
   c. Each cause should be clearly stated as to how/why it’s contributing to the effect. Identify the most significant root causes contributing to the problem. You can use the IHI Open School’s Cause and Effect Diagram Form as a guide.

Format
1. Cover page as in Assignment #1
2. Cause and Effect diagram
3. Brief description of root causes

Grading
1. Technical quality of cause and effect diagram [5 points]
2. Analysis of root causes [4 points]
3. Grammar, formatting, spelling [1 point]

Assignment #4: PDSA Cycle, Recommendations for Improvement, Measurement Plan (20 points)
Now that you have gathered the data and determined the main causes for the problem, recommend a change. Conduct a PDSA cycle and describe the results. If not possible to conduct a PDSA cycle at the organization, describe the anticipated results. Write an implementation plan for your recommended change. Be specific and include the who, what, where, when and how of implementation. To help the organization determine if the plan is successfully implemented and effective after you leave, develop a measurement tool and plan that you will leave with the organization for ongoing measurement. At a minimum, the plan should include the data that will be collected, who is accountable for collection and specific timeframes. You can use the IHI Open School’s PDSA Form as a guide.
Format
1. Cover page as in Assignment #1, report should not exceed 5 pages.
2. PDSA results or anticipated results
3. Implementation plan
4. Measurement plan

Grading
1. PDSA cycle [9 points]
2. Written implementation plan [5 points]
3. Written measurement plan and tool [5 points]
4. Grammar, formatting, spelling [1 point]

Final Presentation for Class (10 points)
Provide a handout of the presentation by the due date. Do not submit the presentation through NYU Classes. Bring an electronic copy on the day you are presenting.

Summarize your journey through the improvement process, including at a minimum:
1. Overview of the specific healthcare organization with which you were involved
2. What problem did you set out to solve
3. Obstacles encountered along the way
4. Significant findings (or anticipated findings)
5. Recommendations that you made
6. Response from organization at end of project
7. Lessons learned

Grading
1. Incorporated Assignments 1 through 4 [3 points]
2. Discussed the above points [3 points]
3. Used evidence-based information [3 points]
4. Made the “business case” [1 points]

Use visuals and make the business case! All team members should actively participate in a professional, engaging and compelling performance!

“Design is not just what it looks like and feels like. Design is how it works.” - Steve Jobs
# Class Schedule
(Subject to change during semester; Guest lecturers to be announced; last updated 1/3/14)

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topics/Class Agenda</th>
<th>Required Readings/IHI Open School Courses</th>
<th>Suggested Readings/Resources</th>
<th>Assignments Due</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Quality Yesterday and Today: An Introduction to CQI</td>
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<td>NYSDOH Hospital Profile: <a href="http://hospitals.nyhealth.gov/">http://hospitals.nyhealth.gov/</a></td>
<td>1) Complete “Tell me about yourself” document posted on NYU Classes and bring to first class.</td>
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<tr>
<td>Jan 29</td>
<td>Organize into teams. Discuss team charter and evaluations.</td>
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<td>Commonwealth Fund: <a href="http://whynotthebest.org">http://whynotthebest.org</a></td>
<td>2) Review instructions for IHI Open School course completion on NYU Classes.</td>
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<tr>
<td>Feb 5</td>
<td>Organize into teams. Discuss team charter and evaluations.</td>
<td>IHI PS 101: Fundamentals of Patient Safety</td>
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<td>IHI PS 102: Human Factors and Safety</td>
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<tr>
<td>Feb 12</td>
<td>Discuss Assignment 1.</td>
<td>IHI PS 101: Fundamentals of Patient Safety</td>
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<td>IHI PS 102: Human Factors and Safety</td>
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<td>Week 4</td>
<td>Leadership and Teamwork</td>
<td>IHI PS 100: Introduction to Patient Safety</td>
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<td>Feb 19</td>
<td>IHI L101: So You Want to Be a Leader in Health Care</td>
<td>IHI PS 101: Fundamentals of Patient Safety</td>
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<tr>
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<td>IHI PS 103: Teamwork and Communication</td>
<td>IHI PS 102: Human Factors and Safety</td>
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<td>IHI PFC101: Dignity and Respect</td>
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| Week 5 | Feb 26 | Measurement Part I: Variation, Statistical Process Control (SPC) and Monitoring  
Discuss Assignment 2. | IHI QI 103: Measuring for Improvement  
IHI QI 104: Putting It All Together  
NHS Improvement-Statistical Process Control:  
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<tr>
<td>Week 6</td>
<td>Mar 5</td>
<td>NO CLASS</td>
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IHI PS 104: Root Cause, Systems Analysis | Joint Commission Framework for Conducting A Root Cause Analysis and Action Plan in Response to a Sentinel Event:  
http://www.jointcommission.org/Framework_for_Conducting_a_Root_Cause_Analysis_and_Action_Plan/ | |
<p>| Week 8 | Mar 19 | Spring Recess | No Class | | |</p>
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<th>Week 9</th>
<th>Mar 26</th>
<th>Apply the Culture of Safety to the Workplace</th>
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<td>IHI QI 105: The Human Side of Quality Improvement</td>
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<td>IHI PS 105: Communicating With Patients After Adverse Events</td>
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<td>IHI PS 106: Intro to Culture of Safety</td>
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<td>Assignment 2 due.</td>
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<th>Week 10</th>
<th>April 2</th>
<th>Regulation and Accreditation</th>
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<td>Review websites noted on the right-hand side.</td>
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<th>Week 11</th>
<th>April 9</th>
<th>Transforming Healthcare Quality</th>
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<td>Discuss Assignment 4 and Final Presentations.</td>
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<td>Chronic Care Model: <a href="http://www.improvingchroniccare.org">www.improvingchroniccare.org</a></td>
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<td>NCQA’s Patient-Centered Medical Home: <a href="http://www.ncqa.org/Programs/Recognition/PatientCenteredMedicalHomePCM_H.aspx">http://www.ncqa.org/Programs/Recognition/PatientCenteredMedicalHomePCM_H.aspx</a></td>
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<td>IHI QI 202: Quality Improvement in Action: Stories from the Field</td>
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<td>TA 101: Introduction to Population Health</td>
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IHI QCV 101: Achieving Breakthrough Quality, Access, and Affordability | Assignment 3 due. |
| Week 13 | April 23 | Role of Evidence-Based, Health Information Technology in QI | AHRQ (2007). Health Information Technology for Improving Quality Care in Primary Care Settings. Retrieved from [www.ahrq.gov](http://www.ahrq.gov)
| Week 14 | April 30 | Final Presentations | Assignment 4 and a handout of final presentations due. |
| Week 15 | May 7 | Final Presentations | Final team evaluation forms due. |
| Week 16 | May 14 | Final Exam Period | Make up class, if needed. |