

Continually Improving the Health and Value of Health Care for a Population of Patients

*The Design and Improvement
of
Clinical Microsystems*

ECS 124

**Paul Batalden, MD
Eugene C. Nelson, DSc, MPH**

Spring 2007

**Center for the Evaluative Clinical Sciences
Dartmouth Medical School**

Continually Improving the Health and Value of Health Care for a Population of Patients

ECS 124

Course Syllabus

SPRING TERM 2007

TUESDAYS: MARCH 27 TO MAY 29, 2006

8:00 AM- 12:45 PM

Course Directors

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Microsystem Resource Specialists:

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**FACULTY AVAILABLE DURING THE CLASS DAY
AND BY APPOINTMENT**

Class Aim:

To understand and participate in the design and continuous improvement of a clinical microsystem.

Learning Objectives for the Participants:

- ❖ Identify the processes involved in the daily work of the “microsystem” of health care.
- ❖ Develop the knowledge and skills needed to build awareness, assess, diagnose, treat, lead and develop the “microsystems” to provide optimal patient care.
- ❖ Identify approaches for taking costs out of care while maintaining, or improving, quality and enhancing customer satisfaction.
- ❖ Understand the relationships between the microsystems of care, meso and macro systems and their contexts.
- ❖ Identify some of the barriers to improving the functioning of microsystems.
- ❖ Master the introductory literature.

Course Materials:

- Course pack
- Power Point (current version)
- CD ROM containing Clinical Microsystem Action Guide [CMAG], Outpatient Primary and Specialty Care Workbooks, The Access Improvement Workbook.
- *Quality By Design: A Clinical Microsystems Approach*
- *Clinical Microsystems A Path to Healthcare Excellence* toolkit
- www.clinicalmicrosystem.org- website will have all materials including the WORD documents of the clinical microsystem workbooks

Background:

This course builds on the theory of improvement learned in ECS 117, “The Continual Improvement of Health Care: An Overview” and in ECS 126, “Statistical Measurement and Analysis for Quality Improvement.” Lessons from ECS 115 on financial management will be helpful. The content of this course connects priority of clinical outcomes, improvement knowledge, engaging everyone in improvement, the functionality of the clinical microsystem, and the day-to-day realities facing leaders of a microsystem in health care.

J. Brian Quinn, Professor Emeritus at the Amos Tuck School of Business Administration at Dartmouth College, spent several years studying successful service enterprises. He observed that successful ones progressively learned to focus on the smallest replicable unit (SRU). Quinn’s theory suggests that all organizations are comprised of small units that function to connect the core “competence” of the enterprise to the beneficiaries of that enterprise. We have adapted this idea for use in health care. We will focus on the microsystem in health care: a population of patients, providers and their support staff, core and supporting processes of care, information and information technology, and a common purpose or aim. Microsystems provide a framework to organize, measure, and improve the delivery of care. We have used a variety of terms to describe this phenomenon, as we have become increasingly clear about this: panel management process, patient care pods, smallest replicable units, minimum replicable units, firms, micro-units, and now we refer to them as microsystems. Recently, an exciting collection of work about small groups, complex adaptive systems and emergent, adaptive change in the work place has become available. Some of that work will be integrated into our thinking about the small systems that are at work where patients and health care meet.

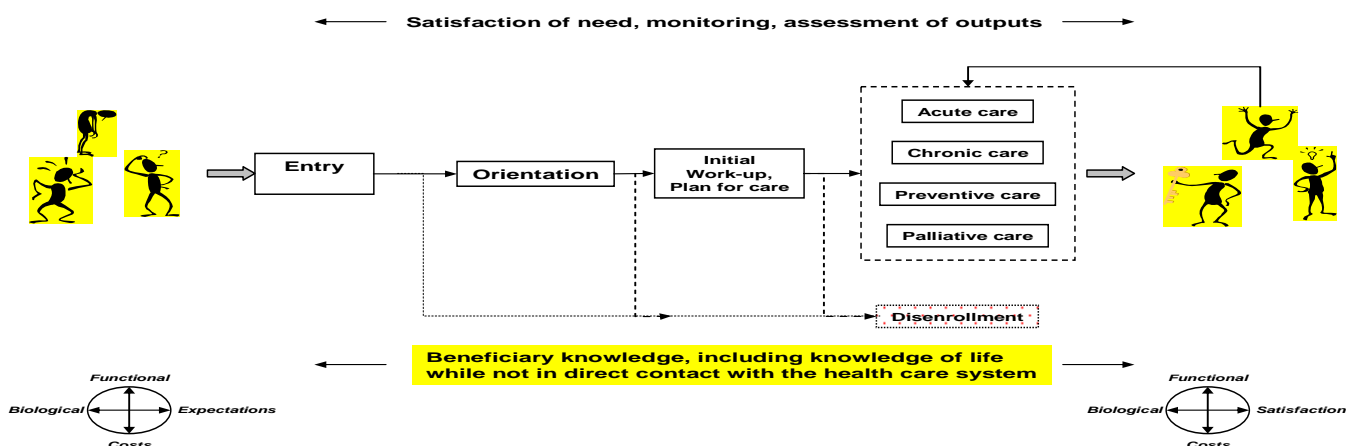
Relationships have been established with microsystems in several states and countries. Students are assigned in a matching process to one of the closer microsystems to work with as a “site” during the course.

Representatives from these sites travel to Hanover for at least the first and last class sessions and are available to students via on-site visits, e-mail, conference calls and fax throughout the term. Site representatives are welcome, and encouraged, to attend all other sessions throughout the class.

The purposes of these relationships are to: 1) provide the student an opportunity to explore the subject matter and its context in the daily realities of these microsystems of care, and 2) provide the microsystems with deeper insight into their own processes based on the students’ inquiries and feedback from class discussion.

Working from the “high” level view of the core process of a microsystem, shown below, connections are made from each of the process segments to their constituent sub-processes, related customer knowledge, relevant change concepts and possible sources of innovation, pertinent monitoring and measurement considerations, and related regulatory/accrediting issues.

A “Generic” Microsystem Model



Topics are taught through readings, directed inquiry, group interactions, and applications exercises. At the end of the course class participants can expect:

- To have an understanding of the four essential components in the work of quality improvement in health care settings
 - The priority of clinical outcomes
 - The necessity to engage everyone in improvement
 - Improvement knowledge
 - The functionality of clinical microsystems.

- To have been introduced to the processes of creating, providing, leading, developing, analyzing and improving the health and the value of health care for individuals receiving care in a given microsystem, and to see the differences and similarities in a diverse collection of microsystems;
- To have an understanding of the linkage between the underlying theory for the continual improvement of health care and the daily work of a microsystem;

- To have developed a case study for a single microsystem and to receive a set of case studies from all sites.

Other than site participants, there will be no “audit only” participants in the class.

Five Basic Expectations of Participants:

- 1. Complete pre-readings for each class, attend and participate thoughtfully in the class conversations and discussions.** Your completion of the readings before we discuss the issues in class will make your participation more helpful to others in the class and make it possible for all of us to learn more in the time we have together. The encouraging art of conversation and dialogue, and the interaction of discussion that promotes learning, is built on careful listening and insightful questioning. Building on each other’s ideas and insights is generative work. Using precious “air time” to re-state or advocate one more time(s) for your point of view is generally not informative. Our work to master these ways of interacting and learning together will be an important take-away from this class.

- 2. Learning to Lead: Beginning with Session 2.** Longitudinal exercise. Read “Learning to Lead at Toyota” and initiate a clinical experience and exercise. Document your reflections from the article and then complete the following:
 1. Identify a “microsystem buddy”(MB) at your site to engage in an individual improvement activity using the individual improvement worksheet.
 2. Plan 3 hours observing your “microsystem buddy”(MB) in his/her work in the microsystem. (REVIEW EVIDENCE BASED IMPROVEMENT AND LEARNING, WWW.CLINICALMICROSYSTEM.ORG, CLICK “TOOLS” THEN GAINING CUSTOMER KNOWLEDGE OBSERVATIONAL TOOL.)
 3. After the observation, have a conversation with your “MB” using the individual improvement worksheet exploring each of the steps to identify a small test of change your “MB” might consider. Choose from the following categories:
 - Worker “overwork”
 - Observation worksheet
 - Choose a lens to focus improvement on using the PBLI excerpt (INSERT TITLE)
 4. Using the individual improvement worksheet, design the improvement process with your “MB”
 5. Submit the improvement worksheet along with a two page reflection on what it was like to “help” your “MB” design a test of improvement of their own work by **May 8, 2007**.

6. **OPTIONAL:** If your “MB” wishes to conduct the planned test that you designed together, prepare to reflect and discuss your results verbally at Session IX.

3. Complete Weekly Assignments. Prior to each class, students complete an assignment with input from their site. Assignments are submitted in a common format that is listed below as a weekly template (parts A-D). Each week, use the template to work through the specific process step of inquiry.
Send completed weekly assignments to your TA electronically.

Template for Weekly Assignments:

The Process Cluster

What is the overall aim of the relevant processes? What are the process cluster boundaries? Describe the process(es) at your site. Map the fine structure for the processes. Prepare a “macro” and a “deployment” type flow diagram of the processes. Use the table below to identify the beginning and end points for each process step. Identify illustrative “task force,” “team,” or “crew” activity engaged in by your microsystem in this cluster of processes.

Measures & Monitoring

Gather measures that are used for measuring and monitoring the quality of this process step. How are the measures operationally defined? What are the experiences of people who have used these measures? Would you propose any additional measurements? If so, what would they be and why?

Customer Knowledge

Review and summarize results on the process of care that you studied using relevant data sources from the following:

- 1) any available focus group or patient survey (satisfaction)
- 2) insights from observations, staff comments, and/or patient interviews that revealed what was important to patients about this process / set of activities
- 3) any documented patient kudos, complaints, and/or feedback (patient letters or staff journal logs)

From your assessment, insights, and analyses are there any trial(s) you would suggest?

Important Issues

Generate a short list of the important issues for this process cluster at your site. Include your sense of the contribution of the meso- macro-system--both helpful and not--to the functioning of the microsystem for this cluster's work of the microsystem.

4a. Develop a 10-20 Page Case Study and Powerpoint Poster For the final paper, students work with their teams to develop a case-study of their microsystem. The case-study connects the work of the prior sessions into a comprehensive report, including future recommendations. The page limit *excludes* coversheets, the table of contents, graphs, flowcharts, references, etc. Each team hands in one final paper. This should be written for your site's use. At the end of the term, you will receive a CD containing all of the site reports.

Organization of the Case Study

Introduction

Explain the aims of the paper (with your intended audience in mind).

Background

Introduce the reader to the microsystem. Describe the site: services provided, location, staff, patient population, environment, barriers, support, compensation, competitors, etc.

Use/adapt the Practice Profile (Microsystem Workbook) to summarize the clinical unit. (5 Ps)

Provide high level view of the “Anatomy” and “Physiology” of the clinical unit (Microsystem Workbook and CMAG).

Core Clinical Process Analysis

Describe how your weekly assignments fit together. Mention current processes, customer knowledge, measurement systems, accreditation, etc. Summarize what currently works and what could be improved. State the important issues that you discovered over the course of the term. Use flowcharts to illustrate current delivery process for high volume “typical” patients cared for by the clinical unit (see Microsystem Workbook and CMAG). For example, you might include 2 or 3 flowcharts for important subpopulations of patients cared for by the clinical unit:

- Acute care process for high volume diagnosis
- Chronic care process for high volume diagnosis
- Prevention care process for typical type of patient with need for preventive service
- Palliative care process for subpopulation.

Patient (& Customer) Focus

Describe how the practice “looks, works, and feels” from the point of view of typical patients and families. You can use qualitative and/or quantitative approaches. There are several options here that you may wish to consider:

- Use a “Through the Eyes of Your Patients” to describe the patient’s interaction with the clinical unit (see Microsystem Workbook)
- Use patient-based point of services “mini” survey (e.g., see Microsystem Workbook)
- Use gaining customer knowledge, observation, interview and survey tools (www.clinicalmicrosystem.org)
- Use a “Clinical Microsystem Staff Survey” to gain information on what it feels like for staff to work in the clinical unit (see Microsystem Workbook)
- Use the “Clinical Microsystem Success Characteristics” self assessment survey (see Clinical Microsystem Assessment Tool – “MAT” at www.clinicalmicrosystem.org or CMAG)

Recommendations / Action Plan

Discuss your important change concepts (see CMAG); your analysis should offer several ideas. Think about leverage points and specific tests of change. Write as if you are the person responsible for implementing, or guiding the implementation of, these ideas. Cite relevant literature or theory that supports your work (e.g., see References & Articles).

Summarize your “ideal” plan for testing and making changes and redesign using an Action Planning Timetable-type/Gantt chart (see Chapter 23, “Action Plans and Gantt Charts;” *Quality By Design: A Clinical Microsystems Approach*, pp 362-368, March 2007).

Measurement: Create an instrument panel to guide the practice.

Design an “instrument panel,” “dashboard” or “data wall” to provide rapid feedback on practice performance. You may design an instrument panel (s) that does one or more of the following:

- Focuses on a specific aspect of practice performance (e.g., care for a key patient population, access to care, technical quality indicators)
- Provides a balanced set of measures related to clinical quality and costs (e.g., a “patient care value compass” -- see Clinical Microsystem Action Guide)
- Provides a balanced set of measures related to practice performance (e.g. a “balanced scorecard” on practice strategic progress and operations—see CMAG)

References

Include all references.

Reports will be evaluated in the following areas:

- Clarity of Aims.
- Thoroughness of Background.
- Completeness of Analysis.

- Soundness of Recommendations: Ability to recognize the behaviors, underlying reason or theory, knowledge & skills needed and parts of the context that would need to be “managed” to take action on the recommendations.
- Inclusion of Supporting Material (graphs, flowcharts, instrument panels, tables, figures, etc.).
- Appropriateness of References.

Case Study burned onto a CD Due: May 29th, at the start of class

4b. Develop a Powerpoint Poster. Share your case study using a powerpoint poster (see instructions below). Give a visual overview of the microsystem using your “microsystem anatomy & physiology” (microsystem wall model) diagram. (www.clinicalmicrosystem.org- click “Tools” and then microsystem wall model)

CECS has a large format plotter, an HPDesignJet800PS, to use for plotting posters

Instructions for posters: you must adjust the Page Setup dimensions in Office applications such as Powerpoint so that the page cannot exceed 36"x56"--that's width by length in landscape orientation. (Most people construct their posters as a slide in Powerpoint). Powerpoint has an internal limit where the page size cannot exceed 56" in length. **Please format your powerpoint page to 36" x 56".**

Your poster files need to be sent to Crystal MacDonald (Crystal.E.MacDonald@Dartmouth.EDU) as email attachments. If Crystal encounters a file with format problems, such as stray invisible formatting, she will contact the person submitting the file through email. It is up to that person to submit a new file to her with the issue corrected.

All files must be submitted by Tuesday, May 22nd, 5:00p. NO EXCEPTIONS.

Include a “snapshot” of the microsystem to summarize a lot of data in an efficient way.

Help your colleagues “see” the processes. Use some of your flowcharts to show core clinical processes.

This is not a poster session, rather a visual display of your microsystem – the purpose, patients, the professionals, the processes, the patterns and ideas for measurement and improvement.

On May 30th, the final class session, we will devote some of the class time to share our work with each other. Our focus will be on those observations and lessons learned that may offer insight into leading improvement within different microsystems of care.

PowerPoint Poster Due: May 29th, at the start of class

One complete copy of Case Study in paper format.

One copy of PowerPoint Poster, Case Study and collated journals burned onto a CD.

Grading Policy:

Students who attend the class, meet the above stated expectations, do their share of the team’s work and complete the assignments on time will receive a grade of “Pass”. Students who complete the assignments and who demonstrate evidence of the integration of the materials and applications in their own work will receive a grade of “High Pass”. Not completing the assignments will mean a grade of “No Credit”.

Session #	Theme/Process Cluster	Beginning Point	End Point	Clinical Microsystem Resources
Session #1 March 27	Overview of the Clinical Microsystem I Improvement Triangle EB Improvement Equation Powerpoint Poster Intro Intro to Lenses Individual Improvement Exercise Lens #1: Mechanical	Vaguely aware of Russell Ackoff's "formulating the mess".	Able to view the work setting as a microsystem.	Welcome Clinical Microsystem Assessment (CMAG) Success Characteristics (Microsystem workbook video & CMAG pg 17-20) Getting started/Prac. Profile (Microsystem Workbook)
Session #2 April 3	Patients as Customers	Identification of list of who customers are.	Specification of what customers want and need.	Patient surveys (Microsystem Workbook) Staff surveys (Microsystem Workbook) Through the eyes of Pts (Microsystem Workbook) Gaining Customer Knowledge (CMAG pg 60-70 & www.clinicalmicrosystem.org and EBLI excerpt)
Session #3 April 10	Patient Entry, Orientation, External Environment Unlearning Lens #2 : Anthropologic	Patient enters into the plan or system. Patient is explicitly connected to a specific health care provider.	Patient and their health care providers have knowledge of each other's intent. Able to view microsystem in its multi-system context Patient understands how to use the microsystem to meet health care needs, including scheduling a first visit or encounter.	Care Processes Patient Entry Access (CMAG pg 26-32) Access Workbook (CD) Through the eyes (Microsystem Workbook) Care Processes (Microsystem Workbook) (CMAG pg 33-40)
Session #4 April 17	Patient First Encounter Lens #3: Information	Patient arrives for the first visit or encounter.	.Overall risk assessment/general plan established for the delivery of care to patient	Through the eyes (Microsystem Workbook) Care Processes (Microsystem Workbook) (CMAG pg 33-40)
Session #5 April 24	Measurement & Monitoring of the Clinical Microsystem Lens #4: Political	Need for and availability of current measures.	The need for measures is identified and the need for current measures is recognized. Prototype set of balanced measures.	Measures & Monitors (CMAG pg 71-82) Improving Your Clinical Microsystem Clinical Value Compass (EBLI excerpt) Feed forward/Feedback
Session #6 May 1	Acute Care Lens #5: Sociological	Patient has an acute need.	Acute need addressed.	Patient Subpopulations Acute (CMAG pg 41-43)
Session #7 May 8	Chronic & Palliative Care Lens #6: Biologic	Patient has a chronic or terminal condition.	Burden of illness is managed in accord with patient's needs and wishes, within the context of the family and community.	Patient Subpopulations Chronic (CMAG pg 44-51) Palliative (CMAG pg 56-59)
Session #8 May 15	Preventive Care & Safety Lens #7: Economic	Patient seeks an appointment for preventive care (i.e. AIDS, smoking, car and bicycle safety, prenatal care) Safety & Reliability	Episode of care is completed.	Patient Subpopulations Preventive (CMAG pg 52-55) Safety & Reliability (CMAG pg 90-101)
Session #9 May 22	Overview of the Clinical Microsystem II Leadership within and across microsystems Supervisory work in support of individual improvement. Change Management Lens #8: Psychological	Need for change.	Understanding how to create the conditions for change.	Linking Your Clinical Microsystem (CMAG) Special themes (CMAG) Micro-Meso-Macro External Environment Loose Coupling & Change Health Professional Education
Session #10 May 29	Powerpoint Posters & reflections	Display your microsystem and what you have learned about it, including some suggestions for improving it. Be prepared to lead the class thru a review/overview of your microsystem. Connect your reflections on the idea of the microsystem & themes connected to the improvement of the microsystem to your powerpoint poster presentation.		

Continually Improving the Health and Value of Health Care for a Population of Patients

A Session-by-Session Outline

SESSION 1: MARCH 27, 2007

Theme: Overview of the Clinical Microsystem I

- the course, final report and storyboards
- introduction to clinical microsystem research
- micro/meso systems
- understanding a microsystem of care; structure, process, outcomes
- patient or partner or what?
- Leading Change concepts and individual improvements
- Evidence Based Improvement equation
- introduction of course materials and resources:
Assessing Your Practice (Clinical Microsystems A Path to Healthcare Excellence Workbooks), website www.clinicalmicrosystem.org *Clinical Microsystem Action Guide (CMAG)*, *Quality By Design: A Clinical Microsystems Approach*

Aim:

Provide an overview of the way the course will work and the model for managing the health and value of health care for a microsystem.

Provide overview and assignment details for the course and materials.

Describe the four fundamental concepts required for quality improvement in clinical practice.

Explore the theory and context for Microsystems in health care.

Discuss ways that Microsystems function in health care and leadership needed

Explore the “words” we use in naming elements of the microsystem

Review basic overview of complex, adaptive systems.

Pre-Readings — Textbook Quality By Design:

Chapter One: “Success Characteristics of High-Performing Microsystems: Learning From the Best”

Chapter Six: “Planning Patient-Centered Services”

Pre-Readings from coursepack or internet website:

1. Quinn JB. Intelligent Enterprise. New York: The Free Press, 1992. 103 - 109.
2. <http://www.clinicalmicrosystem.org/>
Batalden PB, Nelson EC, Gardent PB, Godfrey MM. “Leading the Macrosystem and Mesosystem for Microsystem Peak Performance” in *From Front Office to Front Line: Essential Issues for Health Care Leaders*. Steven Berman (ed), Joint Commission On Accreditation of Healthcare Organizations, Oakbrook Terrace, IL, pp 1-40, 2005.
3. http://www.fastcompany.com/magazine/111/open_no-satisfaction.html
Fishman, C. “No Satisfaction;” *Fast Company*, Dec 2006/Jan 2007 pp83-92.
4. <http://qshc.bmj.com/>
Batalden PB, Davidoff F. "What is 'Quality Improvement' and How Can it Transform Healthcare?" Editorial, *Quality and Safety in Health Care*; 16:2-3; 2007

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

Clark, JS. “An aging Population with Chronic Disease Compels New Delivery Systems focused on New Structures and Practices” in *Nursing Admin Q*, 28(2) 105-115; 2004.

SESSION 2: APRIL 3, 2007

Theme: Patients as Customers

Aim:

- Discover the customers.
- Discover ways to gain insight about what is important to patients in a specific process.
- Discover insights patients can provide about the process(es) of care in a specific microsystem.

Pre-Readings from coursepack or internet website:

1. Gerteis M., et al. What Patients Really Want. *HMQ*, Third Quarter, 1993; pp. 2-6.
2. Berwick DM. The Total Customer Relationship in Health Care: Broadening the Bandwidth. *Joint Commission Journal on Quality Improvement*, 23: 245-250, 1997.
3. Institute for Family Centered Care <http://www.familycenteredcare.org/>
4. The Courage to Change: Responding to In-Patient Voices: Seven Challenges for Your Team
Donald M. Berwick, MD, MPP, President and CEO, *Institute for Healthcare Improvement, Boston*
Plenary Presentation, IHI National Forum on Quality Improvement in Health Care December 4, 2003
<http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Literature/RespondingtoInPatientVoicesSevenChallengesforYourTeam.htm>
5. Berry LL, Bendapudi N. "Clueing In Customers." *Harvard Business Review*. 2-7, February 2003.

SESSION 3: APRIL 10, 2007

Theme: Patient Entry, Assignment and Orientation

Aim:

- Study the design, execution and improvement of entry-related processes in the microsystem.

Pre-Readings from coursepack:

- Institute of Medicine. Crossing the Quality Chasm. National Academy Press. Washington DC, 2001; 1-38 (Executive Summary & Chapter 1: A New Health System for the 21st Century.)

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

1. Grumbach, K & Bodenheimer, T. A Primary Care Home for Americans. *Journal of the American Medical Association*. 288(7): 889 – 893, 2002.
2. Murray, M. & Berwick, D. M. Advanced access: reducing waiting and delays in primary care. *Journal of the American Medical Association*. 289(8): 1035-40, 2003.

SESSION 4: APRIL 17, 2007

Theme: Patient First Encounter

Aim:

- Study the design, execution and improvement of initial work-up related processes in the microsystem.
- Explore the individual caregiver/individual patient system.

Pre-Readings from coursepack or internet website:

1. <http://www.howsyourhealth.com>
2. Zimmerman B, Lindberg C, Plsek P. Edgware. Irving, TX. VHA Inc., 1998. 136-143.

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

1. Weinstein, JN, Brown, PW, Hanscom, B, Walsh, T, Nelson, EC. Designing an Ambulatory Clinical Practice for Outcomes Improvement--From Vision to Reality: The Spine Center at Dartmouth-Hitchcock, Year One. *Quality Management in Health Care*, 8(2):1-20, 2000.
2. Plsek P., Greenhalgh, T. "Complexity science: The challenge of complexity in health care." *British Medical Journal*. 323(7313): 625-628. 2001.

SESSION 5: APRIL 24, 2007

Theme: Measurement, Monitoring and Assessment of the Clinical Microsystem

Aim:

Provide insight into the management and improvement of assessments of satisfaction of patient and customer need as well as overall monitoring and assessment processes in microsystem.

Explore ways to measure, study small groups and connect that exploration to the microsystems of health care.

Pre-Readings — Textbook Quality by Design:

Chapter Nine: "Creating a Rich Information Environment"

Chapter Twenty-Two: "Measuring and Monitoring"

Pre-Readings from coursepack or internet website:

1. Nelson EC, Batalden PB, Plume SK, Mihevc NT, Swartz WG. Report Cards or Instrument Panels: Who Needs What? *The Joint Commission Journal on Quality Improvement*. 21(4):155-166, April 1995.
2. Kaplan RS, Norton DP: The Balanced Scorecard-Measures that Drive Performance. *Harvard Business Review*. 71-79, Jan-Feb 1992.
3. DHMC Public Reporting Website: Health Information and Quality Reports: <http://www.dhmc.org/qualitymeasures>
4. Cystic Fibrosis Foundation Website: www.cff.org click on [CF Foundation Publicly Reports Care Center Data for National Care Center Network](#)

SESSION 6: MAY 1, 2007

Theme: Acute Care

Aim:

Study the design, execution and improvement of acute illness care-related processes in the microsystem.

Introduction to the study of patterns in the acute care needs of a patient population from an identified microsystem.

Pre-Readings from internet website:

1. Clinical Evidence London, BMJ Press. <http://www.clinicalevidence.com> log in: batalden password: evidence
2. <http://www.icsi.org>

SESSION 7: MAY 8, 2007

Theme: Chronic & Palliative Care

Aim:

Study the design, execution and improvement of chronic illness care-related processes in the microsystem.

Explore long-term care needs and the microsystem.

An overview of change in a complex adaptive system.

Pre-Readings from coursepack or internet website:

1. <http://www.improvingchroniccare.org>
2. Byock I, "The Nature of suffering and the Nature of Opportunity at the End of Life." *Clinics in Geriatric Medicine*, Vol. 12, No. 2, pp. 237-252, May 1996

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

1. Bodenheimer, T, Wagner, EH, & Grumbach, K. Improving primary care for patients with chronic illness. *Journal of the American Medical Association*. 288(14): 1775-1779, 2002.
2. Bodenheimer, T, Wagner, EH, & Grumbach, K. Improving primary care for patients with chronic illness: The Chronic care model, part 2. *Journal of the American Medical Association*. 288(15): 1909 – 1914, 2002.
3. Bodenheimer, T, Lorig, K, Holman, H & Grumbach, K. Patient self-management of chronic disease in primary care." *Journal of the American Medical Association*. 288(19): 2469-2475, 2002.
4. Byock, I., K. Norris, et al. (2001). "Improving end-of-life experience and care in the community: a conceptual framework." *Journal of Pain and Symptom Management* 22(3):759-72.

SESSION 8: MAY 15, 2007

Theme: Preventive Care & Safety

Aim:

Study the design, execution and improvement of preventive care-related processes in the microsystem.

Explore the self-care system for patients and its relation to the microsystem.

Pre-Readings — Textbook Quality By Design:

Chapter Eight: "Measuring and Monitoring"

Pre-Readings from coursepack or internet website:

1. <http://www.mayohealth.org> (try improving your information base about your health)
2. <http://www.ahrq.gov/clinic/preview.htm>
3. Atkins, D. "Principles of preventive care." *Primary care*, 29(3): 475-486, 2002.
4. <http://www.annals.org/cgi/content/abstract/142/9/756>
Almarbeti R, Auroy, Y, Berwick, D, Barach, P. "Five Systems Barriers to Achieving Ultrasafe Health Care." *Annals of Internal Medicine*, 142(9): pp756-76, May 2005.

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

1. Blike G, Christoffersen K, Cravero J, Andeweg S, Jensen J. "A Method for Measuring System Safety and Latent Errors Associated with Pediatric Procedural Sedation." *Anesth Analg*, 101:48-58, 2005.

2. Mohr JJ, Barach P, Cravero JP, Blike GT, Godfrey MM, Batalden PB, Nelson EC. Microsystems in Health Care: Part 6. Designing Patient Safety into the Microsystem. *Joint Commission Journal on Quality and Safety*, 29(8) 401-408, August 2003.
3. Reason, J. Education and debate: Human Error: models and management. *BMJ*. 320:768-770, 2000.
4. Mohr, JJ, Batalden, PB, Barach, P. Integrating patient safety into the clinical microsystem. *Quality & Safety in Health Care*, 13 (Supp II):ii34-38, 2004.

SESSION 9: MAY 22, 2007

Theme: Overview of the Clinical Microsystem II

Aim:

Leading change: clinical microsystem continuous improvement within/between micro-meso-macro systems.

Pre-Readings — Textbook Quality By Design:

Chapter Four: “Leading Microsystems”

Part Two: “Activating The Organization and The Dartmouth Microsystem Improvement Curriculum”

Pre-Readings from coursepack:

Weick K. “Management of Organizational Change Among Loosely Coupled Elements,” in Making Sense of the Organization, Oxford. Blackwell, 380-403 (Chapter 17), 2001.

Pre-readings (from <http://www.dartmouth.edu/~biomed/>):

Fraser, S. W., Greenhalgh, T. "Coping with complexity: educating for capability." *British Medical Journal*, 323(7316): 799-803, 2001.

SESSION 10: May 29, 2007

Theme: Powerpoint posters and general reflections on the work of microsystems in health care.

Aim:

Review an overview of each microsystem via use of powerpoint poster presentations.
Connect general reflections on health care microsystems to the posters and to the experiences at the sites.

Review lessons learned, observed in the study of the microsystem in health care.

Review intentional, planned and emergent, adaptive change strategies and their implications for microsystems and meso-macro systems.

Conduct a brief overview of small group theory relevant to studying the microsystem.

Pre-Readings – from coursepack

Weick K. “Emergent change as a universal in organizations” in Breaking the Code of Change, Beer M, Nohria N (eds.) Boston: *Harvard Business Press*, 2000, pp.223-241.

**** Case-Study on "your" microsystem due, at the start of class ****

**** Powerpoint Poster due, at the start of class****