Dartmouth Coach-The-Coach
Dartmouth Microsystem Improvement Curriculum

Tuesday, January 10, 2006

Paul B. Batalden, MD
Marjorie Godfrey, MS, RN
Gene C. Nelson, DSc, MPH

www.clinicalmicrosystem.org
WELCOME!

DHMC Heart Failure Team

DHMC Intermediate Cardiac Care Unit
“They give me exactly what I want (and need) exactly when I want (and need) it . . . While maintaining and improving a joyful work environment and a financially viable organization.”

- Don Berwick, MD
  President, CEO
  Institute for Healthcare Improvement (IHI)
Agenda

January 10, 9:00-3:30pm

9:00 Welcome and Introductions Sandy/Gene
9:30 Introduction to Microsystem Thinking Paul
   Background, timeline, micros. developmental journey
10:15 Break
10:30 Assessing Your Microsystem Margie
10:45 Exercise 1: 5 Ps
12:15 Report Outs
12:30 Lunch
1:00 Introduction to Model for Improvement Gene
   Themes for Improvement
1:30 Exercise 2: Choose A Theme
2:00 Report Outs
2:15 Introduction to Improvement Model: PDSA ↔ SDSA Gene
2:45 Wrap up and Evaluations Margie
Tuesday Team Aim

At the end of the session, participants will be able to:

- Create a plan to assess and diagnose their clinical microsystem
- Select a theme to focus improvement
- Describe the improvement model
Introductions & Why We are Here

- Introductions
- Name of Practice and Team Members
- 1 Thing that …
  - Patients really love about our practice is
  - drives some patients nuts is

9:00-9:30 Sandy & Gene
Why We are Here

- Learn about our practice
- Improve our practice
- Improve our work life
- Studio course for GREEN Belts
  - *Educating the Reflective Practitioner*
    - Donald Schön
Six Challenges from the IOM – Crossing the Quality Chasm

- Safety
- Effectiveness
- Patient-centeredness
- Timeliness
- Efficiency
- Equity

www.iom.edu
## Institute of Medicine
### Old / New Rules

<table>
<thead>
<tr>
<th>Old rule</th>
<th>New Rule</th>
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<tbody>
<tr>
<td>1. Care based on visits</td>
<td>1. Care based on continuous healing relationships</td>
</tr>
<tr>
<td>2. Professional autonomy drives variability</td>
<td>2. Care customized based on patient need &amp; values</td>
</tr>
<tr>
<td>3. Professionals control care.</td>
<td>3. Patient is source of control</td>
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<tr>
<td>4. Information is a record</td>
<td>4. Knowledge is shared and information flows freely</td>
</tr>
<tr>
<td>5. Decision making based on training &amp; experience</td>
<td>5. Decision making is evidence based</td>
</tr>
</tbody>
</table>
### Institute of Medicine
**Old / New Rules**

<table>
<thead>
<tr>
<th>Old Rules</th>
<th>New Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Do no harm is individual responsibility</td>
<td>6. Safety is a system property</td>
</tr>
<tr>
<td>7. Secrecy is necessary</td>
<td>7. Transparency is necessary</td>
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<tr>
<td>8. System reacts to needs</td>
<td>8. Needs are anticipated</td>
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<tr>
<td>9. Cost reduction is sought</td>
<td>9. Waste is continuously decreased</td>
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<tr>
<td>10. Preference is given to professional roles over the system</td>
<td>10. Cooperation among clinicians is a priority</td>
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</table>
Introduction to Microsystem Thinking

- “Every system is perfectly designed to get the results it gets.”
  - Your practice is a small system
  - A complex adaptive system
    - Biological with adaptive capabilities
  - A clinical microsystem

9:30-10:15 Paul
Aim

- Offer a clear, concise introduction to the idea and its formation
- Survey the use(s) of the idea
- Introduce some helpful resources for working with the idea
Assumptions

- Everyone has heard of the idea and has various notions of what it means.
- We all have more experience living in, working in, and using them; than we have studying, changing, and leading them.
How did we get here?

*Kerr White, Healing the Schism*

1900  ______________________________________________________________________  2002

- Individual & Population
  - Individual
  - Population

The sum of the parts isn’t what is wanted.
Understanding Health Care as a System

- How we improve what we make
- What society needs
- How we create, make health care
“Dr. Batalden’s Pediatric Practice”

- Theresa Baker, M.D.
- Mary Beth Hanson, RN, PNP
- Connie Van der Top, LPN
- Barb Malzahn, and
- Paul Batalden, M.D.

In a department of 36 pediatricians, etc.

In the Park Nicollet medical center of 280 MDs, etc.

In the MedCenters Health Plan in west MSP metro area
Definition

A health care clinical microsystem can be defined as the combination of a *small team* of people who work together on a regular basis—or as needed—to provide care and the *individuals* who receive that care (who can also be recognized as members of a discrete *subpopulation of patients*.)

It has clinical and business *aims*, linked *processes*, a shared *information* environment and produces services and care which can be measured as performance *outcomes*. These systems evolve over time and are (often) *embedded* in larger systems/organizations.

As any living adaptive system, the microsystem must: (1) do the work, (2) meet staff needs, (3) maintain themselves as a clinical unit.
A “Generic” Clinical Microsystem Model

Satisfaction of need, monitoring, assessment of outputs

Beneficiary knowledge, including knowledge of life while not in direct contact with the health care system

Entry, Assignment → Orientation → Initial Work-up, Plan for care

Acute care
Chronic care
Preventive care
Palliative care

Disenrollment

Functional Biological Satisfaction
Costs

Functional Biological Satisfaction
Costs
Exploring the external context of the clinical microsystem for improving the health of a given subpopulation of patients...

Place a bold line around the rectangle of the “most important contributors” to the improved health of the subpopulation. Illustrate the relationships with a blue line. Add an arrow head if the direction of the relationship is clear. If the relationship can be significantly improved, use red for the line.

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So, why focus on the “clinical microsystem?”

- Basic “building block” of health care as a system
- Unit of clinical policy-in-use
- Locus of most workplace “motivators” and many “hygiene” factors
- Most variables relevant to patient satisfaction controlled here
- Where “good value” and “safe” care is made
- Where most health professional “formation” occurs after initial preparation
Microsystems are the **building blocks** that come together to form Macro-organizations.
The Chain of Effect in Improving Health Care Quality

I Patient and the Community

II Microsystem

III Organizational context

IV Environmental Context
The Chain of Effect for Quality

IOM Committee on Quality of Health Care in America, courtesy of Dr. Donald Berwick
The Chain of Effect for Quality

Top down | Level | Bottom up
--- | --- | ---
 | Environmental context | Organizational context | Microsystems | Patient and community | | | | |
Top down

- Taylor—“hardly a competent workman can be found”
- Criticize/control
  - (helpfully) point out mistakes
  - “power over”
  - Re-educate
- Judgment (playing God)
- Heroic individualism
  - The “Lone Ranger” syndrome
- Unfunded mandate
  - Layered on top; assumes unlimited time/attention/resources
- Motivate/incentive

Bottom up

- Deming—almost all failures arise from underlying processes
- Empowerment
  - Drive out fear; put joy into work
  - “power to” (shared vision)
  - Supply vision, tools; facilitate
- Learning (“a servant king”)
- Teams
  with Fundamental Knowledge
- Integrated tools
  carefully built into workflow
- Make it easy to do it right
  (align incentives)
High Performing Clinical Microsystems

- **Leadership**
  - Leadership
  - Organizational support

- **Staff**
  - Staff focus
  - Education & Training
  - Interdependence of care team

- **Performance**
  - Performance results
  - Process improvement

- **Patients**
  - Patient Focus
  - Community & Market Focus

- **Information & Information Technology**
A Microsystem's Self-awareness Journey

Create an awareness of work as a microsystem (description or picture)

Work on some foolishness to understand that change is possible

Connect work to those who do or could benefit from it, building a sense of the related purpose of the work

Try some strategic change & improvement

Build measures of performance for those who do or could benefit, of the functioning of the microsystem & for accountability

Work with inputs and outputs
Work with "peer microsystems"
Work with the population
Work with your own microsystem
Work with your macro-organization
The ways others have started their journey...

- Leader of a microsystem
- Leader of a macro-organization
- Had been project/theme oriented for improvement
- Curious staff member who gains new knowledge
- PhD student gains knowledge
- Professional organization gains and adapts knowledge
- Friend tells a friend (leader to leader)
Ways Others Have Started

- Quietly in their own microsystem
- Several microsystems joining together
- Loudly as an organization effort
- Strategically from the senior leader perspective
Break

Use the Clinical Microsystems Workbook to continue to diagnose the strengths of your microsystem and to start identifying improvement opportunities.

10:15-10:30
Assess & Diagnose Your Clinical Microsystem

- Main Idea ... 
  *Build Capacity from Inside Out*

- With outside in (front office) supports, encouragement, & incentives

- The 5 “Ps”

10:30-10:45 Margie
3 Thread Tactic

- Finding ways to do better at meeting each patient’s needs
- Making the work experience for every staff person meaningful & joyous
- Increasing each staff person’s ability to improve his/her own work & contribute to betterment of system
To do things differently, we must see things differently. When we see things we haven’t noticed before, we can ask questions we didn’t know to ask before.

John Kelsch, Xerox
So, how might you improve your own microsystem?

- It’s just like patient care
  - To improve a patient’s health status ... You assess, diagnose, treat, and follow-up based on biomedical and care science
  - To improve a microsystem’s “health” status ... You assess, diagnose, treat, and follow-up based on improvement science and the science of clinical practice
Caring For Patients & Growing Microsystems

- **PATIENTS ...**
  - Assess
  - Diagnose
  - Treat
    - Involving the patient & family in the process

- **MICROSYSTEMS...**
  - Assess
  - Diagnose
  - Treat
    - Involving the microsystem players in the process
Building a Team to Manage a Panel of Primary Care Patients
Mission: The Dartmouth-Hitchcock Clinic exists to serve the health care needs of our patients.

Purpose

Processes

Professionals

Patterns

Nashua Internal Medicine

<table>
<thead>
<tr>
<th>TEAM MEMBERS:</th>
<th>Nashua Internal Medicine</th>
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<tbody>
<tr>
<td>Sherman Baker, MD</td>
<td>Missy, RN</td>
</tr>
<tr>
<td>Leslie Cook, MD</td>
<td>Amy, Secretary</td>
</tr>
<tr>
<td>Joe Karpicz, MD</td>
<td>Buffy, Secretary</td>
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<tr>
<td>Deb Urquhart, NP</td>
<td>Diane, RN</td>
</tr>
<tr>
<td>Ron Carson, PA</td>
<td>Mary Ellen, Secretary</td>
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<tr>
<td>Erica, RN</td>
<td>Bonnie, LPN</td>
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<tr>
<td>Laura, RN</td>
<td>Kristy, Secretary</td>
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<tr>
<td>Maggi, RN</td>
<td>Carole, LPN</td>
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<td>Charlene, Secretary</td>
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<td></td>
<td>Nancy, LPN</td>
</tr>
<tr>
<td></td>
<td>Mary Beth, MA</td>
</tr>
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<td></td>
<td>Lynn, MA</td>
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Skill Mix: MDs 2.8, RNs 6.8, NP/PAs 2, MA 4.8, LPNs 2, SECs 4

Measuring Team Performance & Patient Outcomes and Costs

<table>
<thead>
<tr>
<th>Measure</th>
<th>Current</th>
<th>Target</th>
<th>Measure</th>
<th>Current</th>
<th>Target</th>
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<tbody>
<tr>
<td>Panel Size Adj.</td>
<td></td>
<td></td>
<td>External Referral Adj. PMPM-Team</td>
<td></td>
<td></td>
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<tr>
<td>Direct PI, Care Hours MD/Assoc.</td>
<td></td>
<td></td>
<td>Patient Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Panel Seeing Owl PCP</td>
<td></td>
<td></td>
<td>Access Satisfaction</td>
<td></td>
<td></td>
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<tr>
<td>Total PMPM Adj. PMPM-Team</td>
<td></td>
<td></td>
<td>Staff Satisfaction</td>
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Micro-System Approach 6/17/98
Revised: 1/27/00

© Eugene C. Neilson, DSc, MPH
Paul B. Batalden, MD
Dartmouth-Hitchcock Clinic, June 1998
Assessing Your Practice
Clinical Microsystem Improvement Workbook
Time to Exercise!

Exercise Process:
1. Review agenda and set roles: leader, recorder, timer, facilitator (1 min)
2. Follow instruction sheet
3. Focus on the Challenge

10:45-12:15
Exercise
“Discovery of 5 Ps”

● Choose roles
● Set up your agenda
● Review instruction sheet
● Listen for the chimes to signal moving through agenda
● Make a “picture” of your practice using microsystem model
● Prepare a 3 minute report out
Report Outs

- What did you learn and want to know more about?
- How could you use the "Green Book" to help learn new information and data about your microsystem?
Remember that every clinical microsystem must

- Do the job
  - meet patient’s needs

- Meet staff needs
  - for respect, challenge, growth, joy, & earnings

- Maintain self as an organization
  - mission, values, finances, image
LUNCH

12:30-1:00
Introduction to Improvement
Model & Themes for Improvement

1:00-1:30 Gene
Assessing Your Practice
Clinical Microsystem Workbook 5 Ps

Theme
Global Aim
Specific Aim 1
Change Ideas
PDSA ↔ SDSA

(Storyboard ... Bite of the elephant)
Time to Exercise!

Exercise Process:
1. Review agenda and set roles: leader, recorder, timer, facilitator (1 min)
2. Set times for agenda
3. Focus on the Challenge

1:30-2:00
Exercise
Choose a Theme

- Think about...
  - What you learned from your discussions, experience
  - Assess, Diagnose Workbook 5 P exercise
  - What delights and disappoints patients
  - What is intolerable for staff
Report Outs

2:00-2:15
Change Idea

PDSA ↔ SDSAS

Act Plan
Study Do
Aim
Measures
Changes
"Fishbone"
Process Map
Change Concepts
PDSA
1
SDSA
Aim
Model for Improvement

What are we trying to accomplish?
How will we know that a change is an improvement?
What changes can we make that will result in an improvement?
Model’s Logic

● 3 Fundamental Questions

- **Aim**: What are we trying to accomplish?
- **Measures**: How will we know that a change is an improvement?
- **Changes**: What changes can we make that will result in improvement?
Model for Improvement

- Aim
- Measures
- Changes
  - 1
  - 2
  - 3
  - 4
- Plan
- Do
- Study
- Act
**The PDSA Cycle**

**Act**
- What changes are to be made?
- Next cycle?

**Plan**
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)

**Study**
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

**Do**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data
PDSA

• Plan
  – Describe objective & specific change
  – Identify possible “upstream/downstream” impacts
  – Specify where fits into process flow
  – Who, does what, when, with what tools and training
  – Data collection plan: who measures what and displays how and where
  – Timeline, owners
  – Small sample
  – Short period of time
PDSA

● DO
  – Carry out the detailed plan
  – Provide support
    • Huddle before starting the pilot
    • Check midway
  – Encourage debriefs end of day . . .
  – Participants keep notes
PDSA

- Study
  - Debrief at end of pilot
  - What went well?
  - What could be improved?
  - Lessons learned
PDSA

• Act
  - Plan next steps
    • Re-test
    • Enlarge sample
    • Adapt
Selecting first “theme” for improvement

“How do you eat an elephant?”
Assessing Your Practice
Clinical Microsystem Workbook

Theme

Global Aim

Specific Aim 1

Change Ideas

PDSA ↔ SDSA
Wrap up and planning for short and long term

- Introduction to microsystems in practice
- Beginning of assessing and diagnosing your practice
- Selection of a theme to focus improvement

2:45-3:00 Margie
Review of the Day

- Meet One Another
- Microsystem Introduction
- Assessing Your microsystem
- Themes for Improvement
- Introduction to Improvement Model
Preview of Tomorrow

- Meeting Skills/Timed Agenda/Ground Rules
- Themes and Aims
- Process Mapping
- Cause and Effect Diagrams: Fishbones

**NOTE:** Location Change to Daniel Webster Dining Room at Hanover Inn
Evaluate Today

Note: Wednesday Change of Location
Alumni Hall, Hopkins Center