Designing High Performing Mesosystems

International Clinical Microsystem Festival
Jönköping Sweden
2:15-3:15
March 4, 2011
Marjorie Godfrey, Gene Nelson
The Dartmouth Institute & Jönköping County Council

A workshop on building strong mesosystems

Prediction

The next frontier for improving the outcomes and value of care for patients and populations is to understand, design & redesign the mesosystems of care to better serve patients & populations
Flow

1. Two Patient Stories
2. Systems: Micro + Meso + Macro
3. Discovering Mesosystems
4. Case Examples: Designing Mesosystems
5. Ways to Improve Mesosystems
6. Discussion

1. The Mesosystem from the Patient’s Eyes

Dr. Carolyn Kerrigan: “I got an 8 page letter from a patient & in the 1st paragraph she mentioned my name & then it went onto describe her care experience & I realized what a small part I played …”
We All Have Health Care Experience Stories

What if we deeply immersed ourselves in the clinical Microsystems of care?

What About Bob?

- Retired IBM Executive
- Married 52 years
- 5 children
- 8 grandchildren
- World Traveler
- Control
- Respect
- Expectations
- Plans
The “True” Structure of the Delivery System?

- As experienced by the patient ....
  - People working together (or against each other)
  - In frontline clinical teams (or tangles)
  - Often embedded in larger organizations (or Byzantine bureaucracies)
  - That are more or less loosely connected (or totally disjointed)
  - And provide more or less perfect (or deadly dreadful) care
“It is easy to view the entire health care continuum as an elaborate network of microsystems that work together (more or less) to reduce the burden of illness for populations of people.”


Complexity of Care Delivery

Within, Between and Across Clinical Microsystems
(Transitions and Handoffs)
2. Systems

Micro
+ 
Meso
+ 
Macro

“It’s the economy system, stupid.”

- after Bill Clinton
“Every system is perfectly designed to get the results it gets.”

Paul B. Batalden, MD

Founding Director, Healthcare Improvement Leadership Development
The Dartmouth Institute for Health Policy and Clinical Practice
Co-Founder Institute for Healthcare Improvement

Mesosystems Form Around the Patient in a Coherent and/or Chaotic Way

A value network
Transformation Equation

\[ Q_{HS} = Q_{M1} + Q_{M2} + Q_{M3} + Q_{MN} \]

Note: Quality (Q) of the whole healthcare system (HS) is equal to the quality of care for individual patients within each microsystem (M₁ to Mₙ) that cares for the patient plus the handoffs — of patients, information, and supporting services — that occur between microsystems (+, +, +) that are involved in the care of each individual patient.

Systems Inside Systems

- Self-care system
- Individual caregiver & patient system
- Microsystem
- Mesosystem
- Macrosystem
- Market / Geopolitical system
Microsystems Are the *Building Blocks* that Come Together to Form Mesosystems

“Improving mesosystem performance is the next frontier for improving outcomes & costs”
3. Discovering Mesosystems: Putting on a New Set of Glasses

Mesosystems … can be thought of as the collection of clinical microsystems that patients travel through on their care “journey” as well as the microsystems that support the patients’ care by providing essential added or ancillary services (such as radiology, pathology, anesthesia, transportation, dietary, medical information)

By definition, a mesosystem is formed when two or more clinical or supporting microsystems are joined together.

You do not see something until you have the right metaphor to let you perceive it.

Thomas Kuhn
The principal task of the mesosystem is to

“Enable the work of the microsystems for the population(s) of patients served.”

Paul Batalden

Discovering Mesosystems: Clinical & Supporting Microsystems

- **Clinical Path**: If you follow the footsteps of patients over time as they travel in and out of microsystems, you will discover the “direct” clinical care microsystems

- **Support**: If you look to see what services feed into the direct clinical microsystems, you will discover the “supporting” administrative microsystems

- The mesosystems usually include both the Clinical and the Supporting front-line systems
Mesosystems

• Share the work of helping “Esther” get the best outcomes of care at the lowest cost and at the highest level of satisfaction

• Mesosystem members are part of a “community” and have relationships and activities which frequently are not revealed, studied, discussed or improved

Mesosystem Community

• The individual microsystems operate in ways that make or break the mesosystem as it attempts to provide high value care to individual patients and to clinical populations

  – Share vision and mission?
  – Good hand offs and transitions?
  – Feed forward and feedback of information?
  – Create a “memory” of Esther?
  – Regular communications and improvement?
  – Schedule time to discuss and improve care across the mesosystem?
Evolution in approaches to improving health system quality: from projects to Microsystems to Mesosystems to Macrosystems

4. Improving Mesosystems: Case Studies on the Next Frontier

Cleveland Clinic was totally reorganized by forming institutes to care for defined groups such as Cardiovascular, Back and Neck, Cancer, Primary Care, and Trauma
Mesosystem Innovators

- Jönköping**
  - Esther Program
  - Orthopedics
- Cleveland Clinic
  - Institutes Serving Patient Populations
- Intermountain Health Care
  - Clinical Process/Program Model
- Geisinger
  - ProvenCare
- Dartmouth
  - Spine Center**
  - Breast Cancer Program
- Shouldice Hospital
  - Hernia Repair

Case. Esther

Microsystems can be aligned & redesigned to become more patient-centered, effective & efficient
Everyone Knows and Cares about Esther
Everyone Wants to “Make Esther’s Day”
Cooperation, Collaboration

Understanding the system
Everything is depending on each other

Source: Nicoline Wackerberg

Vision Esther

A durable and energetic network results so that Esther can feel confident and independent

Esther:
• Gets care in or close to her home
• See us as the same provider of care
• Has the same possibilities to get care all over the region
• Knows where and who to turn to

Höglandet's care
• All personnel are concerned and committed
• Support for each other to achieve the best of Esther
• Increase competence in the whole care chain
• Continuous improvement of quality

Source: Nicoline Wackerberg
Esther is High Tech and High Touch

- **High Tech**
  - Process-based engineering
  - Registries to track patient records
  - Aggregating costs for Esther across the system
  - Individual care planning between patient and health care team

- **High Touch**
  - Recognizing you are caring for a patient, not an object
    - Be kind to Esther
  - Coaching teams & group dynamics
  - Understanding roles across system
  - Hand offs vital component of system
  - Positive attitude in workplace, home, and community

Source: Nicoline Wackerberg

The Esther Coaches

What is best for Esther?

“Esther…. no matter where
We will be there!”
Esther Coaching Network

Rapid Review of Path Forward

- Esther program started in Jönköping CC (Eksjö)
- Began program to “solve the problem” of how to provide patient-centered, high value care for older people living in the community who had complex chronic problems
- Esther has energized 1000s of health professionals and enabled them to develop a shared aim and aligned system redesign work across the entire care continuum
- Esther model has been adopted by other health systems around the world

Source: Nicoline Wackerberg
5. Ways to Improve Mesosystems

Ways to Improve Mesosystems

• Kaizen – work within microsystems to improve, then work between and across microsystems to improve

• Greenfields – start an entirely new mesosystem based on idealized design
Ways to Improve Mesosystems

• Kaizen – work within microsystems to improve, then work between and across microsystems to improve
  – Dartmouth example: Breast Cancer Program, a virtual mesosystem that is recognized as a mesosystem & which has improved gradually over past 10 years

• Greenfields – start an entirely new mesosystem based on idealized design
  – Dartmouth example: Spine Center & Functional Restoration Program & Pain Program were created “de novo” to replace a set of disorganized, non-integrated microsystems & were “invented” 10 years ago

Special Considerations

• As you analyze the existing “collection of microsystems” that is “today’s” mesosystem what parts are simple and what parts are complicated and what parts are complex?
  – Principle: Match improvement design to level of complexity
  – See Value by Design, Nelson, Batalden, Godfrey, Lazar Chapters 1 & 8

• As you focus on the clinical population that is cared for by the mesosystem, how good is the evidence base? What parts of the care process can benefit from reliable use of evidence-based pathways? What parts of the care process lacks an evidence base and therefore must be managed using iterative tests of care for “this” particular patient?
  – Principle: Match care process model to level of evidence available to guide care of “this type” of patient
  – See Designing Care, Bohmer
Special Considerations

• As you analyze the existing “collection of microsystems” that is “today’s” mesosystem what value production model is best able to meet the underlying patient need?
  - Principle: Match the “job that needs to be done” to the correct value production model – solution shop vs value chain vs value network
  - See The Innovator’s Prescription, Christensen, Grossman & Whang

What we might do for mesosystem improvement

Meso and Microsystems
Where Mesosystems Fit

MACRO

Follow Your “Esther”

MESO

Handoffs & Transitions

MICRO

Value Stream Mapping
Observe and measure the processes through the microsystems

Mesosystem Assessment Tools

- Use “Through The Eyes of the Patient” (mesosystem intense immersion)
  - Value Stream Mapping Tool
  - Use Cycle Time Tool (Stopwatch)
  - Map external microsystems
  - Observation
- Transitions and Handoffs (within microsystem and between/Care plans and patient timeline)
- Exchange programs (microsystems visit each other)
- Spaghetti Diagram Tool
- 5 Whys
- Clinical Value Compass
Exploring the External Context of the Clinical Microsystem
(Mesosystem of care for 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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Edgar Schein: Word of Warning

“Health care improvement often risks being too “technocratic” and losing sight of the people who provide care and services and people who receive the care and services.”

Complexity of Care Delivery

Within, Between and Across Clinical Microsystems

(Transitions and Handoffs)
Transitions & Hand Offs
(mesosystem)

Received
Location- Method- Freq/24 hours

Sent
Location- Method- Freq/24 hours

Most Frequent

Received:

Sent:

Improvement

Opportunities:

Headline:
Checklists Save Lives

Dr. Peter Pronovost got Michigan hospitals to use a short checklist in ICU’s … and saved 1500 lives in 18 months.

“If something so simple (as a stupid little checklist) can transform intensive care, what else can it do?”
Atul Gawande, New Yorker, 12/21/07
Checklist to White Board

Hardly used, change names and dates board

Transformed board to the plan of care through a visual checklist

How Leaders Can Help

• Describe the mesosystem from Esther’s perspective
• Use the voice of Esther to help create the “WILL”
• Create the conditions for microsystem members to come together to discuss, study and improve the mesosystem
  – Use patient-experience based design
  – Use lean and value stream mapping
• Define the aim and value measures
• Fully embrace patient and family knowledge
• Develop “coaching” Esthers or others
Clinical Microsystem Awareness and Development Micro-Meso-Macro Framework

Microsystems Developmental Journey: The Stages

Microsystem Level: 1. Create awareness of our clinical unit as an interdependent group of people with capacity to make change
2. Connect our routine daily work to the high purpose of benefiting patients: see ourselves as a system
3. Regionally successfully in a strategic challenge
4. Measure the performance of our system as a system
5. Successfully enable multiple improvements while taking care of patients...and continue to develop sense of ourselves as a system

Meosystem Level: 12-18 Months
- Best Practice using Value Stream PDSA -SDSA Improvement
- Multiple improvements occurring
- Actively engage more staff involvement
- Continue "new way of providing care, redesigned?"

Macro-Meso-Macro Framework

- Convene microsystems to work on linkages and hand offs within the mesosystem
- Track and Tell Stories of mesosystem improvements

Some Questions For Senior Leaders to Consider At All Levels

Macrosystem leader
1. "How does the work in the microsystem add value to the patient?" What stories illustrate that?
2. "What are the values that are part of the everyday work?"
3. "What helps people grow, develop and become better professionals here?"
4. "What helps people personally engage the never ending safeguarding and improving of patient outcomes?"
5. "What connects this whole place—this the patient care and those working directly with the patient down to the leaders of the organization?"
6. "What helps the processes of inquiry, learning and change within, between and across microsystems and mesosystems?"
7. "What helps do their own work and improve patient outcomes—year after year?"
8. "What might be possible? What are some of the current limits we face?"
9. "What are some of the most relevant external forces for this microsystem?"
10. Do you have the measurements and feedback necessary to make it easy for you to monitor and change what you do?
11. "What are you looking for the most immediate opportunities for improvement and how are those that you work with involved in the change?"
12. "Are you the opportunity and tasks that you need to make a contribution that gives meaning to your life?"
13. Does someone notice when you’ve done the job you did?"
14. "As you think about what do and your ability to change it—what gaps have been made, as you think about now in comparison with the past?"
15. "How do you actually do what you do? What changes have you been able to make? What changes are you working on now?"
16. "What changes that you’ve tried here hasn’t worked?"
17. "Do people feel compelled to regularly identify or rationalize things that happen around here?"

Mesosystem leader
1. "How do the microsystem(s) work? Who does what? What technology is part of the work?"
2. "How do we continuously improve the way work is done? What do we do?"
3. "What is the most difficult thing you encounter in working with others?"
4. "What is multi-disciplinary team working?"
5. "What is the difference between leadership and teamwork?"
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100. "What is the difference between leadership and teamwork?"
6. Discussion!

- Is mesosystem improvement the next frontier?
- What might you do to improve mesosystems?
- What forces are driving & blocking improvement of mesosystems in your health system?