Major Barriers to the Spread of Health Care Quality

• What is known about how improvements spread?
• Why does spread of improvement seem so problematic in health care organizations compared to other industries?
• What can we do to enhance the likelihood of spread of a given improvement?

Paul Plsek
Consultant in Complex Systems & Innovation
Atlanta, US
paulplsek@DirectedCreativity.com
“You cannot solve a problem using the thinking that got you there”

Albert Einstein
Some things that are likely to be true…

• The presence of persistent problems indicates the need for new thinking.
• Every system is perfectly designed to get the results it gets. If we want different results, we must change the system.
• Radical transformation is necessary if we expect radically different results.
• If we want transformation, we must learn to see clearly the system we are in and be prepared to do something uncomfortable.
The Road to the Future?

Source: Gareth Morgan
Three Kinds of Systems

• **Simple**
  – Metaphor: Baking a cake
  – Follow the simple recipe and get the results.

• **Complicated** (*machine-like*)
  – Metaphor: Send a rocket to the moon
  – Reliance on installation of technically correct solutions designed by experts.

• **Complex** (*organic*)
  – Metaphor: Raising a child
  – Appreciation of uniqueness, being adaptable, and staying tuned in to what is happening are key.

*Source:* Brenda Zimmerman, PhD
Model resulting from systematic review of literature on diffusion of innovation by Greenhalgh et. al.


Selected Characteristics of Complex Adaptive Systems

- Relationships and coordination among parts can be more important than the parts themselves.
- Behavior of the system can be largely explained by understanding “attractors.”
- Sustainable transformation requires integrated changes in structures, processes and patterns.
Mintzberg’s Six Basic Mechanisms of Coordination in Organizations

- Mutual adjustment
- Direct supervision
- Standardization of work processes
- Standardization of outputs
- Standardization of skills/professions
- Standardization of norms
  (what we collectively agree is “OK”)
Natural Coordination in Mintzberg’s Various Organizational Types

- Direct supervision
- Standardization of work processes
- Standardization of outputs
- Standardization of skills/professions
- Mutual adjustment
- Standardization of norms
  (what we collectively agree is “OK”)

Professional Organizations
Natural Coordination in Mintzberg’s Various Organizational Types

- Direct supervision
- Standardization of work processes
- Standardization of outputs

1. Standardization of skills/professions
2. Mutual adjustment
3. Standardization of norms
   (what we collectively agree is “OK”)
Selected Characteristics of Complex Adaptive Systems

- Relationships and coordination among parts can be more important than the parts themselves.
- Behavior of the system can be largely explained by understanding “attractors.”
- Sustainable transformation requires integrated changes in structures, processes and patterns.
“Attractors” in Complex Systems

• In chaos mathematics, the often surprisingly simple description that lies behind a complex or chaotic phenomenon

• Psychologists tell us that often simple-to-state “attractors” lie behind much of human behavior (e.g., identity, sense of self worth, affiliation needs, altruism)

• Simply stated: “Why people do what they do”
Selected Characteristics of Complex Adaptive Systems

• Relationships and coordination among parts can be more important than the parts themselves.
• Behavior of the system can be largely explained by understanding “attractors.”
• Sustainable transformation requires integrated changes in structures, processes and patterns.
Examples of SPP

- **Structures** include: policies, regulations, guidelines, roles, committees, physical space, equipment, resources, etc.

- **Processes** include: guidelines, procedures, protocols, etc.; any “flow” of people, information, supplies, thought, etc. that can be captured on a flow diagram

- **Patterns** include: simple rules, behaviors, relationships, how decisions are made, power, conflict, learning, etc.
Medication Administration System

**Structure**
- Pharmacy
- Nursing units
- Elevators
- Committees
- Info systems
- Individual roles
- Guidelines/policies
- Etc.

**Process**
- Ordering
- Transcribing
- Entering
- Dispensing
- Etc.

**Pattern**
- Prescribing practices
- # & types of errors
- Feelings & values
- Supportive behavior
- Blaming
- Fear
- Conflict avoidance
- Etc.
Structure, Process, Pattern in Organizational Change Efforts

- Key Point: Successful large-scale transformation requires integration and change in structures, processes, and patterns
- We often make structural changes without corresponding process and pattern changes
- We can make process changes and overlook the need for structural supports
- We often shy away from addressing underlying patterns of behavior and organizational culture; and this can undermine everything
Selected Characteristics of Complex Adaptive Systems

• Relationships and coordination among parts can be more important than the parts themselves.
• Behavior of the system can be largely explained by understanding “attractors.”
• Sustainable transformation requires integrated changes in structures, processes and patterns.
Major Barriers to the Spread of Health Care Quality

• What is known about how improvements spread?
• Why does spread of improvement seem so problematic in health care organizations compared to other industries?
• What can we do to enhance the likelihood of spread of a given improvement?
Allegheny General Hospital: Through the Looking Glass (…of a complexity lens)


• Key actions and observations about success can be described retrospectively via complex systems thinking

• Implications for proactively planning implementation and spread of improvement?
Allegheny General Hospital: Through the Looking Glass (…of a complexity lens)

- AGH actions: Real-time analysis of issues as they arise and reporting of infections in clinical terms “replete with dire consequences”

- Complexity lens:
  - **Attractors**: self-worth based on view of professional competence and helper of others; dissonance creates desire to act
  - **Coordination**: works with natural coordination by skills/professionalism and mutual adjustment
  - **Patterns**: learning with emotional content, constructive conflict
Allegheny General Hospital: Through the Looking Glass (...of a complexity lens)

• AGH actions: Standardized protocols, kits, etc. as a result of analysis and actions by teams

• Complexity lens:
  – **Coordination**: seems to be coordination of processes, but note that this was achieved via coordination by skills/professionalism and mutual adjustment
  – **Patterns**: new patterns of learning, decision-making, and conflict *internal* to the teams; not externally imposed
Allegheny General Hospital: Through the Looking Glass (...of a complexity lens)

- Commentary: “AGH had to contend with issues of status and hierarchy…” (p485)
- Complexity lens:
  - Patterns of power can get in the way; especially when supported by patterns of conflict avoidance and strong attractors around professional identity
  - Via real-time analysis of issues, AGH surfaced conflict rather than allowing it to be avoided.  
    (Apparently, this was done in a way that was consistent with self-image attractors; i.e., persons involved were allowed to maintain their self-image through the process)
Allegheny General Hospital: Through the Looking Glass (...of a complexity lens)

• Commentary: “...the continuous struggle between standardizing practice and the fierce adherence to physician autonomy that constitutes a significant barrier to patient safety efforts in organized medicine...” (p485)

• Complexity lens:
  – Allow standardization to emerge from natural coordination by professionalism and mutual adjustment
  – Problem if imposed by direct supervision or direct attempts at standardization (as these are unnatural coordination mechanisms in Professional Organizations)
  – Must create new structures, processes and patterns to support this
Implications for Spreading Improvement

• **Temptation:** We developed transformation via attention (albeit, intuitive) to coordination by professionalism, patterns, attractors, etc.; now let’s seek to spread them by direct supervision, coordination of processes, imposed patterns, and me telling you why you should do this

• **Moral of the story:** No short-cut, complex systems have to evolve and work through their own issues (cf. raising children)

• **Advice:** Seek to spread *first* the process of seeing the system and doing something uncomfortable and unfamiliar; perhaps using the specific changes as cases

• **Prediction:** Seeking to forcibly spread specific changes is unlikely to result in transformation
Complexity-Informed Spread: Considerations

- Attend to evidence on spread (see Greenhalgh et. al.)
- Identify involved stakeholders (those who must make it happen, actively support it happening, or let it happen)
- What are their natural attractor patterns? How can we either appeal to, create dissonance around, or challenge these?
- How can we work with coordination by professionalism, mutual adjustment, and norms to create conditions for change? What structures, processes and patterns can we create to support this?
- What structures, processes, and patterns work against us and what can we do about that?
- What are our natural patterns of learning when knowledge comes to us from outside? How can we either work with these or constructively challenge them?
The Road to the Future?

Source: Gareth Morgan
Selected Characteristics of Complex Adaptive Systems

• Relationships and coordination among parts can be more important than the parts themselves.
• Behavior of the system can be largely explained by understanding “attractors.”
• Sustainable transformation requires integrated changes in structures, processes and patterns.
References…

• Fraser SW and Plsek PE. Translating evidence into practice: An externally driven change or a personal transition? Education in Primary Care. 2003;14:129-38.
SPP Compared to Donabedian

• The two approaches are highly complementary
• Both highlight structures and processes
  – Classic Donabedian QA focuses mainly on clinical structures and processes
  – Our approach considers structures and processes more generally
• Both highlight patterns…
  – But classic Donabedian QA looks mainly at one type of pattern – measurable outcomes
  – Donabedian saw outcomes mainly as the “effect” that resulted from structures and processes
  – Our approach includes patterns of outcome, but focuses mainly on behavioral patterns in human systems
  – We see structures, processes and patterns as a complex web of mutual cause and effect