Chaos and Organization in Healthcare

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Conclusions

- An important root cause of our challenges in healthcare is tremendous progress imposed on a fragmented delivery system
- Result is chaos – leading to inefficiency and disappointing reliability and safety
- Regardless of how healthcare is financed, important strategy is for healthcare providers to become organized and adopt systems that improve quality and efficiency -- over episodes of care that matter to patients
- Organization as a goal poses cultural challenges for medicine’s leadership

The Good News in Massachusetts …

MA now has lowest uninsured rate in U.S. (2.6%) … But MA didn’t make healthcare a right; we made it a responsibility. And that has unmasked a major problem…
Health Care Affordability Is Now a Middle Class Problem

Cumulative increase 2000-2007

Why We May Be Hitting Generosity’s Brick Wall

Willingness of Healthier and Wealthier to Subsidize Care for Sicker and Poorer is Weakening

Harris Survey question: Do you agree or disagree? The higher someone’s income is, the more he or she should expect to pay in taxes to cover the cost of people who are less well off and are heavy users of medical services.

Implication: We shouldn’t expect help from taxpayers.
The Good News: Tremendous Progress

HIV Treatment has Dramatically Reduced HIV-related Deaths

Data from CDC, HOPS Study.

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Even Greater Advances Are Coming

Example of the Response to Gefitinib in a Patient with Refractory Non-Small-Cell Lung Cancer

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The Bad News: Progress Raises Costs – and Generates Chaos

- Flood of progress and knowledge imposed on fragmented delivery system leads to:
  - Individual clinicians feel less knowledgeable
  - Super-specialization, which means:
    - More MDs involved in care
    - Physicians knowing “more and more about less and less until they know everything about nothing” or
    - “less and less about more and more until they know nothing about everything”
    - Physicians approaching patient with question of “Is this what I do?”
- Too many people, too much to do, no one with all the responsibility or all the information
No Bad Guys to Blame for Our Issues

- Why are healthcare costs rising?
  - Surprisingly small contributions from:
    - Profits of drug/device companies
    - Administrative costs
    - Malpractice
    - Aging of the population
    - Life-style choices
    - Personnel
- The dominant factor – progress (60-70%) is main driver of rising costs
- Safety and reliability issues are attributable to turbulence in the wake of progress as well.

Some Data on Fragmentation of Care

- What is median number of MDs seen by Medicare patients in year 2000?
  - 7 (NEJM 2007;356:1130)
- What percentage of MDs were using electronic medical records in 2007?
  - 4% (fully functional) and 13% (basic) (NEJM 2008; 358:60)
- How often are discharge summaries available at time of first post-discharge visit?
  - 12-34% (JAMA. 2007;297:831)

Reason for Optimism...
John Nash’s Nobel Prize Work

- Nobel Prize for Economics in 1994 for describing an equilibrium concept for “non-cooperative games” in which binding agreements cannot be written.
- Nash Equilibrium -- Multiple parties frozen in current relationships because no party can change its strategies while the other parties keep their strategies unchanged.
- Nash Equilibriums break down when pain of status quo for multiple parties exceeds fear of unknown.

An Optimistic Long-term Perspective
Provider Organization: An Idea Whose Time Has Come

- Government regulators have traditionally felt that provider competition was more likely to serve public’s interests than provider collaboration
- Growing recognition that fragmented providers can only take responsibility for what is under their control – so fee-for-service payment must be main payment method
- Alternative payment models require alternative provider structures and capabilities
  - Pay-for-performance increasingly common
  - Coming next: bundled payments

Evolving Reimbursement and Care Models

Evolution of Supporting Systems

- *Team-Based Care*
- *Disease Management*
- EMR
- Registries

PAYMENT METHODOLOGY

- Fee-for-Service
- Case Rates
- P4P (‘Lite’)
- P4P (Robust)
- Full Capitation
- Sub-Capitation

STAGE OF EVOLUTION

- Solo MD Practices
- Group Practices
- Multi-Specialty Group Practices
- Integrated Delivery System
- Clinic Model

Partners High Performance Medicine: Team Visions

1. Information Systems -- Complete and effective electronic record adoption with decision support
2. Safety -- Integrated system for medication ordering and delivery
3. Reliable population-based care (e.g., JCAHO and HEDIS measures)
4. Disease management – intense individualized care coordination highest risk patients.
5. Trend management – focusing on medications and radiology
Disease Management Averts a CHF Admission

The Real Agenda: Two Revolutions

- **Industrial Revolution** – in which clinicians adopt systems that reduce errors of over-use, under-use, and mis-use.

- **Cultural revolution**
  - Teamwork instead of MD as the lone cowboy
  - Focus on care of populations over time
    - Chronic diseases like diabetes, heart failure
    - Complex, high risk patients with multi-system disease

PCHI Community PCP EMR Adoption Trend
Prospect Theory Explains Why Relatively Small Incentives Can Produce Major Change

![Graph showing perceived gains and losses](image)

Prospect Theory, Kahneman and Tversky, *Econometria* 1979

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Medicine’s Cultural Revolution

- New types of responsibilities
  - Responsibility for non-visit care of patient
  - Responsibility for population of patients
- Evolving concepts of professionalism
  - Not just highest possible individual standards of excellence
  - Ability and willingness to work with teams that can assume new responsibilities. Examples:
    - Use of EMR
    - Computerized prescribing
    - Medication reconciliation at discharge
    - “Opt out” approach to team care
    - Exploration of variation in practice patterns

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Variation: A Challenge and Opportunity

- Issues for which there is a clear right and wrong (e.g., ASA for AMI) constitute minority of medical decisions.
- Most decisions are “gray zone” issues for which there is no clear “right” thing to do.
- But … if there is a bell-shaped distribution of what rational professionals (e.g., your colleagues) are doing in that gray zone, wouldn’t you want to know if you are at one end or the other?
Variation Among Individual MDs Is Huge…

Number of ED CT Head Exams Per 1000 PT Visits Per Year

8 fold variation in rate of use among ED Attendings. Physician 1 uses 40% more Head CTs than next highest practitioner.

Variation in physician risk thresholds drive individual propensity to act regardless of patient risk

Physician Risk Attitude Scores vs Hospital Admission Rates for Acute Chest Pain Patients Evaluated in ED

All patients Low-risk Medium-risk High-risk

Patient categories

<table>
<thead>
<tr>
<th>Physician Risk Attitude Scores</th>
<th>Admission Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-avoiding physicians</td>
<td>(p &lt; 0.001)</td>
</tr>
<tr>
<td>Middle-scoring physicians</td>
<td>(p &lt; 0.03)</td>
</tr>
<tr>
<td>Risk-seeking physicians</td>
<td>(p &lt; 0.04)</td>
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</tbody>
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Data on Variation Are Reaching Individual MDs

PCHI Practice Variation Report

High Cost Radiology ROC Ordering
October 01 2006 thru September 30 2007 (normalized for 1000 PT Panel) by Modality
MGH Is Comparing Radiologists on Rate of Recommendations of Additional Tests

[Graph showing comparison of radiologists on rate of recommendations]

Figure 1: Comparison of the rates of recommendations among 18 musculoskeletal (MRIs) and 17 neuroradiologists (mri). Mean recommend follow-up studies 17.5 percent of the time. MSK recommend follow-ups in 12.5 percent of spine MRIs. To learn more, see the cover story.


[Bar chart showing comparisons among physicians]

Can We Address Right Side of Curve?

Rogers EM. Diffusion of Innovations, 1983

[Diagram showing diffusion of innovations]

"Deliberate" Responders to Evidence
"Skeptical" Responds to Peer Pressure
"Susceptible" Responds to Change
"Traditional" Responds to Authorities

Early Adopters (14%)
Early Majority (24%)
Late Majority (24%)
Laggards (16%)
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