ACA: What are the REAL Implications and Answers

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The Accountable Care Act

- Total number of words
  - in the ACA
    - 363,086
  - In Harry Potter and the Order of the Phoenix
    - 257,000
  - In Harry Potter and the Goblet of Fire
    - 190,000
  - In Harry Potter and the Deathly Hollows
    - 198,000
...the result of such programs in other countries had been over utilization of facilities and rising costs, and that as emphasis shifted from quality to cost, as it must under a publicly financed program, a deterioration in the quality of care is inescapable.

Dr. Donovan Ward, President, AMA (1965)
A Real Vote to Defund Obamacare

Need more proof Obamacare is a bad idea?
FACT: President Obama has already signed 14 laws that amend, rescind or otherwise change parts of his health care law, and he’s taken five independent steps to delay Obamacare on his own.

Defund it.

One of the disturbing facts about Washington is that Congress can vote on something and that vote won’t mean a thing.
 Intelligence consists in ignoring things that are irrelevant.

Nassim Taleb (“The Black Swan,” Antifragile”)
Our Societal Imperative

Health-Care Spending as Percent of GDP

Source: OECD
We need to leverage biomedical science advances for better treatments, and more cures

We will be unable to apply new knowledge without more financial resources (wrought from decreasing delivery costs)... these advances are simply not free

A Kuhnian Crisis?

- *The Structure of Scientific Revolutions* (1962)
- “Normal Science” is based on current paradigms
- When “Normal Science” tenets are found to be false, a “crisis” occurs, setting the stage for “Extraordinary Science”
- “Extraordinary Science” leads to new understanding, previously perhaps impossible – and leads to a “Paradigm Shift”
The Solow Growth Model

*The Solow Growth Model (Residual)*

\[ Y = K^n (AL)^{1-n} \]

- Y = Productivity
- K = Capital
- A = Technology (INNOVATION)
- L = Labor

*Between 1909 – 1949, less than 25% of economic growth was related to changes in capital or labor, and more than 50% based on technological innovation.*

...repeat analysis from 1949-1989 yielded similar results

*It is possible (likely) that this relationship is even stronger now...*

Which will be more beneficial at the present moment in health care – product or process innovation?

Which is more difficult to achieve?
“Manufacturing” Process / Product Schema

Raw Materials  Tools  

PROCESS  →  PRODUCT

Labor

“Health Care” Process / Product Supposed Schema

Raw Materials  Tools  

PROCESS  →  PRODUCT

“People”

Labor

“Health”
“Health Care” Process / Product
Actual Schema

```
Raw Materials
“Illness”

Tools
“Recovery from Illness”

PROCESS

Labor

PRODUCT

“Revenue”

How we deliver care, and the promotion of health is, in fact, our product

“Health Care” Process / Product
Supposed Schema

```

Raw Materials
“People”

Tools

PROCESS

Labor

PRODUCT

HEALTH

“People”

How we deliver care, and the promotion of health is, in fact, our product
What Type of Innovation Is Needed?

Process Innovation and Health Generation ≥ Product (Tool) Innovation and Revenue Generation

Can you tell me which you think is harder to innovate for the health care enterprise - “products” (drugs, devices, diagnostics, common procedures, etc.) or “processes” (delivery methodologies and structures, org charts, use of products, etc.)?

Chairman of Department of Medicine

Process, statistics have shown that takes a long time to implement evidence based measures, because human behavior is difficult to change and because there are many structural issues that delay or act as road blocks for the implementation of new measures.

Chairman of Department of Family Practice

Process – because it requires more personal changing of habits which is the hardest thing for most people to do, also it is more difficult to prove a clear advantage over process that is to be replaced.
perhaps instructive…

...that most leaders in health care would tell you that a process is more difficult to change than product – such as a pharmaceutical

... When it can take up to a billion dollars and ten years to get a new pharmaceutical to market

Value = Quality / Cost

- Quality (Outcomes)
  - Evidence-based care
  - Chronic Disease Mgmt
    - Outside of the acute care interaction
  - Medication compliance, reconciliation
  - Population behavioral change

- Cost
  - Eliminating unnecessary interventions
  - Eliminating “market share” innovation
  - Regionalizing care based on need
  - Self-care, non-traditional provider care
The “Typology of Medical Technology Productivity”

“Home Run” therapies with good cost: effectiveness ratio

Clear positive gains for a subset of people but with considerable heterogeneity

Technology with poor cost-effectiveness for the overwhelming majority

The “Typology of Medical Technology Productivity”

“...the US is a leader in the diffusion of expensive new Category III technologies with unproven benefits. One example is “robotic” surgery tools, which require an up-front investment of $1 million to $2.5 million per unit. By 2009, the leading manufacturer of such devices had sold 1400 units in the United States, compared to just 400 in the rest of the world, increasing costs by as much as $2.5 billion.

Similarly, proton-beam therapy for prostate cancer require facilities costing up to $100 million and has experienced rapid growth in the U.S., but without a consensus on its benefits relative to conventional radiation therapy”


The “Double Edged Sword” of Medical Product (Tool) Innovation in the US

“Thus U.S. health care spending as a percentage of GDP has risen rapidly compared to other countries because the reimbursement system encourages the widespread diffusion of both old and new technology... this means that the U.S. can be the first to enjoy the benefits of as-yet unproven technology. The downside is the widespread use of treatments with unproven value, and the scarcity of cost-saving (and “health” promoting) innovations.”


**Product (Tool) Development Value Proposition**

- When most vendors try to sell a new product (tool) to a provider, they talk about “value”

- The *true* value proposition of health care delivery is “health”

- What “value” means in the “actual schema” context; however, is lowering the provider’s costs as he/she treats an illness, to improve profit - not to improve health, or lower costs by improving health

**The Drivers of Process vs. Product Innovation**

- Price pressure (competition) is the most potent driver of either process or product innovation, rather than market quantity demand

- Less price competition weakens innovation in either processes or products

Product and Process Innovation “In Series”

Common Sequence

- **Product Innovation** → **New Customers** → **$$\$$** → **Competition**
- **Process Innovation** → **More Efficient Production** → **$$\$$**

Abernathy and Utterback (1975, 1982)

Non-Competitive Price Pressure

- Although patients are not migrating – there is indeed “price pressure” on health care
- Reimbursement is declining from payers (esp the government / Medicare)
  - the end game is equivalent to competitors lowering prices and taking customers away
- HOWEVER... current “process” innovation is “doing more of the same, faster, and for less” – incremental innovation at best
Price Competition - Insensitivity

• MORAL HAZARD
  – A third party pays for services (insurers), and neither the producer (providers) nor the consumer (patients) gravitate to lower cost alternatives
  – No significant pressure to prevent disease (providers), less pressure to find lower cost care (patients)

• PRINCIPAL AGENT
  – Due to asymmetric information, and lack of constraints (above), providers make decisions in their own best financial interests, or at least do not take adequate care for societal or individual patient financial ramifications of decisions

“How The Mighty Fall”
Jim Collins

“If we could just…”
...control costs!
...provide more access!
...be more efficient!
...improve throughput!

“Running Faster On The Treadmill”
Health Care Process Innovation
Impediments

• Payment
  – what you can be / will be paid to do, or reimbursement

• Risk
  – “health” and “lives” inappropriately complicate decision-making

• “Success” with current process
  – And “sunk costs” for that success

• Employee disenfranchisement
  – Movement from sophisticated human labor intensive to less sophisticated and mechanized labor accelerating in health care
  – “Health” eliminates some jobs
  – “Automation” will increase

Payment Models: The Current “Market”

• Most of reimbursement is based on interventions and episodes (“FEE FOR SERVICE”), and payments are made by a third party risk and money (premiums) manager (“INSURANCE”)

• We are paid; therefore, in health care for DOING THINGS, not preventing the need to do them...

• A market that rewards “doing things” may differentially reward the development of “tools” that “do things” in the product / process schema in health care delivery
Payment System Aligns with Behavior

Payment Models: The Current “Market” Aligns for What We Get...

- Investing in processes that make patients “healthier” decreases your revenue, and profit margin
- If you cut health care costs, you simply allow the risk manager to keep more revenue
- Provider owned risk management enterprises better align incentives, but are relatively uncommon
- Experiments with new models are ongoing
  - “Shared Savings”
  - “Capitation”
Success / Sunk Costs

<table>
<thead>
<tr>
<th>Health Care Industry Statistics</th>
<th>Annual Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Industry Annual Revenue Total</td>
<td>$1.668 Trillion</td>
</tr>
<tr>
<td>Number of health care companies in the US</td>
<td>794,826</td>
</tr>
<tr>
<td>Number of health care company employees in the US</td>
<td>18,792,074</td>
</tr>
</tbody>
</table>

“From a relatively weak, traditional profession of minor economic significance, medicine has become a sprawling system of hospitals, clinics, health plans, insurance companies, and myriad other organizations employing a vast labor force. The transformation has not been propelled solely by the advance of science and the satisfaction of human needs.”


Dischenfranchisement

Iron Deficiency Anemia 50%
Heavy Metal Poisoning 20%
B12 Anemia 4%
Loss of Skilled Labor Jobs

Manufacturing (1970-present)
- Automation
- Offshoring
- Product obsolescence

Health Care (2000-2030)
- Automation
- Offshoring / “Downmigration”
- Product obsolescence

Process Innovation will accelerate these eventualities

Risk

- In many manufacturing businesses, if you guess wrong, you lose market share / money
- In health care, the cultural perception is that if you guess wrong, you lose lives

The science of piloting and prototyping health care delivery processes lags behind manufacturing and other industries, despite the fact that new TOOLS (treatments and some devices) are very effectively evaluated via clinical trials and FDA requirements in health care
Yale School of Management Case Study: Mayo Clinic Center for Innovation (CFI)

“Physicians were deeply guided by tradition, and because the bore the responsibility for the patient’s life and well-being, they were as a group risk-averse. Physicians were scientists who needed to see data and proof before trying something new. This conservative culture affected doctors’ willingness to try not only new drugs and treatments but also new administrative procedures and educational methods”

Yale School of Management (2009)

Conclusions

• Most innovation in health care has been focused on the TOOLS (a form of product innovation) to deliver the products of DISEASE TREATMENT and REVENUE GENERATION
Conclusions

- Difficult impediments exist that make process innovation in health care delivery, directed at actual “health promotion”, very difficult.

- We must evolve intelligently to a new delivery system regardless the unpredictable impact and viability of government actions such as the Accountable Care Act.

The Modern Evolution of American Medicine

- You are here!
- Avoid needing to see a provider
- Avoid development of disease
- Avoid the “Doctor’s Office”
- LEVERAGING: More INFORMATION and DATA
- AMBULATORY ‘MD’ CARE
- AMBULATORY “NON-MD” CARE
- DIGITAL, REMOTE AND SELF CARE
- BEHAVIOR MODIFICATION

Population Health

Individual Health

Triage