The Learning Healthcare System

Building Effective, Affordable Care

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1. Change accelerates: Health reform = "bending the cost curve"

2. Quality becomes the core business
   • Process management with cost control

3. Building a Learning Health Care System
Two main coping strategies

1. **Continued focus on top line revenue**
   - "Ride this (fee-for-service) horse 'til it drops"
   - Build market power - consolidate to negotiate with purchasers
   - Compete vigorously for fee-for-service cases (medical tourism)
   - Develop new top-end fee-for-service products
   - Seek special legislative protections ("rent seeking")

2. **Shift focus to bottom line costs: eliminate waste**
   - "All needed care, but only needed care; delivered at the lowest necessary cost"
Two main coping strategies

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Bottom line strategy: eliminate waste

50+% of all resource expenditures in hospitals is quality-associated *waste*:

- Recovering from preventable foul-ups
- Building unusable products
- Providing unnecessary treatments
- Simple inefficiency

*Andersen, 1991; James et al., 2006*
Managing clinical processes

Dr. Alan Morris, LDS Hospital, 1991:

- NIH-funded randomized controlled trial (ARDS)
- Discovered large variations in ventilator settings
- Created a protocol
- Implemented the protocol using Lean principles
1. Identify a high-priority clinical process
   • Key process analysis
2. Build an evidence-based best practice protocol
   • Always imperfect: poor evidence, unreliable consensus
3. **Blend it into clinical workflow**
   - Clinical decision support
   - Don't rely on human memory
   - Make "best care" the lowest energy state

4. **Embed data systems to track:**
   - Protocol variations, and
   - Short and long term patient results (intermediate and final clinical, cost, and satisfaction outcomes)
5. Demand that clinicians vary based on patient need

6. Feed those data variations and outcomes back in a Lean Learning Loop
   - Constantly update and improve the protocol
   - Provide true transparency to front-line clinicians
   - Generate formal knowledge (peer-reviewed publications)
• ARDS survival improved from 9.5% to 44% (for ECMO entry criteria patients)
• Costs fell by 25% (from $160k to $120k)
• Physician time fell by 50% (a major increase in physician productivity, and arguably the only way we can protect physician income in the future)
Lesson 1

We count our successes in lives
Better care is often cheaper care.
Process management is the key

- Higher quality drives lower costs
- Aligned financials: under fee-for-value payment, savings drop to care groups' bottom lines
- More than half of all cost savings will take the form of unused capacity
- Balanced by increasing demand
The past:

1. "Top-line" revenue enhancement
   - Systems designed around documentation to support FFS payment, clinical decision support as a secondary "bolt-on"

2. Quality defined as regulatory compliance:
   - CMS Core Measures
   - Pay for Value
   - Meaningful Use
A fundamental shift in focus

The future:

1. Quality becomes the core business in fee-for-value environment
   - Demonstrated performance for key clinical processes
   - Systems designed around clinical decision support, producing documentation as an integrated by-product process management

2. "Bottom-line" cost control and waste elimination in a "provider at risk" financial environment
• Limit annual Intermountain rate increases to: CPI+1%

• Initiated and led by Intermountain senior management
• Purpose: Reduce burden of health care costs on community
• Requires: > $400 million decrease in annual cost of operations
• Target date: December 31, 2016
Enterprise Data Warehouse

- Currently tracks 58 clinical processes representing about 80% of all care delivered within Intermountain
- Follows every patient longitudinally over time condition-specific clinical, cost, and service process and outcomes
- About 2 petabytes (million gigabytes) of storage
- Primary use: routine clinical management
The Learning Healthcare System

1. Build a system to manage care
2. Justify the required major financial investment on the basis of care delivery performance
   • The best clinical result at the lowest necessary cost
3. Use the resulting clinical management data system to “learn from every patient”
Better has no limit...

An old Yiddish proverb