Understanding Clinical Practice Variation

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Chief Clinical Transformation Officer
Baton Rouge General Medical Center
Business 101 → Creating Value

How to create value for customers?

Value-based competition
Value

\[ V = \frac{Q + S}{\$} \]

(Value) (Quality) (Service) (Cost)
What’s Value in Healthcare?

- Quality of outcomes that matter to patients
- Cost of delivering those outcomes
Crossing the Quality Chasm

3 Conclusions of IOM Report:

1. Current care systems cannot do the job
2. Trying harder will not work
3. Changing *systems* of care will
What is Healthcare Delivery Science?

- The science of promoting improved *allocative* and *productive efficiency* in healthcare delivery where:
  - *Allocative efficiency* is ensuring that effective treatments go to well-informed patients who value those treatments
  - *Productive efficiency* is ensuring that every healthcare dollar yields the maximum possible value
- Primary goal → To assure that everyone everywhere gets the care they need and no less, and the care they want and no more

Reinventing the Healthcare Delivery Model
What’s the Issue?

Why value in healthcare?
Why health care reform?
Why MACRA? Why Payment Reform?
Why clinical transformation?
Why delivery model redesign?
Why Change?
Growth in Per Capita Spending

Health Care Spending Per Capita ($US PPP)

OECD Average in 2011 = $3,302

Source: OECD Health Data 2013.
Data note: PPP = purchasing power parity.
Produced by Veronique de Rugy, Mercatus Center at George Mason University.
### Why Change Is Needed...


<table>
<thead>
<tr>
<th>Country</th>
<th>Overall Rank (2013)</th>
<th>Quality Care</th>
<th>Effective Care</th>
<th>Safe Care</th>
<th>Coordinated Care</th>
<th>Patient-Centered Care</th>
<th>Access</th>
<th>Cost-Related Problem</th>
<th>Timeliness of Care</th>
<th>Efficiency</th>
<th>Equity</th>
<th>Healthy Lives</th>
<th>Healthy Expenditures/ capita, 2011***</th>
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Notes: * Includes ties. ** Expenditures shown in $US PPP (purchasing power parity); Australian $ data are from 2010.

In Healthcare, Geography is Destiny

Extensive and inexplicable *variation* in the way health care was delivered from one community to another in the state of Vermont

- Tonsillectomies
- Hysterectomies
- Cholecystectomies
- Rates of hospitalization for disease
Vermont findings confirmed throughout the country

*Unwarranted variation* cannot be explained on the basis of burden of illness, medical evidence, or patient preference

By understanding practice variation we learn that controlling costs will **NOT** require rationing—if by “rationing” we mean withholding of care that patients want, and that is effective in improving outcomes

More Care is NOT necessarily better
Variation in Healthcare spending

Variation in Utilization

Ten Highest Spending Medicare HRR's after Adjustment

1. Miami, FL
2. McAllen, TX
3. Monroe, LA
4. Houston, TX
5. Alexandria, LA
6. Lafeyette, LA
7. Shreveport, LA
8. Baton Rouge, LA
9. Fort Lauderdale, FL
10. Metairie, LA
The Cost Conundrum

Variations in spending
Case studies – some hints?

“Here … a medical community came to treat patients the way subprime mortgage lenders treated home buyers: as profit centers.”

Atul Gawande

<table>
<thead>
<tr>
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<th>2006 Spending</th>
<th>92-06 Growth</th>
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<tbody>
<tr>
<td>McAllen</td>
<td>$14,946</td>
<td>8.3%</td>
</tr>
<tr>
<td>LaCrosse</td>
<td>$5,812</td>
<td>3.9%</td>
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“…a culture that focuses on the wellbeing of the community, not just the financial health of our system.”

Jeff Thompson, MD
CEO Gunderson-Lutheran
LaCrosse, WI
Accountable Care Organizations
(or Coordinated Care Organizations)

An Accountable Care Organization (ACO) is a group of providers willing and capable of accepting accountability for the total cost and quality of care for a defined population.

Core Components:
- People Centered Foundation
- Health Home
- High-Value Network
- Population Health Data Mgmt
- ACO Leadership
- Payer Partnerships

Payer Partners
- Insurers
- Employers
- States
- CMS
RIO Grande Valley ACO
Designing the System to Optimize Health Outcomes

How did they do it?

- **Found the right partner**
  - Collaborated with Aledade to form a Management System Organization

- **Went “All In”**
  - Choose the more aggressive “Track 2” of the Medicare Shared Savings Program to place added pressure on themselves.

- **Invested in IT (40% of costs)**
  - Identifies metrics from EMRs and migrates to a cloud for real-time performance views

- **Engaged in Practice Transformation**
  - Solicited patient feedback, transformed waiting rooms, allowed for same day appointments, and expanded hours

How did it pay off?

- **Shared Savings**
  - $20 million below Medicare Baseline *Improved Health outcomes*
  - Performed in the top 5th percentile on all measures (see below)

<table>
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<tr>
<th>Domain: At Risk Population</th>
<th>RGV ACO</th>
<th>90th Percentile</th>
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</thead>
<tbody>
<tr>
<td>Subdomain: Diabetes</td>
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<tr>
<td>Performance Rate</td>
<td></td>
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</tr>
<tr>
<td>Beneficiaries with diabetes who met all measures</td>
<td>48.34%</td>
<td>38.05%</td>
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<tr>
<td>Hemoglobin Alc Control(HbA1c) (&lt; 8 percent)</td>
<td>74.96%</td>
<td>80.63%</td>
</tr>
<tr>
<td>Low Density Lipoprotein(LDL) (&lt; 100 mg/dL)</td>
<td>76.71%</td>
<td>67.04%</td>
</tr>
<tr>
<td>Blood Pressure(BP) &lt; 140/90 (ACO-24)</td>
<td>82.14%</td>
<td>79.20%</td>
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<tr>
<td>Tobacco Non-Use(ACO-25)</td>
<td>93.52%</td>
<td>87.17%</td>
</tr>
<tr>
<td>Aspirin Use(ACO-26)</td>
<td>97.64%</td>
<td>93.10%</td>
</tr>
</tbody>
</table>
The Price Conundrum

Payment data from 3 of the country’s largest commercial insurers, Aetna, Humana, and United Healthcare

- Costs of care vary tremendously, but no correlation between where a city ranks in Medicare spending and private insurance spending
- The degree of market power and negotiating leverage over payers is primary determinant of transaction prices
- Baton Rouge is one of the few regions in the country that ranks high in both Medicare and private insurance spending

Cooper et al., The Price Ain’t Right? Hospital Prices and Health Care Spending on the Privately Insured, December 2015
Why so much variation?

What’s the problem?
What’s wrong with variation?
Isn’t variation inevitable?
Can we reduce unwarranted variation?
3 Problems with Healthcare Delivery

1. **We don’t know what to do** → uncertainty about what to do in any given clinical situation

2. **We don’t do what we know** → health care delivery is either over- or under-supplied, contrary to the recommendations of medical science

3. **We know what to do and we do what we know, but we do it wrong** → failure of execution
We don’t know what to do…
We don’t do what we know...

We know what to do and we do it, but we do it wrong…

We're not even counting this - medical error is not recorded on US death certificates

Based on our estimate, medical error is the 3rd most common cause of death in the US

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Data source: http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

Fig 1 Most common causes of death in the United States, 2013²

Deviation from processes of care that result in patient harm

Reference:
2016, May 3rd.

*Medical Error—the third leading cause of death in the US*

Martin Makary, professor, Michael Daniel, research fellow; Department of Surgery, John Hopkins
3 Categories of Care

1. Effective Care
2. Preference-sensitive Care
3. Supply-sensitive Care
Effective Care

- Accounts ~ 15% of total Medicare spending
- Care that **all** eligible patients should receive
- Defined by medical science and evidence-based guidelines
- Biggest problem is *underuse*
Preference-sensitive Care

- Accounts for ~25% of total Medicare spending
- More than one treatment option exists and decision as to which one is right for the individual patient depends on patient preference
- Informed patients often prefer a form of treatment other than the one their physicians actually prescribe

<table>
<thead>
<tr>
<th>Clinician’s expertise</th>
<th>Patient’s expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>Experience of illness</td>
</tr>
<tr>
<td>Disease etiology</td>
<td>Social circumstances</td>
</tr>
<tr>
<td>Prognosis</td>
<td>Attitude to risk</td>
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<tr>
<td>Treatment options</td>
<td>Values</td>
</tr>
<tr>
<td>Outcome probabilities</td>
<td>Preferences</td>
</tr>
</tbody>
</table>
Shared Decision-Making

Types of decision-making

- Paternalistic: Opinion
  - Doctor to Patient

- Informative: Information
  - Doctor to Patient

- Shared: Information and opinion
  - Doctor to Patient
  - Patient to Doctor

Benefits of Shared Decision-Making:

- Increased patient satisfaction
- Better adherence to treatment plans
- Greater treatment engagement
- Better quality decision making
Supply-sensitive Care

- Accounts for ~ 60% of total Medicare spending
- Supply resources influence utilization rates
- Not determined by well-articulated medical theory or scientific evidence

Due to differences in local capacity, and a payment system that ensures that existing capacity remains fully deployed

Figure 1. Association between hospital beds per 1,000 (1996) and discharges per 1,000 (1995-96) among Medicare enrollees in 306 hospital referral regions
Reducing Unwarranted Clinical Variation
System: a set of connected things or parts forming a complex whole, in particular or a set of things working together as parts of a mechanism or an interconnected scheme or method
Operating Systems of Care

Delivery and Learning
How can we Improve what we don’t Measure?

*The Value of an Electronic Medical Record and Analytical Tools*

Data → Analyze Data → Generate Insights → Create Opportunity for Improvement

Data-Driven

Analytics

Decision-Making
Intermountain Healthcare

- Non-profit healthcare system
  - Located in Utah and southeastern Idaho
  - Comprised of 20 hospitals & 25,000 employees
- Recognized as an international leader in healthcare quality improvement
- Outcomes among the best in the nation
- Provides healthcare at a fraction of the cost of most other healthcare organizations
Understanding Processes

The Process

Process: A series of steps or actions taken in order to achieve a particular end
Performance Improvement

- Time
- Quality
- Cost

Lean Waste Removal

Performance Improvement

Six Sigma Variation Reduction
Evolution of Knowledge - The Knowledge Funnel

As the state of knowledge advances over time it can ultimately be converted into a codified algorithm.

1. Mystery
2. Heuristic
3. Algorithm
The Art & Science of Cooking -
Two Approaches

Application of Skill & Knowledge

- Highly trained chef
- Customized
- Tacit knowledge
- Iterative Process

Following a Recipe

- Requires less skill and training
- Programmatic
- Explicit Knowledge
- Sequential Process
Good Cooking vs. Bad Cooking

What creates quality?

Depends on a tasteful finished product

What creates a tasteful finished product?

Sequential Care Process depends on consistent application and rigid adherence to a recipe

Iterative Care Process depends on the skill and knowledge of the chef
The Art & Science of Medicine -
Two Approaches

Application of Skill & Knowledge
- Highly trained clinician
- Customized
- Tacit knowledge
- Iterative Process

Following a Recipe or “Protocol”
- Requires less skill and training
- Programmatic
- Explicit Knowledge
- Sequential Process
Good Medicine vs. Bad Medicine

What creates quality?
- Depends on successful outcomes
  - Iterative Care Process depends on the skill and knowledge of the provider
  - Sequential Care Process depends on consistent application and rigid adherence to protocol

Which care process is utilized depends on the state of evolution of knowledge for a medical condition.
Duke Congestive Heart Failure Model

1st “Production” Line

- Standardized clinical care process
- Managed by Nurse Practitioners
- Consistent training on SOP and protocol

Sequential Care Process

2nd “Production” Line

- Customized clinical care process
- Managed by Cardiologists
- Advanced, Specialized training in CHF

Iterative Care Process

Duke Congestive Heart Failure Model

Duke Congestive Heart Failure Model
80% of Patients at Goal Blood Pressure

Processes to Achieve Goal

- Direct care staff trained in accurate BP measurement
- Hypertension Guideline used and adherence monitored
- BP addressed for every hypertension patient, at every PCP visit
- All patients not at goal and with new Rx seen within 30 days
- Use of prevention, engagement, & self-management programs

- Registry used to identify and track hypertension patients
- All team members trained on importance of BP goals
- All specialties intervene with patients not in control
**SOP for BP Measurement**

- Includes prescreening questions about smoking or caffeine intake within 30 minutes
- Emphasizes need for patient to remain seated for 5 minutes
- Reviews guidelines for appropriate selection, placement, and operation of blood pressure cuff
- Provides screen shots of EMR for proper documentation
Creation of Evidence-Based Protocol

- Includes key steps in measurement, goals, ancillary testing, lifestyle modifications, and patient engagement strategies
- Flows pathway for medication prescription and follow up visits based on how far BP is out of control
- Identifies additional tests for treatment resistant hypertension
- Lists drug names, dosages, and notes by medication category for both mono therapy and combination therapy
HealthPartners Care Model Process for Diabetes

- Improved Access
- Increased Coordination
- Standardization then Customization
- Data & Analytics
- Cultural Change
- Transparency
- Improved Workflows and Processes
- Collaboration & Teamwork

**Diabetes Optimal Measure**

- BP < 140/90
- A1c < 8.0
- LDL < 100
- non-smoker

*Over $15,500,000 in total savings in 2011 from improvements in quality of diabetes care!*
No Outcome, No Income

Transformation

Strategy
Organizational Structure
Culture

Data & Analytics
Measured Results

Outcomes

Processes
Craft-based vs. Lean Production
Sequential vs. Iterative Care Processes
The Hard Work of Transformation

“The short-term investments that are required can be surprisingly small, because most organizations already have many of the requisite human assets. The most substantial hurdle, it seems, is the change in mindset.”

Dr. Richard Bohmer
Baton Rouge General
A Community of Caring