Value-Based Health Care Delivery

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Zero-Sum Competition in U.S. Health Care

**Bad Competition**

- Competition to capture patients and restrict choice
- Competition to increase bargaining power to secure discounts or price premiums
- Competition to shift costs or capture greater revenue
- Competition to exclude less healthy individuals

**Good Competition**

- Competition to increase value for patients

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Zero or Negative Sum Competition

Positive Sum Competition
Principles of Value-Based Health Care Delivery

The central goal in health care must be **value for patients**, not access, volume, convenience, or cost containment.

\[
\text{Value} = \frac{\text{Health outcomes}}{\text{Costs of delivering the outcomes}}
\]

- Outcomes are the **full set of patient health outcomes** over the care cycle.
- Costs are the **total costs of care for the patient’s condition**, not just the cost of a single provider or a single service.

How to design a health care system that **dramatically improves patient value**.
Principles of Value-Based Health Care Delivery

Quality improvement is the key driver of cost containment and value improvement, where quality is health outcomes

- Prevention
- Early detection
- Right diagnosis
- Right treatment to the right patient
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Rapid cycle time of diagnosis and treatment
- Less invasive treatment methods
- Fewer complications
- Fewer mistakes and repeats in treatment
- Faster recovery
- More complete recovery
- Less disability
- Fewer relapses or acute episodes
- Slower disease progression
- Less need for long term care
- Less care induced illness

• Better health is the goal, not more treatment
• Better health is inherently less expensive than poor health
Value-Based Health Care Delivery

The Strategic Agenda

1. Organize into Integrated Practice Units Around the Patient’s Medical Condition (IPUs)
   - Specialty care
   - Primary and preventive care for distinct patient populations

2. Measure Outcomes and Cost for Every Patient

3. Move to Bundled Prices for Care Cycles

4. Integrate Care Delivery Across Separate Facilities

5. Expand Excellent IPUs Across Geography

6. Create an Enabling Information Technology Platform
1. Moving to Care Delivery Integrated Around the Patient
Migraine Care in Germany

Existing Model:
Organize by Specialty and
Discrete Services

New Model:
Organize into Integrated
Practice Units (IPUs)

Integrated Care Delivery Includes the Patient

- Value in health care is **co-produced** by clinicians and the patient
- Unless patients **comply** with care and take steps to improve their health, even the best delivery team will fail
- For chronic care, patients **are often the best experts** on their own health and personal barriers to compliance
- Today’s fragmented system creates **obstacles** to patient education, involvement, and adherence to care

- **IPUs** dramatically improve patient engagement
  - Focus, resources, sustained patient contact and accountability
  - Education and support services
- Simply forcing consumers to pay more is a **false solution**
# Integrating Across the Cycle of Care

## Breast Cancer

### INFORMING AND ENGAGING
- Advice on self screening
- Consultations on risk factors
- Counseling patient and family on the diagnostic process and the diagnosis
- Explaining patient treatment options/shared decision making
- Patient and family psychological counseling
- Counseling on the treatment process
- Education on managing side effects and avoiding complications of treatment
- Achieving compliance
- Psychological counseling
- Counseling on rehabilitation options, process
- Achieving compliance
- Counseling on long term risk management
- Achieving Compliance

### MEASURING
- Self exams
- Mammograms
- Ultrasound
- MRI
- Labs (CBC, etc.)
- Blood chems,
- Biopsy
- BRACA 1, 2...
- CT
- Bone Scans
- Labs
- Procedure-specific measurements
- Range of movement
- Side effects measurement
- MRI, CT
- Recurring mammograms (every six months for the first 3 years)

### ACCESSING
- Office visits
- Mammography lab visits
- Hospital stays
- Office visits
- Hospital visits
- Lab visits
- Pharmacy
- Rehabilitation facility visits
- Lab visits
- Mammographic labs and imaging center visits

### MONITORING/PREVENTING
- Medical history
- Control of risk factors (obesity, high fat diet)
- Genetic screening
- Clinical exams
- Monitoring for lumps
- Medical history
- Determining the specific nature of the disease (mammograms, pathology, biopsy results)
- Genetic evaluation
- Labs
- Choosing a treatment plan
- Surgery prep (anesthetic risk assessment, EKG)
- Plastic or onco-plastic surgery evaluation
- Neo-adjunct chemotherapy
- Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)

### DIAGNOSING

### PREPARING

### INTERVENING
- Surgery (breast preservation or mastectomy, oncoplastic alternative)
- In-hospital and outpatient wound healing
- Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphoedema and chronic fatigue)

### RECOVERING/REHABING

### MONITORING/MANAGING
- Periodic mammography
- Other imaging
- Follow-up clinical exams
- Treatment for any continued or later onset side effects or complications

### Physical therapy

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Breast Cancer Specialist
Other Provider Entities

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Volume and Experience in a Medical Condition Drive Patient Value

The Virtuous Circle of Value

- Better Results, Adjusted for Risk
- Rapidly Accumulating Experience
- More Fully Dedicated Teams
- More Tailored Facilities
- Rising Process Efficiency
- Rising Capacity for Sub-Specialization
- Wider Capabilities in the Care Cycle, Including Patient Engagement
- Greater Leverage in Purchasing
- Costs of IT, Measurement, and Process Improvement Spread over More Patients
- Faster Innovation
- Improving Reputation
- Greater Patient Volume in a Medical Condition

- Volume and experience have an even greater impact on value in an IPU structure than in the current system
## Fragmentation of Hospital Services

**Sweden**

<table>
<thead>
<tr>
<th>DRG</th>
<th>Number of admitting providers</th>
<th>Average percent of total national admissions</th>
<th>Average admissions/ provider/ year</th>
<th>Average admissions/ provider/ week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee Procedure</td>
<td>68</td>
<td>1.5%</td>
<td>55</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes age &gt; 35</td>
<td>80</td>
<td>1.3%</td>
<td>96</td>
<td>2</td>
</tr>
<tr>
<td>Kidney failure</td>
<td>80</td>
<td>1.3%</td>
<td>97</td>
<td>2</td>
</tr>
<tr>
<td>Multiple sclerosis and cerebellar ataxia</td>
<td>78</td>
<td>1.3%</td>
<td>28</td>
<td>1</td>
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<tr>
<td>Inflammatory bowel disease</td>
<td>73</td>
<td>1.4%</td>
<td>66</td>
<td>1</td>
</tr>
<tr>
<td>Implantation of cardiac pacemaker</td>
<td>51</td>
<td>2.0%</td>
<td>124</td>
<td>2</td>
</tr>
<tr>
<td>Splenectomy age &gt; 17</td>
<td>37</td>
<td>2.6%</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Cleft lip &amp; palate repair</td>
<td>7</td>
<td>14.2%</td>
<td>83</td>
<td>2</td>
</tr>
<tr>
<td>Heart transplant</td>
<td>6</td>
<td>16.6%</td>
<td>12</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

2. Measuring Outcomes and Cost for Every Patient

- **Patient Initial Conditions**
- **Processes**
  - Protocols/Guidelines
- **Indicators**
  - E.g., Hemoglobin A1c levels for diabetics
- **Patient Compliance**
- **(Health) Outcomes**
The Outcome Measures Hierarchy

Tier 1
Health Status Achieved

Survival

Degree of health/recovery

Tier 2
Process of Recovery

Time to recovery or return to normal activities

Disutility of care or treatment process (e.g., discomfort, complications, adverse effects, errors, and their consequences)

Tier 3
Sustainability of Health

Sustainability of health or recovery and nature of recurrences

Long-term consequences of therapy (e.g., care-induced illnesses)
Adult Kidney Transplant Outcomes, U.S. Center Results, 1987-1989

Number of programs: 219
Number of transplants: 19,588
1 year graft survival 79.6%

- 16 greater than predicted survival (7%)
- 20 worse than predicted survival (10%)
Adult Kidney Transplant Outcomes,
U.S. Center Results, 1998-2000

1 year graft survival 90.9%
- 10 greater than predicted survival (4.5%)
- 14 worse than predicted survival (6.4%)
Adult Kidney Transplant Outcomes
U.S. Center Results, 2005-2007

Number of programs: 240
Number of transplants: 38,515
1 year graft survival: 93.2%

- 16 greater than expected graft survival (6.6%)
- 19 worse than expected graft survival (7.8%)
Cost Measurement

Aspiration

• Cost should be measured for each medical condition (which includes common co-occurring conditions), not for all services
• Cost should be measured for each patient, aggregated across the full cycle of care
• The cost of each activity or input attributed to a patient should reflect that patient’s use of resources (e.g. time, facilities, service), not average allocations
• The only way to properly measure cost per patient is to track the time devoted to each patient by providers, facilities, support services, and other shared costs

Reality

• Most providers track charges not costs
• Most providers track cost by billing category, not for medical conditions
• Most providers cannot accumulate total costs for particular patients
• Most providers use arbitrary or average allocations, not patient specific allocations
• Many providers allocate cost based in part on charge levels, which biases cost estimates
3. Move to Bundled Prices for Care Cycles

Fee for service

Bundled reimbursement for medical conditions

Global capitation

Global budgeting
Bundled Payment in Practice
Hip and Knee Replacement in Sweden

• Beginning in 2009, all joint replacements (hip and knee) in Stockholm County Council are reimbursed with a **bundled price** that includes:

<table>
<thead>
<tr>
<th>Pre-op evaluation</th>
<th>1 follow-up visit within 3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab tests</td>
<td>Any additional surgery to the joint within 2 years</td>
</tr>
<tr>
<td>Radiology</td>
<td>If post-op infection requiring antibiotics occurs, guarantee extends to 5 years</td>
</tr>
<tr>
<td>Surgery &amp; related admission</td>
<td></td>
</tr>
<tr>
<td>Prosthesis</td>
<td></td>
</tr>
<tr>
<td>Drugs</td>
<td></td>
</tr>
<tr>
<td>Inpatient rehab, up to 6 days</td>
<td></td>
</tr>
</tbody>
</table>

• The bundled price applies to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)

• The **same referral** process from PCPs is utilized as the traditional system

• There is **mandatory reporting** by providers to the joint registry plus supplementary reporting

• Provider participation is **voluntary** but all providers are involved
  – 6 public hospitals, 4 private hospitals
  – 3400 patients treated in 2009

• The bundled price for a knee or hip replacement is about **US $8,000**
What is a Bundled Payment?

• A total package price for the care cycle for a medical condition
  – Time-based bundled reimbursement for managing chronic conditions
  – Time-based reimbursement for defined prevention, screening, wellness/health maintenance service bundles
  – Should include responsibility for avoidable complications
  – “Medical condition capitation”

• The bundled price should be severity adjusted

What is Not a Bundled Payment

• Price for a short episode (e.g. inpatient only, procedure only)
• Separate payments for physicians and facilities
• Pay-for-performance bonuses
• “Medical Home” payment for care coordination

• DRGs can be a starting point for bundled payment models
• Providers and health plans should be proactive in driving new reimbursement models, not wait for government
4. Integrate Care Delivery Across Separate Facilities

- Increase overall \textit{volume}
- Benefits limited to \textit{contracting} and \textit{spreading} limited fixed overhead

- Increase \textit{value}
- The network is \textit{more than} the sum of its parts
Provider System Integration
Children’s Hospital of Philadelphia (CHOP)
Hospital Affiliates
Levels of System Integration

• **Rationalize service lines/ IPUs** across facilities to improve volume, avoid duplication, and concentrate excellence

• **Offer specific services** at the **appropriate facility**
  – E.g. acuity level, cost level, need for convenience
  – Patient referrals across units

• **Clinically integrate care across facilities**, within an IPU structure
  – Expand and integrate the care cycle
  – Better connect **preventive/primary care** units to specialty IPUs
5. Expand Excellent IPUs Across Geography
The Cleveland Clinic Managed Practices

- Rochester General Hospital, NY
  Cardiac Surgery

- CLEVELAND CLINIC
  Cardiac Care

- Chester County Hospital, PA
  Cardiac Surgery

- Cape Fear Valley Health System, NC
  Cardiac Surgery

- McLeod Heart & Vascular Institute, SC
  Cardiac Surgery

- Cleveland Clinic Florida Weston, FL
  Cardiac Surgery
Models of Geographic Expansion

Affiliations
- Affiliation Agreements with Independent Provider Organizations
- Second Opinions and Telemedicine

Dispersed Services
- Dispersed Diagnostic Centers
- Convenience Sensitive Service Locations in the Community
- Complex IPU Components (e.g. surgery) in Additional Locations

New Hubs
- Specialty Hospitals as Referral Hubs in Additional Locations
- New Broader-Line Hospital Hubs
6. Create an Enabling Information Technology Platform

Utilize information technology to enable restructuring of care delivery and measuring results, rather than treating it as a solution itself.

- Common data definitions
- Combine all types of data (e.g. notes, images) for each patient over time
- Data encompasses the full care cycle, including referring entities
- Allowing access and communication among all involved parties, including patients
- “Structured” data vs. free text
- Templates for medical conditions to enhance the user interface
- Architecture that allows easy extraction of outcome, process, and cost measures
- Interoperability standards enabling communication among different provider systems
Value-Based Healthcare Delivery:
Implications for Contracting Parties/Health Plans

“Payor”  Value-Added Health Organization
Value-Based Health Care Delivery: Implications for Suppliers

• Compete on delivering **unique value** measured over the **full care cycle**

• **Demonstrate value** based on careful study of long term outcomes and costs versus alternative approaches

• Ensure that the products are **used by the right patients**

• Work to embed drugs/devices in the **right care delivery processes**

• Market products based on **value, information, provider** support and **patient** support

• Offer services that **contribute to value** rather than reinforce cost shifting

• Move to **value-based pricing** approaches
  – e.g. price for success, guarantees