Value-Based Health Care Delivery

Professor Michael E. Porter
Harvard Business School

Inner City 100
May 5, 2010

This presentation draws on Michael E. Porter and Elizabeth Olmsted Teisberg: Redefining Health Care: Creating Value-Based Competition on Results, Harvard Business School Press, May 2006, and "How Physicians Can Change the Future of Health Care," Journal of the American Medical Association, 2007; 297:1103:1111. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means — electronic, mechanical, photocopying, recording, or otherwise — without the permission of Michael E. Porter and Elizabeth Olmsted Teisberg. Further information about these ideas, as well as case studies, can be found on the website of the Institute for Strategy & Competitiveness at http://www.isc.hbs.edu.
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
Cost versus Quality, Sweden
Health Care Spending by County, 2008

Note: Cost including; primary care, specialized somatic care, specialized psychiatry care, other medical care, political health- and medical care activities, other subsidies (e.g. drugs)
Source: Öppna jämförelser, Socialstyrelsen 2008;Sjukvårdsdata i fokus 2008; BCG analysis
Value-Based Health Care Delivery

The Strategic Agenda

1. Organize into Integrated Practice Units around the Patient’s Medical Condition (IPUs)
   - Including 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. Grow by Expanding Excellent IPUs Across Geography

6. Create an Enabling Information Technology Platform
1. Organize Into Integrated Practice Units

Care delivery should be organized around the patient’s medical condition over the full cycle of care

- A medical condition is an interrelated set of patient medical circumstances best addressed in an integrated way
  - Defined from the patient’s perspective
  - Including the most common co-occurring conditions and complications
  - Involving multiple specialties and services

- The patient’s medical condition is the unit of value creation in health care delivery
Organize into Integrated Practice Units
Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services

New Model:
Organize into Integrated Practice Units (IPUs)

Volume and Experience in a Medical Condition Drive Patient Value

The Virtuous Circle of Value

- Greater Patient Volume in a Medical Condition
- Rapidly Accumulating Experience
- Better Information/Clinical Data
- More Fully Dedicated Teams
- More Tailored Facilities
- Rising Process Efficiency
- 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
- Better Results, Adjusted for Risk
- Improving Reputation

- Greater Leverage in Purchasing
- Wider Capabilities in the Care Cycle, Including Patient Engagement
- Faster Innovation
- Better Results, Adjusted for Risk
- Improving Reputation

- 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>
</tr>
<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 → Indicators → (Health) Outcomes

Protocols/Guidelines

E.g., Hemoglobin A1c levels for diabetics

Patient Compliance
The Outcome Measures Hierarchy

Tier 1
Health Status Achieved
Survival

Tier 2
Process of Recovery
Time to recovery or return to normal activities

Tier 3
Sustainability of Health
Sustainability of health or recovery and nature of recurrences

- Degree of health/recovery
- Long-term consequences of therapy (e.g., care-induced illnesses)
- Disutility of care or treatment process (e.g., discomfort, complications, adverse effects, errors, and their consequences)
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%)

Percent 1 Year Graft Survival vs. Number of Transplants
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%)
3. Move to Bundled Prices for Care Cycles

Fee for service

Bundled reimbursement for medical conditions

Global capitation

Global budgeting
What is a Bundled Payment?

- **Total package price** for the care cycle for a medical condition
  - Includes 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
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:
  - Pre-op evaluation
  - Lab tests
  - Radiology
  - Surgery & related admission
  - Prosthesis
  - Drugs
  - Inpatient rehab, up to 6 days
  - 1 follow-up visit within 3 months
  - Any additional surgery to the joint within 2 years
  - If post-op infection requiring antibiotics occurs, guarantee extends to 5 years

- 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**
4. Integrate Care Delivery Across Separate Facilities

Confederation of Standalone Units/Facilities

- Increase **volume**
- Benefits limited to **contracting** and spreading **limited fixed overhead**

Integrated Care Delivery Network

- Increase **value**
- The network is **more than** the sum of its parts
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
  – **Consistent protocols** and access to experts throughout the network (IT enabled)
  – Connect **ancillary service units** to IPUs
    – E.g. home care, rehabilitation, behavioral health, social work, addiction treatment (organize within service units to align with IPUs)
  – Better connect **preventive/primary care** units to specialty IPUs
5. Grow by Expanding Excellent IPUs Across Geography
The Cleveland Clinic Managed Practices

- Grow in ways that improve **value**, not just volume
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 Health Care: The Role of Employers

• Employer interests are **more closely aligned with patient interests** than any other system participant
  – Employers need healthy, high performing employees
  – Employers bear the costs of chronic health problems and poor quality care
  – The cost of poor health is 2 to 7 times more than the cost of health benefits
    o Absenteeism
    o Presenteeism

• Employers are **uniquely positioned** to improve employee health
  – Daily interactions with employees
  – On-site clinics for quick diagnosis and treatment, prevention, and screening
  – Group culture of wellness
  – Providers should establish **direct relationships with employers** to enable value based approaches
## Transforming the Roles of Employers

<table>
<thead>
<tr>
<th>Old Role</th>
<th>New Role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set the goal of</strong> reducing health premium costs</td>
<td><strong>Set the goal of</strong> employee health</td>
</tr>
<tr>
<td><strong>Focus on</strong> direct cost of health benefits</td>
<td><strong>Focus on the</strong> overall cost of poor health (e.g., productivity, lost days)</td>
</tr>
<tr>
<td><strong>Use bargaining power to negotiate discounts from health plans and providers</strong></td>
<td><strong>Work with health plans and providers to improve overall value delivered</strong></td>
</tr>
<tr>
<td><strong>Shift costs to employees</strong> via premium payments, co-payments</td>
<td><strong>Improve access to high-value care</strong> (e.g., wellness, prevention, screening, and disease management)</td>
</tr>
<tr>
<td><strong>Evaluate plans and providers based on process compliance</strong> (P4P)</td>
<td><strong>Evaluate plans and providers based on health outcomes</strong></td>
</tr>
<tr>
<td><strong>Limit or eliminate the employer role in health insurance</strong></td>
<td><strong>Take a leadership role in expanding the insurance system to encompass individually purchased plans on favorable terms</strong></td>
</tr>
</tbody>
</table>

---

**Note:** The text highlights the transformation from traditional employer roles focused on reducing health premium costs and process compliance to new roles that emphasize employee health, overall value delivered, high-value care, and expanding the insurance system.
Value-Based Health Care Delivery: Implications for Government

- Remove obstacles to the *restructuring of health care delivery* around the integrated care of medical conditions
- Establish *universal measurement* and *reporting* of provider *health outcomes*
- Require universal reporting by health plans of *health outcomes for members*
- Shift reimbursement systems to *bundled prices for cycles of care* instead of payments for discrete treatments or services
- **Open up competition** among providers and across geography
- Mandate *EMR adoption* that enables integrated care and supports outcome measurement
  - National *standards* for data definitions, communication, and aggregation
  - *Software as a service* model for smaller providers
- Encourage greater *responsibility of individuals* for their health and their health care