Value-Based Health Care Delivery:
Implications for Providers

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Harvard Business School

Tosteson Lecture
Harvard Medical School
October 4, 2007

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.
Value-Based Competition in Health Care

• Value-Based Health Care Delivery is an intensive, week-long course on the fundamental principles of value-based competition in health care delivery and examining organizations working to implement those principles in practice

• The graduate-level course will be held at Harvard Business School from January 7 – 11, 2008

• The course is open by application to Harvard MBA students, MD students, Health Policy PhD students, and others pursuing health care-related courses of study

• Applications are due by 9am November 1, 2007. The online application weblink is: http://poll.hbs.edu/poll/open/pollTakerOpen.jsp?poll=117808 (please cut and paste the complete weblink into your browser window)
**Immersion Course on Value-Based Health Care Delivery**  
**January 7-11, 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Monday, January 7</th>
<th>Tuesday, January 8</th>
<th>Wednesday, January 9</th>
<th>Thursday, January 10</th>
<th>Friday, January 11</th>
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</thead>
<tbody>
<tr>
<td>8:30-9:30am</td>
<td>Welcome &amp; Course Overview</td>
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</tbody>
</table>
| 9:00-10:30am  | Session 1: Introduction to Value-Based Health Care Delivery  
Case: ThedaCare: System Strategy | Session 3: Integrated Care Delivery  
Case: The West German Headache Center: Integrated Migraine Care | Session 5: Integrated Primary Care Models  
Case: Commonwealth Care Alliance | Session 7: Integrated Practice Units  
Case: MD Anderson Cancer Center: The Head and Neck Center | Session 9: Care Delivery in Resource-Poor Settings  
Case: Rural HIV Care in Rwanda |
| 10:30-11:00am | Break             | Break              | Break                | Guest: Klaus Boettcher, CEO, KKH  
Lecture | Guest: John Toussaint, CEO, ThedaCare  
Lecture | Guest: CEO, Commonwealth Care Alliance  
Lecture | Guest: Chief Medical Officer, MD Anderson  
Lecture | Guest: TBA  
Lecture |
| 11:00am-12:30pm | Guest: John Toussaint, CEO, ThedaCare  
Lecture | Guest: Klaus Boettcher, CEO, KKH  
Lecture | Guest: CEO, Commonwealth Care Alliance  
Lecture | Guest: Chief Medical Officer, MD Anderson  
Lecture | Guest: TBA  
Lecture |
| 12:30-1:30pm  | LUNCH             | LUNCH              | LUNCH                | LUNCH                | LUNCH              |
| 1:30-3:00pm   | Session 2: Medical Conditions/Care Cycles  
Case: Diabetes Care in Minneapolis | Session 4: Results Measurement  
Case: In-Vitro Fertilization: Outcomes Measurement | Session 6: Role of Health Plans and Employers  
Case: Aetna: Health Plan Strategy | Session 8: Integrated Care Delivery  
Case: Cardiovascular Care at Brigham and Women's Hospital: Shapiro Center | Session 10: Provider Growth Strategy  
Case: Cleveland Clinic: Growth Strategy |
| 3:00-3:15pm   | Break             | Break              | Break                | Break                | Break              |
| 3:15-4:45pm   | Guest: TBA  
Lecture | Guest: Dr. James Goldfarb, Cleveland Clinic  
Lecture | Guests: Senior Management, Aetna  
Lecture | Guests: Brigham and Women's Leadership  
Lecture | Guest: Toby Cosgrove, CEO, Cleveland Clinic  
Lecture |
| 4:45-5:00pm   | Break             |                    |                      | Break                | Course Wrap-Up     |
| 5:00-6:30pm   |                   |                    |                      | Guest Lecture on Health Policy & Medicare Reimbursement (Tentative) |                    |

- The course schedule can be found at: [http://www.hbs.edu/rhc/health_care_course.html](http://www.hbs.edu/rhc/health_care_course.html)
Proposals for Reform

• Single Payer System
• Consumer-Driven Health Care
• Pay for Performance
• Electronic Medical Records
• Integrated Payer-Provider Systems
The Paradox of U.S. Health Care

The United States has a private system with intense competition

But

• Costs are high and rising
• Services are restricted and often fall well short of recommended care
• In other services, there is overuse of care
• Standards of care often lag and fail to follow accepted benchmarks
• Diagnosis errors are common
• Preventable treatment errors are common
• Huge quality and cost differences persist across providers
• Huge quality and cost differences persist across geographic areas
• Best practices are slow to spread
• Innovation is resisted

• Competition is not working
• How is this state of affairs possible?
Issues in Health Care Reform

- Health Insurance and Access
- Standards for Coverage
- Structure of Health Care Delivery
Redefining Health Care

• Universal insurance is not enough

• The core issue in health care is the value of health care delivered

Value: Patient outcomes per dollar spent

• How to design a health care system that dramatically improves value
  – Ownership of entities is secondary

• How to create a dynamic system that keeps rapidly improving
Creating a Value-Based Health Care System

• Significant improvement in value will require fundamental restructuring of health care delivery, not incremental improvements

Today, 21\textsuperscript{st} century medical technology is delivered with 19\textsuperscript{th} century organization structures, management practices, and pricing models

- TQM, process improvements, and safety initiatives are beneficial but not sufficient
Creating a Value-Based Health Care System

• Competition is a powerful force to encourage *restructuring* of care and *continuous improvement* in value
Zero-Sum Competition in U.S. Health Care

Bad Competition

• Competition to *shift costs* or capture a bigger share of revenue

• Competition to *increase bargaining power*

• Competition to *capture patients* and *restrict choice*

• Competition to *restrict services* in order to maximize revenue per visit or reduce costs

Zero or Negative Sum

Good Competition

• Competition to *increase value for patients*

Positive Sum
Creating a Value-Based Health Care System

• Today’s *competition* in health care is often *not aligned with value*

Financial success of system participants $\neq$ Patient success

• Creating *competition on value* is the central challenge in health care reform
Principles of Value-Based Competition

1. The goal should be **value for patients**, not just lowering costs
   - This will require going **beyond cost containment** and **administrative savings**
Principles of Value-Based Competition

1. The goal should be **value for patients**, not just lowering costs

2. The best way to **contain costs** is to drive **improvement in quality**
   - Prevention
   - Early detection
   - Right diagnosis
   - Early treatment
   - Right treatment to the right patients
   - Treatment earlier in the causal chain of disease
   - Fewer mistakes and repeats in treatment
   - Fewer delays in the care delivery process
   - Less invasive treatment methods
   - Faster recovery
   - More complete recovery
   - Less disability
   - Fewer relapses or acute episodes
   - Slower disease progression
   - Less need for long term care

• Better health is **inherently less expensive** than poor health
Principles of Value-Based Competition

1. The goal should be **value for patients**, not just lowering costs
2. The best way to contain costs is to drive improvement in **quality**
3. There must be **unrestricted competition** based on **results**

<table>
<thead>
<tr>
<th>Value:</th>
<th>Patient health outcomes</th>
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<td></td>
<td>Total cost of achieving those outcomes</td>
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</table>

- Results vs. supply control
- Results vs. process compliance
Measuring Results

- Patient Initial Conditions
  - Patient Compliance
  - Process
  - Health Indicators
  - Patient Satisfaction
    - Processes of Care
  - (Health) Outcomes
  - Patient Satisfaction
    - Results of Care

- Patient Compliance
  - E.g., Hemoglobin A1c levels (blood sugar) of diabetic patients
  - E.g., Anemia in inflammatory bowel disease patients
Principles of Value-Based Competition

3. There must be **unrestricted competition** based on **results**

- Value: Patient health outcomes
  - Total cost of achieving those outcomes

  - Results vs. supply control
  - Results vs. process compliance

- Get patients to excellent providers vs. “lift all boats” or “pay for performance”
- Expand the proportion of patients cared for by the most effective teams
- Grow the excellent teams by reallocating capacity and expanding across locations
Principles of Value-Based Competition

1. The goal should be value for patients, not just lowering costs

2. The best way to contain costs is to drive improvement in quality

3. There must be unrestricted competition based on results

4. Competition should center on medical conditions over the full cycle of care
Restructuring Health Care Delivery
Migraine Care in Germany

Old Model: Organize by Specialty and Discrete Services

- Imaging Centers
- Outpatient Physical Therapists
- Outpatient Neurologists
- Primary Care Physicians
- Inpatient Treatment and Detox Units
- Outpatient Psychologists

New Model: Integrated Practice Unit (IPU)

- Imaging Unit
- West German Headache Center
  - Neurologists
  - Psychologists
  - Physical Therapists
  - Day Hospital
- Network Neurologists
- Essen Univ. Hospital Inpatient Unit

Source: KKH, Westdeutsches Kopfschmerzzentrum
What is a Medical Condition?

• A medical condition is **an interrelated set of patient medical circumstances best addressed in an integrated way**
  – From the patient’s perspective

• **Includes** the most common co-occurrences

• **Examples**
  – Diabetes (including vascular disease, hypertension, others)
  – Breast Cancer
  – Stroke
  – Migraine
  – Asthma
  – Congestive Heart Failure
  – HIV/AIDS

• The boundaries of a medical condition can depend on a provider’s **patient population**
### The Care Delivery Value Chain

#### Breast Cancer

#### INFORMING & ENGAGING
- **Advice on self screening**
- **Consultation on risk factors**

#### MEASURING
- **Self exams**
- **Mammograms**
  - Mammograms
  - Ultrasound
  - MRI
  - Biopsy
  - BRAC1, 2...

#### ACCESSING
- **Office visits**
- **Mammography lab visits**
  - Office visits
  - Lab visits
  - High-risk clinic visits

#### MONITORING/PREVENTING
- **Office visits**
- **Mammography lab visits**
  - Office visits
  - Lab visits
  - High-risk clinic visits

#### DIAGNOSING
- **Office visits**
- **Lab visits**
- **Advising on self screening**
- **Consulting on risk factors**

#### PREPARING
- **Office visits**
- **Lab visits**
- **Mammographic labs and imaging center visits**
- **Recurrence mammograms (every 6 months for the first 3 years)**

#### INTERVENING
- **Hospital stay**
- **visits to outpatient or radiation chemotherapy units**

#### RECOVERING/REHABING
- **Visits to rehabilitation facility visits**
- **In-hospital and outpatient wound healing**
- **Psychological counseling**
- **Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphoedema and chronic fatigue)**
- **Physical therapy**

#### ACCESS
- **Advise on self screening**
- **Consultation on risk factors**

#### MONITORING/MANAGING
- **Office visits**
- **In-hospital and outpatient wound healing**
- **Psychological counseling**
- **Treatment for any continued side effects**

#### PROVIDER MARGIN
- **Primary care providers** are often the beginning and end of care cycles

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- **Breast Cancer Specialist**
- **Other Provider Entities**

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The Care Delivery Value Chain

HIV/AIDS

<table>
<thead>
<tr>
<th>INFORMING &amp; ENGAGING</th>
<th>DIAGNOSING &amp; STAGING</th>
<th>DELAYING PROGRESSION</th>
<th>INITIATING ARV THERAPY</th>
<th>ONGOING DISEASE MANAGEMENT</th>
<th>MANAGEMENT OF CLINICAL DETERIORATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention counseling on modes of transmission on risk factors</td>
<td>Explaining diagnosis and implications</td>
<td>Explaining approach to forestalling progression</td>
<td>Explaining medical instructions and side effects</td>
<td>Counseling about adherence; understanding factors for non-adherence</td>
<td>Explaining co-morbid diagnoses</td>
</tr>
<tr>
<td>HIV testing</td>
<td>HIV testing for others at risk</td>
<td>Monitoring CD4+</td>
<td>HIV staging, response to drugs</td>
<td>HIV staging, response to drugs</td>
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</tr>
<tr>
<td>TB, STI screening</td>
<td>CD4+ count, clinical exam, labs</td>
<td>Continuously assessing co-morbidities</td>
<td>Regular primary care assessments</td>
<td>Managing complications</td>
<td>Regular primary care assessments</td>
</tr>
<tr>
<td>Collecting baseline demographics</td>
<td>Primary care clinics</td>
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</tr>
<tr>
<td>• Meeting patients in high-risk settings</td>
<td>• Clinic labs</td>
<td>• Food centers</td>
<td>• Pharmacy</td>
<td>• Support groups</td>
<td>• Support groups</td>
</tr>
<tr>
<td>• Primary care clinics</td>
<td>• Testing centers</td>
<td>• Home visits</td>
<td>• Pharmacy</td>
<td>• Support groups</td>
<td>• Hospitals, hospices</td>
</tr>
<tr>
<td>• Testing centers</td>
<td>• • Connecting patient with primary care</td>
<td>• Primary care clinics</td>
<td>• • Initiating therapies that can delay onset, including vitamins and food</td>
<td>• • Initiating comprehensive ARV therapy, assessing drug readiness</td>
<td>• Identifying clinical and laboratory deterioration</td>
</tr>
<tr>
<td>• Connecting patient with primary care</td>
<td>• Identifying high-risk individuals</td>
<td>• Initiating comprehensive ARV therapy, assessing drug readiness</td>
<td>• Treating comorbidities that affect disease progression, especially TB</td>
<td>• Managing effects of associated illnesses</td>
<td>• Initiating second- and third-line drug therapies</td>
</tr>
<tr>
<td>• Identifying appropriate risk reduction strategies</td>
<td>• Testing at-risk individuals</td>
<td>• • Improving patient awareness of disease progression, prognosis, transmission</td>
<td>• Preventing patient for disease progression, treatment side effects</td>
<td>• Managing side effects</td>
<td>• Managing acute illnesses and opportunistic infections through aggressive outpatient management or hospitalization</td>
</tr>
<tr>
<td>• Modifying behavioral risk factors</td>
<td>• Promoting appropriate risk reduction strategies</td>
<td>• • Connecting patient with care team</td>
<td>• Managing secondary infections, associated illnesses</td>
<td>• Determining supporting nutritional modifications</td>
<td>• Providing social support</td>
</tr>
<tr>
<td>• Creating medical records</td>
<td>• • Initiating comprehensive ARV therapy, assessing drug readiness</td>
<td>• • Connecting patient with care team</td>
<td>• • Initiating second- and third-line drug therapies</td>
<td>• • Preparing patient for end-of-life management</td>
<td>• Access to hospice care</td>
</tr>
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PATIENT VALUE

(Health outcomes per unit of cost)
Integrating Care Delivery: Patients With Multiple Medical Conditions

- Integrated Practice Unit: Diabetes
- Integrated Practice Unit: Congestive Heart Failure
- Integrated Practice Unit: Migraine
- Integrated Practice Unit: Osteoarthritis of the Hips
Principles of Value-Based Competition

1. The goal should be value for patients, not just lowering costs
2. The best way to contain costs is to drive improvement in quality
3. There must be unrestricted competition based on results
4. Competition should center on medical conditions over the full cycle of care
5. Value is driven by provider experience, scale, and learning at the medical condition level
The Virtuous Circle in a Medical Condition

- The virtuous cycle extends **across geography**
- Fragmentation of provider services works against patient value
Principles of Value-Based Competition

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4. Competition should center on **medical conditions** over the **full cycle of care**

5. Value is driven by provider **experience**, **scale**, and **learning** at the medical condition level

6. Competition should be **regional** and **national**, not just local
   - Manage care cycles **across geography**
   - Utilize partnerships and inter-organizational integration among separate institutions
Principles of Value-Based Competition

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6. Competition should be **regional** and **national**, not just local
7. **Results** must be universally measured and reported

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Measuring Results
The Information Hierarchy

Patient Results
(Outcomes, costs and prices)

Experience

Methods/Processes
(Primarily for internal improvement)

Patient Attributes
(For risk adjustment and clinical insight)
Measuring Results
Principles

• Measure outcomes versus processes of care

• Outcome measurement should take place:
  − At the medical condition level
  − Over the cycle of care

• There are multiple outcomes for every medical condition
Measuring Outcomes
The Outcome Measures Hierarchy

1. Survival
2. Degree of recovery / health
3. Time to recovery or return to normal activities
4. Disutility of care or treatment process (e.g., treatment-related discomfort, complications, or adverse effects, diagnostic errors, treatment errors)
5. Sustainability of recovery or health over time
6. Long-term consequences of therapy (e.g., care-induced illnesses)
Outcome Measures Hierarchy for Breast Cancer

Initial Conditions

- Stage of disease
- Type of cancer (infiltrating ductal carcinoma, tubular, medullary, lobular, etc.)
- Sites of metastases
- Estrogen and progesterone receptor status (positive or negative)
- Age
- Menopausal status
- General health, including co-morbidities

- **Patient initial conditions** affect both treatment options and results
Outcome Measures Hierarchy for Breast Cancer, cont’d.

- Overall survival
- Remission
- Functional status
- Results of breast conservation surgery
- Time to remission
- Time to achieve functional status
Outcome Measures Hierarchy for Breast Cancer, cont’d.

- **Disutility of care or treatment process** (e.g., treatment-related discomfort, complications, or adverse effects, diagnostic errors, treatment errors)

- **Sustainability of recovery or health over time**
  - Disease free survival
  - Sustainability of functional status
  - Incidence of secondary cancers
  - Brachial plexopathy
  - Premature osteoporosis due to early menopause from chemotherapy

- **Long-term consequences of therapy** (e.g., care-induced illnesses)

- **Nosocomial infection** (by type)
- Nausea
- Vomiting
- Febrile neutropenia
- Limitation of motion from surgery
- Depression
- Disease free survival
Principles of Value-Based Competition

1. The goal should be **value for patients**, not just lowering costs.

2. The best way to contain costs is to drive improvement in **quality**.

3. There must be **unrestricted competition** based on **results**.

4. Competition should center on **medical conditions** over the **full cycle of care**.

5. Value is driven by provider **experience, scale, and learning** at the medical condition level.

6. Competition should be **regional and national**, not just local.

7. **Results** must be universally measured and reported.

8. Reimbursement should be aligned with **value** and reward **innovation**.
   - Reimbursement for care cycles, not discrete treatments or services.
   - Most DRG systems are **too narrow**.
Organ Transplantation Care Cycle

- Evaluation
- Waiting for a Donor
- Transplant Surgery
- Immediate Convalescence
- Long Term Convalescence

Alternative therapies to transplantation

Addressing organ rejection
Fine-tuning the drug regimen
Adjustment and monitoring

- Leading transplantation centers quote a single price
Principles of Value-Based Competition

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8. Reimbursement should be aligned with **value** and reward **innovation**

9. **Information technology** is an **enabler** of restructuring care delivery and measuring results, **not a solution itself**
   - Common data definitions
   - Interoperability standards
   - Patient-centered database
Moving to Value-Based Competition

Implications for Providers

• Organize around **integrated practice units** (IPU) for each medical condition

• Choose the appropriate **scope of services** in each facility based on excellence in **patient value**

• Integrate services for each medical condition **across geographic locations**

• Employ formal **partnerships** and **alliances** across entities involved in the care cycle to integrate care and improve capabilities

• Measure **results** by medical condition

• Expand high-performance IPUs **across geography** using an integrated model
  – Instead of merging broad line, stand-alone facilities

• Lead the development of **new contracting models** with health plans based on care cycle reimbursement
Integrating Services Across Geography

Current Model: Each Unit is Stand Alone and Offers Most Services

New Model: Care is Specialized and Integrated Across Geographic Units By Medical Conditions
Moving to Value-Based Competition

Health Plans

“Payor”

Value-Added Health Organization
Moving to Value-Based Competition

Value-Adding Roles of Health Plans

- Monitor and compare provider results by medical condition
- Provide advice to patients (and referring physicians) in selecting excellent providers
- Assist in coordinating patient care across the full care cycle and across medical conditions
- Provide for comprehensive prevention and chronic disease management services to all members
- Design new reimbursement models for care cycles
- Assemble and manage the total medical records of members
- Measure and report overall health results for members
Creating a High-Value Health Care System: Roles and Responsibilities

Consumers

- Participate actively in managing personal health
- Expect relevant information and seek advice
- Make treatment and provider choices based on outcomes, not convenience, waiting time, or amenities
- Get informed and comply with care
- Work with the health plan in long-term health management
- But “consumer-driven health care” is the wrong metaphor for reforming the system
Moving to Value-Based Competition

**Government**

- Measure and report health **results**
- Create IT standard **data definitions** and **interoperability standards** to enable the collection and exchange of medical information for every patient
- Enable the **restructuring of health care delivery** around the integrated care of **medical conditions** across the **full care cycle**
- Shift reimbursement to **bundled prices for cycles of care** instead of payments for discrete treatments or services
- End **provider price discrimination** across patients
- **Open up competition** among providers and across geography
Moving to Value-Based Competition

Government – cont’d.

• Require health plans to measure and report health outcomes for members

• Encourage the responsibility of individuals for their health and their health care

• Enable universal insurance consistent with value-based principles
  – Create neutrality between employer-provided and individually-purchased health insurance
  – Establish risk pooling adjustment vehicles that eliminate incentives for cherry picking healthier patients
  – Move towards an individual mandate to purchase health insurance
  – All health insurance plans should include screening and preventive care in addition to disease management for chronic conditions
How Will Redefining Health Care Begin?

• It is already happening

• Each **system** participant can take **voluntary** steps in these directions, and will **benefit** irrespective of other changes

• The changes are **mutually reinforcing**

• Once competition begins working, value improvement will **no longer be discretionary** or **optional**

• Those organizations that **move early** will gain major benefits

• **Providers** can and should take the lead