Value Based Health Care Delivery:
Implications for Global Health

Professor Michael E. Porter

Intro. to Global Health Care Delivery
January 15, 2008

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.
Issues in Health Care Reform

Health Insurance and Access

Standards for Coverage

Structure of Health Care Delivery
Redefining Health Care

• Universal coverage is essential, but not enough

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

Value: Patient health outcomes per dollar spent

• How to design a health care system that dramatically improves value
  – Ownership of entities is secondary (e.g. government vs. non-profit vs. for profit)

• 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, 21st century medical technology is delivered with 19th century organization structures, management practices, and pricing models.

- TQM, process improvement, and safety initiatives are beneficial but not sufficient to substantially improve value.

Process  Structure, organization

Interventions  Systems
Creating a Value-Based Health Care System

- **Competition is a powerful force to encourage restructuring of care and continuous improvement in value**
  - For patients
  - For health plan subscribers

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

  Financial success of system participants \(\neq\) Patient success

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

1. The goal should be value for patients, not lowering costs or offering every service
   - Health outcomes: objective outcomes, not only patient perceptions
   - Costs of achieving outcomes: total costs, not the costs borne by any one party

   • Improving value will require going beyond waste reduction and administrative savings

   Value > Volume > Closest local access

Focus on value will drive equity
Principles of Value-Based Competition

1. The goal should be **value for patients**, not lowering costs or offering every service

2. The best way to **contain costs** is to **improve quality**

   Quality = Health outcomes

   - Prevention
   - Early detection
   - Right diagnosis
   - Early treatment
   - Treatment earlier in the causal chain of disease
   - Right treatment to the right patients
   - Fewer delays in the care delivery process
   - Fewer complications
   - Fewer mistakes and repeats in treatment
   - 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 lowering costs or offering every service

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

3. There must be competition for patients based on results

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

- Reward 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 them across locations
Principles of Value-Based Competition

1. The goal should be **value for patients**, not lowering costs or offering every service
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
- Outpatient Psychologists
- Inpatient Treatment and Detox Units

New Model: Organize into Integrated Practice Units (IPUs)

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

- Organize around the patient over the care cycle, not by specialist/intervention/department

What is a Medical Condition?

• A medical condition is an interrelated set of patient medical circumstances best addressed in an integrated way
  – Defined from the patient’s perspective
  – Involves multiple specialties and services

• Includes the most common co-occurring conditions

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

• The medical condition is the unit of value creation in health care delivery
The Cycle of Care
Care Delivery Value Chain for Breast Cancer

<table>
<thead>
<tr>
<th>INFORMING AND ENGAGING</th>
<th>MEASURING</th>
<th>ACCESSING</th>
<th>MONITORING/PREVENTING</th>
<th>DIAGNOSING</th>
<th>PREPARING</th>
<th>INTERVENING</th>
<th>RECOVERING/REHABING</th>
<th>MONITORING/MANAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Advice on self screening</td>
<td>• Counseling patient and family on the diagnostic process and the diagnosis</td>
<td>• Explaining patient choices of treatment and achieving compliance</td>
<td>• Counseling on rehabilitation options, process and achieving compliance</td>
<td>• Breast Cancer Specialist</td>
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<tr>
<td>• Consultation on risk factors</td>
<td>• Explaining patient choices of treatment and achieving compliance</td>
<td>• Counseling on treatment and prognosis and achieving compliance</td>
<td>• Counseling on long term risk management and achieving compliance</td>
<td>• Other Provider Entities</td>
<td></td>
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<tr>
<td>• Self exams</td>
<td>• Procedure-specific measurements</td>
<td>• Range of movement and side effects measurement</td>
<td>• Recurring mammograms (every 6 months for the first 3 years)</td>
<td>• Periodic mammography</td>
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<tr>
<td>• Mammograms</td>
<td>• Mammograms</td>
<td>• Medical history</td>
<td>• Mammograms</td>
<td>• Other imaging</td>
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<tr>
<td>• Mammograms</td>
<td>• Ultrasound</td>
<td>• Genetic screening</td>
<td>• Imaging</td>
<td>• Follow-up clinical exams</td>
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<td>• Biopsy</td>
<td>• MRI</td>
<td>• Clinical exams</td>
<td>• Follow-up clinical exams</td>
<td>• Treatment for any continued side effects</td>
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<tr>
<td>• BRACA 1, 2...</td>
<td>• Office visits</td>
<td>• Monitoring for lumps</td>
<td>• Office visits</td>
<td>• Periodic mammography</td>
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<tr>
<td>• Office visits</td>
<td>• Lab visits</td>
<td>• Mammography lab visits</td>
<td>• Radiotherapy</td>
<td>• Other imaging</td>
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<tr>
<td>• High-risk clinic visits</td>
<td>• Hospital stay</td>
<td>• Recurring mammograms (every 6 months for the first 3 years)</td>
<td>• In-hospital and outpatient wound healing</td>
<td>• Follow-up clinical exams</td>
<td></td>
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<tr>
<td>• Hospital stay</td>
<td>• Visits to outpatient or radiation chemotherapy units</td>
<td>• Rehabilitation facility visits</td>
<td>• Psychological counseling</td>
<td>• Treatment for any continued side effects</td>
<td></td>
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</tr>
<tr>
<td>• Office visits</td>
<td>• Lab visits</td>
<td>• Rehabilitation facility visits</td>
<td>• Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphedema and chronic fatigue)</td>
<td>• Physical therapy</td>
<td></td>
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- **Primary care providers** are often the beginning and end of the care cycle.
Analyzing the Care Delivery Value Chain

1. Are the **set of activities** and the **sequence of activities** in the CDVC aligned with value?

2. Is the appropriate **mix of skills** brought to bear on each activity and across activities, and do individuals work as a **team**?

3. Is there **appropriate coordination** across the discrete activities in the care cycle, and are handoffs seamless?

4. Is care structured to **harness linkages** (optimize overall allocation of effort) across different parts of the care cycle?

5. Is the **right information** collected, integrated, and utilized across the care cycle?

6. Are the activities in the CDVC performed in **appropriate facilities and locations**?

7. What provider departments, units and groups are involved in the care cycle? Is the provider’s **organizational structure** aligned with value?

8. What are the **independent entities** involved in the care cycle, and what are the relationships among them? Should a provider’s **scope of services** in the care cycle be expanded or contracted?
Patients with Multiple Medical Conditions
Integrating Care Across IPUs

- The primary organization of care delivery should be around the integration required for every patient.
- This will greatly simplify the coordination of care for patients with multiple medical conditions.
- The patient with multiple conditions will be better off.
Principles of Value-Based Competition

1. The goal should be **value for patients**, not lowering costs or offering every service
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
Experience, Scale, and Value in Health Care Delivery

The Virtuous Circle in a Medical Condition

- The virtuous cycle extends across geography within integrated organizations.
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6. Competition should be regional and national, not just local
   - Patients select excellent providers in the region for their medical condition, rather than the closest provider for all services
   - Excellent providers manage delivery across multiple geographies
   - Utilize partnerships to integrate care across separate institutions
Integrating Services Across Geography

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

- Primary Care Physician
- Specialist Practice
- Community Hospital A
- Academic Medical Center

**New Model:** Care is Organized and Integrated Across Geographic Units By Medical Conditions

- Regional Outpatient Hub
- Inpatient Unit
- Screening/Referral/Disease Management
Managing Care Across Geography
The Cleveland Clinic Managed Practices

- Rochester General Hospital, NY
  Cardiac Surgery
- CLEVELAND CLINIC
- Chester County Hospital, PA
  Cardiac Surgery
- Cape Fear Valley Health System, NC
  Cardiac Surgery
- McLeod Heart and Vascular Institute, Columbia, SC
  Cardiac Surgery
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6. Competition should be regional and national, not just local
7. Results must be universally measured and reported

Value: \[
\text{Patient health outcomes} \quad \text{Total cost of achieving those outcomes}
\]
Patient Satisfaction with Care Experience

Measuring Value

Patient Initial Conditions → Process

- Evidence-based medicine
- Protocols
- Guidelines

Patient Compliance

(Health) Outcomes

- E.g., Hemoglobin A1c levels of patients with diabetes

Health Indicators

Patient Reported Health Outcomes

Patient Satisfaction with Care Experience
Measuring Results
Fundamentals

• Measure outcomes, not just 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

Tier 1
Survival

Tier 2
Degree of recovery / health

Tier 3
Time to recovery or return to normal activities

Disutility of care or treatment process (e.g., treatment-related discomfort, complications, or adverse effects, diagnostic errors, treatment errors and their consequences in terms of additional treatment)

Sustainability of recovery or health over time

Long-term consequences of therapy (e.g., care-induced illnesses)
Measuring Breast Cancer Outcomes

- Survival
  - Survival rate
    (One year, three year, five year, longer)

- Degree of recovery / health
  - Remission
  - Functional status

- Time to recovery or return to normal activities
  - Time to remission
  - Time to achieve functional status

- Disutility of care or treatment process
  - Nosocomial infection
  - Nausea
  - Vomiting
  - Febrile neutropenia
  - Limitation of motion
  - Depression

- Sustainability of recovery or health over time
  - Cancer recurrence
  - Incidence of secondary cancers
  - Sustainability of functional status
  - Brachial plexopathy
  - Premature osteoporosis

- Long-term consequences of therapy
  - Incidence of secondary cancers
  - Brachial plexopathy
Measuring Results
Fundamentals

• 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
  - Compare each outcome across time and, where possible, across provider teams
  - Compare absolute outcomes rather than wait for consensus on monetizing and weighting types of outcomes

• Outcomes must be adjusted for risk/patient initial circumstances
Measuring Initial Conditions
Breast Cancer

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

- Initial conditions should be reflected in outcome stratification or risk adjustment based on patient mix

- As care delivery improves, some initial conditions that once affected outcomes will decline in importance
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7. **Results** must be universally measured and reported

8. Reimbursement should be aligned with **patient value** and **reward innovation**
   - Reimbursement for **care cycles**, not for discrete treatments, services, or treatment time (e.g. per diems)
   - Reimbursement for **prevention and screening**, not just treatment
   - Reimbursement for **diagnosis separately from treatment**
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7. **Results** must be universally measured and reported
8. Reimbursement should be aligned with **value** and reward **innovation**

9. **Information technology** will enable restructuring of care delivery and **measuring results**, but is **not a solution by itself**
   - Common data definitions
   - Interoperability standards
   - Patient-centered database
   - Covering the full care cycle
   - Accessible across the care cycle, including by referring and follow-up entities
   - Accessible to patients
Moving to Value-Based Competition
Implications for Providers

• Organize around integrated practice units (IPUs) for each medical condition and bundles of medical conditions

• Choose the appropriate scope of services in each facility based on excellence in patient value
  – Scale effect

• Integrate services for each IPU / medical condition across geographic locations

• Employ formal partnerships and alliances with the independent practices involved in the care cycle to integrate care, improve capabilities, and/or obtain consultations

• Measure outcomes and costs for every medical condition over the full care cycle

• Implement a single, integrated, patient-centric electronic medical record system which is utilized by every unit and accessible to partners, referring physicians, and patients

• Lead the development of new contracting models with health plans based on bundled reimbursement for care cycles

• Expand high-performance IPUs across geography using an integrated model
  – Instead of a federation of broad line, stand-alone facilities
Managing Care Across Geography
The Children’s Hospital of Philadelphia (CHOP) Affiliations

- Abington Memorial Hospital, PA
  Pediatric Inpatient Care
- Chester County Hospital, PA
  Pediatric Inpatient Care
- Grand View Hospital, PA
  Pediatric Inpatient Care
- Shore Memorial Hospital, NJ
  Pediatric Inpatient Care

CHILDREN’S HOSPITAL
OF PHILADELPHIA
Moving to Value-Based Competition

Health Plans

“Payor”

Value-Added Health Organization
Moving to Value-Based Competition

Value-Adding Roles of Health Plans

• Provide for comprehensive prevention, screening, and chronic disease management services to all members

• 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 care cycle and across medical conditions

• Encourage and reward integrated practice unit models by providers

• Design new bundled reimbursement structures for care cycles instead of fees for discrete services

• Assemble, analyze and manage the total medical records of members

• Measure and report overall health results achieved for members versus other plans

• Health plans will require new capabilities and new types of staff to play these roles
Creating a High-Value Health Care System: Roles and Responsibilities

**Employers**

- Set the goal of *employee health*
  - Goal alignment with patients
- Assist employees in *healthy living* and *active participation in their own care*
- Provide for convenient and high value *prevention, screening, and disease management* services
  - On site clinics
- Set *new expectations for health plans*, including self-insured plans
  - Plans should assist subscribers in *accessing excellent providers* for their medical condition
  - Plans should contract for care *cycles rather* than discrete services
- Provide for *health plan continuity* for employees, rather than plan churning
- Find ways to *expand insurance coverage* and advocate *reform of the insurance system*
- Measure and hold employee benefit staff accountable for the company’s *health value received*
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 or amenities
- Comply with treatment and preventative practices
- Work with the health plan in long-term health management
  - Shifting plans frequently is not in the consumer’s interest
- But “consumer-driven health care” is the wrong metaphor for reforming the system
How Will Redefining Health Care Begin?

- It is already happening in the U.S. and other countries
- Providers, as well as health plans and employers, can take voluntary steps in these directions, and will benefit irrespective of other changes
- The changes will be 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 and health plans can and should take the lead
Health Care Delivery in Resource-Poor Settings

Current Model
• The product is treatment
• Measure volume of services (# tests, treatments)
• Focus on specialties or types of practitioners
• Discrete interventions
• Individual disease stages
• Fragmentation of programs and entities
• Localized pilots

New Model
• The product is health
• Measure value of services (health outcomes per unit of cost)
• Integrated care delivery
• Care cycles
• Sets of prevalent co-occurrences
• Integrated care delivery systems
• Integrated systems across communities and regions
Integrating Delivery System and Context Resource-Poor Settings

- Health care delivery must incorporate the **realities of patient circumstances**
- Health care system development should maximize the leverage of the health system to **positively impact the broader context**
Designing the Health Care System

HIV/AIDS

↑  
↑

Tuberculosis

↓  
↓

Maternal and Peri-natal Care

↓  
↓