Value-Based Health Care Delivery

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Harvard Business School

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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.
Redefining Health Care Delivery

• Universal coverage and access to care are **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 delivery system that **dramatically improves patient value**
  – Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
• How to construct 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.

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Today, 21st century medical technology is often delivered with 19th century organization structures, management practices, measurement, and pricing.

- Process improvements, care pathways, lean production, safety initiatives, disease management and other overlays to the current structure are beneficial but not sufficient.

- “Consumers” cannot fix the dysfunctional structure of the current system.
Harnessing Competition on Value

• **Competition for patients/subscribers** is a powerful force to encourage restructuring of care and continuous improvement in value

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

  Financial success of system participants ≠ Patient success

• Creating positive-sum **competition on value** is a central challenge in health care reform in every country
Principles of Value-Based Health Care Delivery

The fundamental issue in health care is 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 higher value, 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 (IPUs)
   - Including primary and preventive care for distinct patient populations
2. Measure Outcomes and Cost for Every Patient
3. Utilize Bundled Reimbursement Models for Care Cycles
4. Integrate Provider Systems
5. Grow by Expanding Excellent IPUs Across Geography
6. Create an Enabling Information Technology Platform
1. Organize into Integrated Practice Units
Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services

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Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services

New Model:
Organize into Integrated Practice Units (IPUs)

## Integrating Across the Cycle of Care: Breast Cancer

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

### Accessing
- **Office visits**
- **Mammography lab visits**
- **High risk clinic visits**
  - Lab visits
  - Hospital stays
  - Visits to outpatient radiation or chemotherapy units
  - Rehabilitation facility visits
  - Pharmacy
  - 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**
- **Lab tests**

### Diagnosing
- **Medical history**
- **Determining the specific nature of the disease** (mammograms, pathology, biopsy results)
- **Genetic evaluation**
- **Labs**

### Preparing
- **Choosing a treatment plan**
- **Surgery prep** (anesthetic risk assessment, EKG)
- **Plastic or onco-plastic surgery evaluation**
- **Neo-adjuvant chemotherapy**

### Intervening
- **Surgery** (breast preservation or mastectomy, oncoplastic alternative)
- **Adjuvant therapies** (hormonal medication, radiation, and/or chemotherapy)
  - **Physical therapy**

### Recovering/Rehabing
- **In-hospital and outpatient wound healing**
- **Treatment of side effects** (e.g. skin damage, cardiac complications, nausea, lymphedema and chronic fatigue)

### Monitoring/Managing
- **Breast Cancer Specialist**
- **Other Provider Entities**
- **Periodic mammography**
- **Other imaging**
- **Follow-up clinical exams**
- **Treatment for any continued or later onset side effects or complications**
# Integrating Across the Cycle of Care

## 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 and factors on risk factors</td>
<td>Self exams</td>
<td>Office visits</td>
<td>Medical history</td>
<td>Medical history</td>
<td>Choosing a treatment plan</td>
<td>Surgery (breast preservation or mastectomy, oncoplastic alternative)</td>
<td>In-hospital and outpatient wound healing</td>
<td>Periodic mammography</td>
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<tr>
<td>Counseling patient and family on the diagnostic process and the diagnosis</td>
<td>Mammograms</td>
<td>Office visits</td>
<td>Determining the specific nature of the disease (mammograms, pathology, biopsy results)</td>
<td>Choosing a treatment plan</td>
<td>Surgery prep (anesthetic risk assessment, EKG)</td>
<td>Treatment of side effects (e.g., skin damage, cardiac complications, nausea, lymphedema and chronic fatigue)</td>
<td>Other imaging</td>
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<tr>
<td>Explaining patient treatment options/shared decision making</td>
<td>Ultrasound</td>
<td>Hospital stays</td>
<td>Genetic screening</td>
<td>Plastic or oncoplastic surgery evaluation</td>
<td>Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</td>
<td>Physical therapy</td>
<td>Follow-up clinical exams</td>
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<tr>
<td>Patient and family psychological counseling</td>
<td>MRI</td>
<td>Visits to outpatient radiation or chemotherapy units</td>
<td>Clinical exams</td>
<td>Neo-adjuvant chemotherapy</td>
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<tr>
<td>Counseling on the treatment process</td>
<td>Labs (CBC, Blood chems, etc)</td>
<td>Pharmacy</td>
<td>Monitoring for lumps</td>
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<tr>
<td>Education on managing side effects and avoiding complications of treatment</td>
<td>MRI, CT</td>
<td>Laboratory visits</td>
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<tr>
<td>Achieving compliance</td>
<td>Recurring mammograms (every months for the first 3 years)</td>
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<td>Counseling on rehabilitation options, process</td>
<td>Range of movement</td>
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<td>Achieving compliance</td>
<td>Side effects measurements</td>
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<td>Psychological counseling</td>
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<td>Counseling on long term risk management</td>
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Breast Cancer Specialist
Other Provider Entities
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. Measure Outcomes and Cost For Every Patient

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

Tier 1
Health Status Achieved
- Survival

Tier 2
Process of Recovery
- Degree of health/recovery
- Time to recovery or return to normal activities

Tier 3
Sustainability of Health
- Disutility of care or treatment process (e.g., discomfort, complications, adverse effects, errors, and their consequences)
- Sustainability of health or recovery and nature of recurrences
- Long-term consequences of therapy (e.g., care-induced illnesses)
3. Utilize Bundled Reimbursement Models for Care Cycles

- Fee for service
- Bundled reimbursement for medical conditions
- Global capitation
- Global budgeting
What is 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 Bundled Payment

- Prices for **short** episodes (e.g. inpatient only, procedure only)
- **Separate** payments for physicians and facilities
- **Pay-for-performance** bonuses
- “**Medical Home**” payment for add-on services

- DRGs can be a **starting point** for bundled models
3. Utilize Bundled Reimbursement Models for Care Cycles

- Bundled reimbursement motivates **value improvement, care cycle optimization**, and **spending to save**
  - Let **experts** decide the value of individual services and products within the bundle, rather than outside parties

- **Outcome measurement and reporting** at the medical condition level is needed for any reimbursement system to ultimately succeed
4. Integrate Provider Systems

Confederation of Stand-alone Units/Facilities

- Fragmented and duplicative services
- Passive referrals

Integrated Care Delivery Network

- The provider network is more than the sum of its parts
Levels of System Integration

1. **Rationalize service lines/IPUs** across facilities to improve volume, avoid duplication, play to strength, and concentrate excellence

2. Offer specific services at the **appropriate facility**
   - E.g. acuity level, cost level, need for convenience
   - Refer patients to the appropriate unit

3. Clinically integrate care **across facilities**, within an IPU structure
   - IPUs extend across facilities
     - Consistent protocols, consultations with experts
     - Integrating across the full care cycle
   - Linking preventative/primary care units to specialty IPUs
   - Connecting **ancillary service** units to IPUs
     - E.g. home care, rehabilitation, behavioral health, social work, addiction treatment
5. Grow Excellent Services Across Geography
Children’s Hospital of Philadelphia (CHOP)
Hospital Affiliates

Children’s Hospital of Philadelphia
Main Campus

University Medical Center Princeton
Newborn and Pediatric Care

Abington Hospital
Pediatric Care

Doylestown Hospital
Newborn Care

Phoenixville Hospital
Newborn Care

Grandview Hospital
Pediatric Care

Chester Hospital
Pediatric Care

Pennsylvania Hospital
Pediatric Care

Holy Redeemer Hospital
Newborn Care

Shore Memorial Hospital
Newborn and Pediatric Care
Models of Geographic Expansion

- Diagnostic Centers
- Second Opinions and Telemedicine
- Affiliation Agreements with Independent Provider Organizations
- Locate Convenience Sensitive Services in the Community
- Expand Complex IPU Components (e.g. surgery) to Additional Locations
- Focused Hospitals in Additional Locations
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
- “Structured” data vs. free text
- Templates for medical conditions to enhance the user interface
- Allowing access and communication among all involved parties, including patients
- Architecture that allows easy extraction of outcome and process measures
- Interoperability standards enabling communication among different provider systems
Value-Based Healthcare Delivery: Implications for Health Plans

“Payor”

Value-Added Health Organization
Value-Based Health Care: The Role of Employers

- Employer interests are **more closely aligned with patient interests** than any other system player
  - Employers need healthy, high performing employers
  - 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
      - Absenteeism
      - 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
Transforming the Roles of Employers

**Old Role**

- Set the goal of **reducing health premium costs**
- Focus on **direct cost** of health benefits
- Use bargaining power to negotiate **discounts** from health plans and providers
- **Shift costs to employees** via premium payments, co-payments
- Evaluate plans and providers based on **process compliance** (P4P)
- **Limit or eliminate the employer role** in health insurance

**New Role**

- Set the goal of **employee health**
- Focus on the **overall cost of poor health** (e.g., productivity, lost days)
- Work with health plans and providers to improve overall **value** delivered
- Improve access to **high-value care** (e.g., wellness, prevention, screening, and disease management)
- Evaluate plans and providers based on **health outcomes**
- Take a leadership role in **expanding the insurance system** to encompass individually purchased plans on favorable terms

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A Strategy for U.S. Health Care Reform

Shift Insurance Market:

- Build on the current **employer based system**
- Shift **insurance market competition** by ending discrimination based on pre-existing conditions and re-pricing upon illness
- Create large statewide and multistate **insurance pools to** aggregate volume and buying power and provide a viable insurance option for **individuals and small groups**, coupled with a **reinsurance system** for high cost individuals
- Phase in **income-based subsidies** on a sliding scale for lower income individuals, at a pace that reflects progress of value improvements
- Once viable insurance options are established, **mandate the purchase of health insurance** for higher income and ultimately all Americans
- Give employers a choice of providing insurance or a payroll tax based on the proportion of employees **requiring public assistance**
Restructure Delivery:

- Establish a universal and mandatory outcomes measurement and reporting system
  - Experience reporting as an interim step
- Shift reimbursement systems to bundled payment for cycles of care instead of payments for discrete services
  - Including primary/preventive care bundles for patient segments
- Remove obstacles to restructuring of health care delivery around medical conditions
  - E.g. Stark Laws, Corporate Practice of Medicine, Anti-kickback, Malpractice
- Open up value-based competition for patients within and across state boundaries
  - E.g. Harmonize state licensing, insurance rules
  - Minimum volume standards as an interim step
- 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
- Set rules that encourage responsibility of individuals for their health and health care through incentives for healthy behavior