The Strategy to Transform Health Care and The Role of Outcomes

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The Health Care Problem is a Global Issue

Health Care Spending vs GDP and Income

Notes: Indexes based on local currencies; Income = Personal Disposable Income; HC expenditures as % of GDP are OECD estimates
Source: Economist Intelligence Unit May 2014, BCG analysis

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Incremental “Solutions” Have Had Limited Impact

- Eliminating fraud and conflicts of interest
- Prior authorization for expensive services
- Electronic medical records
- Evidence-based medicine
- Safety/eliminating errors
- Introducing “lean” process improvements
- Care coordinators
- Retail clinics/urgent care
- Turning patients into paying consumers

• Restructuring health care delivery will be necessary, not incremental improvements
Solving the Health Care Problem

• The **fundamental goal** of health care is to maximize **value for patients**

• Improving value is the **definition of success** for every actor

\[
\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering these outcomes}}
\]

• Value is the only goal that can **unite the interests** of system participants

• Improving value is also the **only real solution**

• The question is how to design a health care delivery system that **substantially improves patient value**
Where is Value Created?

• Value is created in caring for a patient’s medical condition over the full cycle of care
  − not by a hospital, a care site, a specialty, an episode, or an intervention

Value = \[
\frac{\text{The set of outcomes that matter for the condition}}{\text{The total costs of delivering them over the care cycle}}
\]

• In primary care, value is created in serving segments of patients with similar primary and preventive needs, such as the disabled, patients with multiple chronic conditions, and healthy adults

• The most powerful single lever for reducing cost is improving outcomes
The Strategic Agenda for Value-Based Health Care Delivery

1. Re-organize Care around Patient Conditions, into Integrated Practice Units (IPUs)
   - Realign primary and preventive care into IPUs serving distinct patient segments

2. Measure Outcomes and Costs for Every Patient

3. Move to Bundled Payments for Care Cycles

4. Integrate Multi-site Care Delivery Systems

5. Expand Geographic Reach To Drive Excellence

6. Build an Enabling Information Technology Platform
Organizing Care Around Medical Conditions

Migraine Care in Germany

**Existing Model:**
Organize by Specialty and Discrete Service

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

**Value-Based Model:**
Organize Around Conditions into Integrated Practice Units (IPUs)

- Affiliated Imaging Unit
- West German Headache Center: Neurologists, Psychologists, Physical Therapists “Day Hospital”
- Affiliated “Network” Neurologists
- Essen Univ. Hospital Inpatient Unit

• Target Patient Segment: **Low-income older adults** living in **under-served, urban** communities

• **Multidisciplinary team** covering the full care cycle: physicians, PAs, NPs, RNs, medical assistants, care managers, social workers, clinical informatics specialists, and scribes

• Co-located in **dedicated facilities** in 15 practice sites across the Midwest

• Explicit processes to **engage** patients and reduce **obstacles to accessing** care

• Offers **free rides, home-visits**, and selected in-house services such as **podiatry, behavioral health, and pharmacy**

• Forms close relationships with **preferred specialists** and **testing** and **imaging** partners

• **Accountable** for outcomes, cost, and patient experience

• Time-based **payment** covering overall care

• Network of **15 practice sites** across the Midwest

Source: Oak Street Health
Accelerating the Shift to IPUs
Specialist Breast Center Certification in Europe

- **Minimum overall volume** of patients (150 new cases annually)
  - Surgeons (50 new cases annually), radiologists, and pathologists meet individual volume minimums

- **Dedicated teams** using a multidisciplinary approach
  - Includes surgery, oncology, radiation, pathology, radiology, nursing, psychology, genetics
  - Specialists spend a minimum % of time on breast care
  - Written protocols for diagnosis, treatment and follow-up
  - Mandatory, weekly multidisciplinary case management meetings including all key team members
  - Discuss care management decisions for at least 90% of patients

- Led by a **Clinical Director**

- Centers provide (or direct) all services throughout the patient’s pathway
  - Affiliations with providers of other needed services – e.g. plastic surgery

- Routinely measure and analyze **clinical performance**
  - Designated data manager responsible for collecting and analyzing data
  - Benchmarking and annual performance reviews

- Administered by the European Society of Breast Cancer Specialists, a cross-specialty society
The Quality Measurement Landscape

- **Patient Initial Conditions**
  - Protocols/Guidelines
  - E.g. Staff certification, facilities standards

- **Patient Experience/Engagement/Adherence**
  - E.g. PSA, Gleason score, surgical margin

- **Processes**
  - Protocols/Guidelines

- **Indicators**
  - E.g. PSA, Gleason score, surgical margin

- **(Health) Outcomes**

E.g. Staff certification, facilities standards
Principles of Outcome Measurement

• Measured by medical condition or primary care patient segment
  – Not around specialties, procedures, or interventions

• Outcomes are always multi-dimensional and include what matters most to the patient
  – Not just to clinicians

• Cover the full cycle of care for the condition

• Include initial conditions/risk factors necessary to allow adjustment for patient differences

• Standardized measure sets by condition to amplify comparison and learning across providers and care organizations
The Outcome Measures Hierarchy

**Tier 1**
Health Status Achieved or Retained
- **Survival**
- Degree of health/recovery
- Time to recovery and return to normal activities
- Sustainability of health/recovery and nature of recurrences
- Disutility of the care or treatment process (e.g., diagnostic errors and ineffective care, treatment-related discomfort, complications, or adverse effects, treatment errors and their consequences in terms of additional treatment)

**Tier 2**
Process of Recovery
- Achieved clinical status
- Achieved functional status
- Care-related pain/discomfort
- Complications
- Reintervention/readmission

**Tier 3**
Sustainability of Health
- Long-term clinical status
- Long-term functional status
- Long-term consequences of therapy (e.g., care-induced illnesses)

Source: NEJM Dec 2010
The Importance of Measuring Multiple Outcomes
Prostate Cancer Care in Germany

- **5 year disease specific survival**
  - Average hospital: 94%
  - Best hospital: 95%

- **Severe erectile dysfunction after one year**
  - Average hospital: 75.5%
  - Best hospital: 17.4%

- **Incontinence after one year**
  - Average hospital: 43.3%
  - Best hospital: 9.2%

Source: ICHOM
Understanding the Cost of Care: Principles

- Cost is the actual expense of patient care, not the sum of charges billed or collected.

- Cost must be measured around the patient and by condition, with costs aggregated over the full cycle of care.

- Cost is driven by the actual use of resources involved in a patient’s care (personnel, facilities, supplies) and the associated support services (e.g. billing, HR, IT).

- Understanding costs requires mapping the care process.

Major Cost Reduction Opportunities in Health Care

• Utilize physicians and skilled staff at the top of their licenses
• Eliminate low- or non-value added services or tests
• Reduce process variation that increases complexity
• Reduce cycle times across the care cycle
• Move uncomplicated services out of highly-resourced facilities
• Reduce service duplication and fragmentation across sites
• Rationalize redundant administrative and scheduling units
• Invest to lower the overall cost across the care cycles
• Increase cost awareness in clinical teams

• Our work reveals typical cost reduction opportunities of 20-30%
• Many cost reduction opportunities will actually improve outcomes
How to Pay for Health Care
Prevailing Payment Mechanisms

- Fee For Service
- Global Provider Budgets
- Global Capitation/Population Based Payments
- Bundled Payments

VOLUME BASED

VALUE BASED
Bundled Payment

- A single risk adjusted payment for the care of a **condition** (or patient segment for primary care)
- Covers the full set of services and facilities needed to treat the **condition over the full care cycle**
- Contingent on **condition-specific outcomes**
- At risk for bundled payment versus the **cost of** all included services for the **condition**
  - limits of responsibility for unrelated care and outliers
- Accountable for outcomes and cost **condition by condition**

Capitation (Population-Based)

- A single risk-adjusted payment for the overall care for a **life**
- Responsible for **all needed care** in the covered population
- Accountable for **population level quality metrics**
- At risk for the difference between **overall spending** and the sum of payments
- Accountable for **population total cost** and **population quality outcomes**
Bundled Payment in Practice
Hip and Knee Replacement in Stockholm, Sweden

- **Components** of OrthoChoice bundle

<table>
<thead>
<tr>
<th>Pre-op evaluation</th>
<th>All physician and staff fees and costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab tests</td>
<td>1 follow-up visit within 3 months</td>
</tr>
<tr>
<td>All Radiology</td>
<td>Responsible for complications and any</td>
</tr>
<tr>
<td>Surgery &amp; related admissions</td>
<td>additional surgery to the joint within 2 years</td>
</tr>
<tr>
<td>Prosthesis</td>
<td>If post-op deep infection requiring</td>
</tr>
<tr>
<td>Drugs</td>
<td>antibiotics occurs, guarantee extends to 5 years</td>
</tr>
<tr>
<td>Inpatient rehab</td>
<td></td>
</tr>
</tbody>
</table>

- Initially applied to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- The Stockholm bundled price for a knee or hip replacement is about **US $8,300**
### Implications for Value

#### Bundled Payments
- **Accountability** condition by condition
- Drives *multidisciplinary care* (IPUs) and directly rewards *good outcomes*
- Strong incentives to *improve efficiency*
- Providers focus on *areas of excellence*
- Expands *competition and transparency* condition by condition
- Expands and informs *patient choice*
- **Competition on value** by condition

#### Capitation
- **No accountability** at the patient level
- Concentrate on *controlling high cost areas* across the population
- Provider *offers every service* to capture revenue ("leakage")
- Threatens *competition* by driving health system *consolidation*
- Eliminates or reduces *patient choice*
- Competition at the *wrong level* on the *wrong things*
Bundled Payment in Practice
Hip and Knee Replacement in Stockholm, Sweden

- **Components** of OrthoChoice bundle

  - Pre-op evaluation
  - Lab tests
  - All Radiology
  - Surgery & related admissions
  - Prosthesis
  - Drugs
  - Inpatient rehab
  - All physician and staff fees and costs
  - 1 follow-up visit within 3 months
  - Responsible for complications and any additional surgery to the joint within 2 years
  - If post-op deep infection requiring antibiotics occurs, guarantee extends to 5 years

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- **Mandatory reporting** by providers to the joint registry plus supplementary reporting

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Results:
- Complications fell 16% after 1st year; 25% after 2nd year
- Functional outcomes remained constant
- Length of stay fell 16%, cost fell by 17%
- Volume shifted toward specialty hospitals and away from full service acute hospitals
- Standardization and improvement of care processes and efficiency took place
- Patients were exceptionally satisfied
Shifting The Strategic Logic of Health Systems

Confederation of Standalone Units/Facilities

Increase volume

Clinically Integrated, Value-Based Delivery System

Increase value
Strategic Choices for Health Systems

• Define those **conditions and segments** where the organization can deliver excellent value
  – Do more of what you **do well**
  – Be open to **partner or affiliate** in other areas

• Develop a **distinctive strategy** in each condition

• Aggregate **volume by condition** in fewer locations

• Perform services in the **right location(s)** based on the condition, acuity level, resource intensity, and need for convenience
  – E.g., move **routine surgeries** out of tertiary hospitals to smaller, more specialized facilities and outpatient surgery centers

• Integrate care **across locations** via IPUs and a hub and spoke structure
Delivering the Right Care at the Right Location
Rothman Institute, Philadelphia

Patient Risk Factors: Age, Weight, Expected Activity, General Health, and Bone Quality

Cost of Total Hip Replacement:
- Ambulatory Surgery Center: ~$12,000 USD
- Rothman Orthopaedic Specialty Hospital: ~$45,000 USD

Facility Capability:
- Lowest Complexity
- Low
- Medium
- Highest Complexity

Locations:
- Ambulatory Surgery Center
- Rothman Orthopaedic Specialty Hospital
- Bryn Mawr Community Hospital
- Jefferson University Academic Medical Center
Partnering and Expanding Geographic Reach
The Cleveland Clinic Cardiac Affiliate Program

- Central DuPage Hospital, IL
  Cardiac Surgery

- Fisher-Titus Medical Center, OH
  Cardiac Surgery

- Pikeville Medical Center, KY
  Cardiac Surgery

- Cape Fear Valley Medical Center, NC
  Cardiac Surgery

- McLeod Heart & Vascular Institute, SC
  Cardiac Surgery

- Cleveland Clinic Florida Weston, FL
  Cardiac Surgery

- Rochester General Hospital, NY
  Cardiac Surgery

- Chester County Hospital, PA
  Cardiac Surgery

- The Bellevue Hospital, OH
  Cardiac Surgery
Implications for Suppliers

- Compete on delivering **unique value** over the **full care cycle**
- **Demonstrate value** based on careful study of long term outcomes and costs versus alternative approaches
  - Move to **multidimensional outcomes** in clinical trials
- Ensure that products are used only by the **patients that benefit**
- Take **responsibility** for ensuring the **right care delivery process**
  - Expanded **role in the care cycle**
- Embrace the shift to **bundled payments** to reward value and allow provider flexibility plus **new supplier contracting approaches**
The Power of Outcomes

• Outcomes **define success** for every physician, health care organization and payor

• Outcomes encourage **multidisciplinary IPUs**

• Outcomes highlight and validate **value-enhancing cost reduction**

• Outcomes guide the delivery of the **right services** at the **right locations**

• Outcomes enable shifting to true **value-based bundled payments**

• Outcomes define areas for **service line choices, growth opportunities and areas for affiliation**

• **Standardization** of outcomes by condition accelerates measurement and improvement
The Power of Outcome Measurement

Adult Kidney Transplant Outcomes

1987-1989

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

- 16 greater than predicted survival (7%)
- 20 worse than predicted survival (10%)

The Power of Outcome Measurement

Adult Kidney Transplant Outcomes 2011-2013

Number of programs included: 209
Number of transplants: 38,370
1 Year Graft Survival: 94.7%

- 4 greater than expected graft survival (1.9%)
- 5 worse than expected graft survival (2.4%)
Starting Position: Outcomes in the Early 1990s

<table>
<thead>
<tr>
<th>Congenital Procedure</th>
<th>Texas Children’s</th>
<th>Best Available Benchmark</th>
<th>Risk-adjusted Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventricular Septal Defect</td>
<td>6%</td>
<td>3%</td>
<td>Inpatient Mortality</td>
</tr>
<tr>
<td>Arterial Switch Operation</td>
<td>14%</td>
<td>9%</td>
<td>5-year Mortality</td>
</tr>
<tr>
<td>Norwood Procedure</td>
<td>100%</td>
<td>43%</td>
<td>Inpatient Mortality</td>
</tr>
</tbody>
</table>
Traditional Care Delivery Structure

People and facilities

- Multiple, itinerant surgeons, anesthesiologists, perfusionists, others
- Part-time staff involved in other condition areas
- Shared operating rooms (initially with adults)
- Shared intensive care, managed by cardiology

Patient Management

- Handoffs across specialties
- Unilateral decision-making
- No formal meetings

Measurement and Outcomes

- No quality or outcome measurement beyond intraoperative process measures
- No structured quality improvement process
Outcomes in congenital heart surgery are optimized by surrounding the patient with the greatest expertise possible during all times of the surgical and postoperative period.

RBB Mee
December 1991
Texas Children’s Heart Center
Creating an IPU

Dedicated Team
- Surgeons
- Anesthesiologists
- Perfusionists
- Other OR staff
- Cardiologists
- Intensivists
- Critical Care Nurses
- Social workers, nurse liaisons

Structure and Processes
- Co team captains
- Detailed protocols
- Care coordinators
- Multi-disciplinary rounds
- A series of regular meetings over the week for case management and quality

Dedicated Facilities
- Dedicated ORs for Pediatric Heart Surgery
- CVICU
- Dedicated step-down and inpatient units
- Dedicated imaging, cath lab
- Family support facilities and protocols

Dedicated Programs
- Neurodevelopmental clinic
- Special needs service
- Adult program
Texas Children’s Heart Center

Pediatric Cardiac Operating Room

Intensive Care Unit
The “Software” of High Value Care

• Daily multidisciplinary patient rounds (6:30am/4:15pm/11:00pm)

• Patient presentation/ discussion at bedside

• Monday morning case conferences to reach consensus on each patient prior to surgery
Texas Children’s Heart Center
The Measurement Journey

Little or No Formal Measurement

- Intraoperative indicators
- Tracked Protocols/processes
- Inpatient mortality
- CVICU outcomes
- Neurodevelopmental outcomes
- Long-term quality of life outcomes
Heart Center Results

- Superior outcomes
- Rapid growth and highest surgical volume the region
- Attracts the most complex cases and revisions in the region, nationally, and internationally
- Other providers across the region seeking affiliation
- Attracting top talent across all roles
- Ranked # 2 in America in congenital heart care
Transforming Health Care

• We **know the path** forward
• **Value for Patients** is the True North
• **Value Based Thinking** will revolutionize care delivery, Payment, and Strategy for Health Systems
• **Payors** must accelerate this change if they are to remain relevant and viable

• **Standardized Outcome Measurement** by condition and patient segment is the most powerful driver
• ICHOM aims to partner with all systems acting to accelerate the journey

We Invite You to Work with Us