Value-Based Health Care
The Agenda for Anesthesiology

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American Society of Anesthesiologists
Leading the Future of Health Care
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Questions or Comments:
Please contact HBS/ISC Senior Health Care Project Leader and Lecturer, Dr. Toyin Okanlawon (tok@hbs.edu)
The Health Care Problem is a Global Issue
Health Care Spending vs GDP and Income
1992-2013

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 Limited Impact

- Prior authorization for expensive services
- Patients as paying customers
- Electronic medical records
- Turning patients into paying consumers
- Evidence-based medicine
- Safety/eliminating errors
- Introducing “lean” process improvements
- Care coordinators
- Retail clinics/urgent care
- Programs to address generic high cost areas (e.g. readmissions)
- Mergers and consolidation

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

- The fundamental goal of health care is maximizing value for patients

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

- Moving from volume to value is the only real solution, and can unite the interests of all system participants

- The question is how to design a health care delivery system that substantially improves patient value

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Issues Facing Anesthesiology

• **Maximizing the impact** of anesthesiology in value based health care

• **Demonstrating the contribution** of anesthesiologists in a cost-sensitive world

• Where anesthesiology fits in **value-based reimbursement**
Principles of Value Based Health Care

- Value **cannot be understood** at the level of a hospital, a care site, a specialty, or an intervention

- Value is created in caring for a patient’s **medical condition** over the **full cycle of care**

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

- In **primary and preventive care**, value is created in serving **segments of patients** with similar primary and preventive needs

- The medical condition is the proper unit of **value creation** and **value measurement** in health care delivery
Creating a Value-Based Health Care Delivery Organization

The Strategic Agenda

1. Re-organize into Integrated Practice Units (IPUs) around Conditions
2. Measure Outcomes and Costs for Every Patient
3. Move to Value-Based Reimbursement Models, and Ultimately Bundled Payments for Conditions
4. Integrate Multi-Site Care Delivery Systems
5. Expand or Affiliate Across Geography to Enable Excellence
6. Build an Enabling Information Technology Platform
Organize Care Around Patient Medical Conditions
Headache Care in Germany

Organize by Specialty and Discrete Service

Integrated Practice Units for the Condition

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

Affiliated Imaging Unit
West German Headache Center Neurologists Psychologists Physical Therapists "Day Hospital"

Primary Care Physician

Affiliated “Network” Neurologists


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### Optimizing Over The Cycle of Care

#### Acute Hip and Knee-Osteoarthritis

<table>
<thead>
<tr>
<th>CARE DELIVERY PROCESS</th>
<th>DIAGNOSING</th>
<th>PREPARING</th>
<th>INTERVENING</th>
<th>RECOVERING/REHABBING</th>
<th>MONITORING/MANAGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONITOR</td>
<td>Imaging</td>
<td>Anesthesia</td>
<td>Surgical</td>
<td>Monitoring</td>
<td></td>
</tr>
<tr>
<td>PREVENT</td>
<td>Joint-specific symptoms and function (e.g., WOMAC scale)</td>
<td>Joint-specific symptoms and function</td>
<td>Joint-specific symptoms and function</td>
<td>Other Provider Entities</td>
<td></td>
</tr>
<tr>
<td>ACQUIRING/ENGAGING</td>
<td>• Conduct PCP exam</td>
<td>• Administer anesthesia (general, epidural, or regional)</td>
<td>• Acute pain service</td>
<td>Anesthesiologist</td>
<td></td>
</tr>
<tr>
<td>MEASURING</td>
<td>• Refer to specialists, if necessary</td>
<td>• Home assessment</td>
<td>• Monitor coagulation</td>
<td>• Consult regularly with patient</td>
<td></td>
</tr>
<tr>
<td>ACCESSING (LOCATION)</td>
<td>• Prescribe anti-inflammatory medicines</td>
<td>• Anesthesia assessment</td>
<td>• MONITOR</td>
<td>• Prescribe prophylactic antibiotics when needed</td>
<td></td>
</tr>
<tr>
<td>MONITORING/PREVENTING</td>
<td>• Recommend exercise regimen</td>
<td>• Review history and imaging</td>
<td>• SURGICAL PROCEDURE</td>
<td>• Monitor long-term exercise plan</td>
<td></td>
</tr>
<tr>
<td>• Set weight loss targets</td>
<td>• Perform physical exam</td>
<td>• SURGICAL PREP</td>
<td>• Determine approach (e.g., minimally invasive)</td>
<td>REVISIONS</td>
<td></td>
</tr>
<tr>
<td>• PREPARING</td>
<td>• Physical readiness/weight loss</td>
<td>• Conduct pre-op physical exam</td>
<td>• Insert device</td>
<td>• Review joint, if necessary</td>
<td></td>
</tr>
<tr>
<td>• INTERVENING</td>
<td>• Pre-medications</td>
<td>• Conduct pre-op physical exam</td>
<td>• Cement joint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• RECOVERING/REHABBING</td>
<td>• Physical readiness/weight loss</td>
<td>• Operations room</td>
<td>• Pain MANAGEMENT</td>
<td></td>
<td></td>
</tr>
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<td>• MONITORING/MANAGING</td>
<td>• Pre-medication</td>
<td>• Operating room</td>
<td>• Post-operative pain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key Areas

- **Educating/Engaging:**
  - Importance of exercise, weight reduction, proper nutrition
  - Meaning of diagnosis
  - Setting expectations
- **Preventing:**
  - Prescribe anti-inflammatory medicines
  - Recommend exercise regimen
  - Set weight loss targets
- **Diagnosing:**
  - Imaging (e.g., MR and x-ray)
  - CLINICAL EVALUATION:
    - Review history and imaging
    - Perform physical exam
- **Preparing:**
  - Anesthesia assessment
  - Home assessment
- **Intervening:**
  - Surgical procedure
  - Anesthesia
  - Pain management
- **Recovering/Rehabbing:**
  - Surgical care
  - Monitoring

### Other Considerations

- Nutritional and weight management
- Exercise and physical therapy
- Rehabilitation and community support
Integrating Across the Care Cycle
A Surgeon Teaches Rehabilitation to Physical Therapists
Organize Care Around Patient Medical Conditions

**Head and Neck Center at MD Anderson**

**Organize by Specialty and Discrete Service**
- Primary Care Physician
- Medical Oncologist
- Radiation Oncologist
- Surgical Oncologist
- Diagnostic Radiologist
- Dentist
- Anesthesiologist
- Nutritionist
- Speech & Swallow

**Integrated Practice Unit for the Condition**

**Shared Ancillary Services**
- Smoking Cessation
- Substance Abuse

**HEAD and NECK CENTER**
- Medical Oncologists
- Surgical Oncologists
- Radiation Oncologists
- Dental Oncologists
- Radiologists
- Pathologists
- Anesthesiologists
- Nurses
- Social Workers
- Nutritionists
- Speech Pathologists
- Patient Advocates
- Patient Access Coordinator

**Facilities**
- Outpatient Clinic
- Swallowing Lab
- Hearing Lab
- Prosthetic Lab

**Shared Facilities**
- Medical and Surgical Wards
- Operating Rooms
- Chemotherapy
- Radiation Therapy
- Pathology Lab

**Shared Staff**
- Cardiologist, Endocrinologist, Plastic Surgeon & Others

Questions or Comments:
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The Playbook for Integrated Practice Units (IPUs)

1. Organized around a **medical condition** or **group of closely related conditions**
2. Care is delivered by a **dedicated, multidisciplinary team** devoting a significant portion of their time to the condition
   - In-house or affiliated staff
3. **Co-located** in **dedicated facilities**, with a **hub and spoke** geographic structure
4. The IPU takes responsibility for the **full cycle of care**
5. **Patient education, engagement, adherence, prevention, and follow-up** are integrated into care, as are tools such as telemedicine and patient measurement
6. The unit has a clear **clinical leader** and common **scheduling, intake**, and financial structure (single **P + L**)
7. A **physician team captain** or a **clinical care manager** (or both) oversees each patient’s care
8. The IPU **routinely measures** outcomes, costs, processes, and experience using a **common platform**
9. The team **accepts joint accountability** for outcomes and costs
10. The team **regularly meets formally and informally** to discuss individual patient care plans and how to improve results
Volume Matters for IPUs and Value

- **More patients** with the same condition enables higher value

### The Virtuous Circle of Value

- Improving Reputation
- Better Value
- Faster Innovation
- Costs of IT, Measurement, and Process Improvement Spread over More Patients
- Greater Leverage in Purchasing
- Greater Patient Volume in a Medical Condition
- Rapidly Accumulating Experience
- Better Information/Clinical Data
- More Fully Dedicated Teams
- More Tailored Facilities
- Rising Capacity for Sub-Specialization
- Higher Utilization of Capacity
- Wider Capabilities and Patient Engagement in the Care Cycle
- Greater Leverage in Purchasing

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Moving to IPUs: Specialist Breast Center Certification in Europe

- **Minimum** overall volume (150 new cases annually)
  - Surgeons (50 new cases annually), radiologists, and pathologists meet individual volume minimums
- **Dedicated teams** with a multidisciplinary approach
  - Includes surgery, oncology, radiation, pathology, radiology, nursing, psychology, genetics
  - Specialists spend a minimum % of time on breast care
- Led by a Clinical Director
  - 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
- Centers provide (or direct) all services throughout the patient’s pathway
  - Affiliations with providers of other needed services – e.g. plastic surgery
- Routinely collect 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
Creating a Value-Based Health Care Delivery Organization

The Strategic Agenda

1. Re-organize into Integrated Practice Units (IPUs) around Conditions
2. Measure Outcomes and Costs for Every Patient
Measure Outcomes for Every Patient
The Quality Measurement Landscape

- **Patient Experience/Engagement/Adherence**
- **Processes**
  - Protocols/Guidelines
  - E.g. Staff certification, facilities standards
- **Indicators**
  - E.g. PSA, Gleason score, surgical margin
- **Outcomes**

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Principles of Outcome Measurement

- Outcomes should be measured by **condition**
  - Not just for specialties, procedures, or interventions
- Outcomes are **always multi-dimensional** and include what matters most to **patients**, not just to clinicians
  - **Patient reported outcomes** are important in every condition
- Outcomes cover the **full cycle of care**
- Outcome measurement includes **initial conditions/risk factors** to control for patient differences

- For each condition outcomes should be **standardized** to maximize comparison, learning, and improvement
The Outcome Measures Hierarchy

Tier 1
Health Status Achieved or Retained
- Survival
- Degree of health/recovery

Tier 2
Process of Recovery
- Time to recovery and return to normal activities
- 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 3
Sustainability of Health
- Sustainability of health/recovery and nature of recurrences
- Long-term consequences of therapy (e.g., care-induced illnesses)

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Source: NEJM Dec 2010
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Value-Based Health Care: The Agenda for Anesthesiology

Measuring Across the Hierarchy
Prostate Cancer Care in Germany

- Average hospital: 94%
- Best hospital: 95%

5 year disease specific survival

Source: ICHOM

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Measuring Across the Hierarchy
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

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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%)

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Measuring the Cost of Care Delivery: Principles

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

- Cost is driven by the **actual use of all the resources** involved in a patient’s care (personnel, facilities, supplies, and support services).

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

- Understanding costs requires **mapping the care process**.

Mapping Resource Utilization
MD Anderson Cancer Center – New Patient Visit

Registration and Verification
- Receptionist, Patient Access Specialist, Interpreter

Intake
- Nurse, Receptionist

Clinician Visit
- MD, mid-level provider, medical assistant, patient service coordinator, RN

Plan of Care Discussion
- RN/LVN, MD, mid-level provider, patient service coordinator

Plan of Care Scheduling
- Patient Service Coordinator

**Decision Point**

<table>
<thead>
<tr>
<th>Source: HBS, MD Anderson Cancer Center</th>
<th>Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient arrives</td>
<td>2</td>
</tr>
<tr>
<td>Check in patient; communicate arrival</td>
<td>2</td>
</tr>
<tr>
<td>Interpreter needed?</td>
<td>N 25%</td>
</tr>
<tr>
<td>Y 9%</td>
<td></td>
</tr>
<tr>
<td>Add language translation time for each process</td>
<td>INT. RPT</td>
</tr>
<tr>
<td>Verify patient information; complete consent forms</td>
<td>40</td>
</tr>
<tr>
<td>Assess patient; assemble paperwork; place patient in room</td>
<td>45</td>
</tr>
<tr>
<td>Initiate patient workup; review patient history; conduct physical exam</td>
<td>45</td>
</tr>
<tr>
<td>Laryngoscopy needed?</td>
<td>N 10%</td>
</tr>
<tr>
<td>Y 89%</td>
<td></td>
</tr>
<tr>
<td>Perform laryngoscopy MD, WA, PA, RN</td>
<td>10</td>
</tr>
<tr>
<td>Clean room complete paperwork; check email and voicemail for updates or changes to plan of care</td>
<td>15</td>
</tr>
<tr>
<td>Review plan of care: introduce team; review schedule for return visit RN</td>
<td>15</td>
</tr>
<tr>
<td>Schedule tasks and consult; communicate schedule to patient; PA, RN</td>
<td>5</td>
</tr>
<tr>
<td>Scheduled for same day? PA, RN</td>
<td>N 10%</td>
</tr>
<tr>
<td>Pt discharged</td>
<td></td>
</tr>
<tr>
<td>Changes to Plan of Care?</td>
<td>Y 5-10%</td>
</tr>
<tr>
<td>Notify patient of changes in plan of care</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: HBS, MD Anderson Cancer Center

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### Time-Driven Activity-Based Costing: Computing Total Cost at Boston Children’s Hospital Pilot

#### Initial consultation

<table>
<thead>
<tr>
<th></th>
<th>Minutes</th>
<th>Cost/minute</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD</td>
<td>X(_1)</td>
<td>Y(_1)</td>
<td>136.13</td>
</tr>
<tr>
<td>RN</td>
<td>X(_2)</td>
<td>Y(_2)</td>
<td>68.04</td>
</tr>
<tr>
<td>CA</td>
<td>X(_3)</td>
<td>Y(_3)</td>
<td>6.17</td>
</tr>
<tr>
<td>ASR</td>
<td>X(_4)</td>
<td>Y(_4)</td>
<td>15.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>$266.08</strong></td>
</tr>
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</table>

#### Surgical procedure

<table>
<thead>
<tr>
<th></th>
<th>Minutes</th>
<th>Cost/minute</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>MD</td>
<td>X(_1)</td>
<td>Y(_1)</td>
<td>584.99</td>
</tr>
<tr>
<td>Anes.</td>
<td>X(_2)</td>
<td>Y(_2)</td>
<td>603.89</td>
</tr>
<tr>
<td>RN</td>
<td>X(_3)</td>
<td>Y(_3)</td>
<td>136.29</td>
</tr>
<tr>
<td>Tech</td>
<td>X(_4)</td>
<td>Y(_4)</td>
<td>97.82</td>
</tr>
<tr>
<td>OR</td>
<td>X(_5)</td>
<td>Y(_5)</td>
<td>329.16</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td><strong>$1752.15</strong></td>
</tr>
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</table>

#### Follow-up or post-operative visit

<table>
<thead>
<tr>
<th></th>
<th>Minutes</th>
<th>Cost/minute</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>MD</td>
<td>X(_1)</td>
<td>Y(_1)</td>
<td>55.19</td>
</tr>
<tr>
<td>RN</td>
<td>X(_2)</td>
<td>Y(_2)</td>
<td>13.61</td>
</tr>
<tr>
<td>CA</td>
<td>X(_3)</td>
<td>Y(_3)</td>
<td>3.09</td>
</tr>
<tr>
<td>ASR</td>
<td>X(_4)</td>
<td>Y(_4)</td>
<td>1.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>$73.66</strong></td>
</tr>
</tbody>
</table>

*Totals have been altered for presentation purposes*
Measuring the Cost of Care Delivery: Principles

- Cost is the **actual expense** of patient care, not the **sum of charges** billed or collected.
- Cost is driven by the **actual use of all the resources** involved in a patient's care (personnel, facilities, supplies, and support services).
- Cost must be measured by **patient and condition**, with costs aggregated over the **full cycle of care**.
- Understanding costs requires **mapping the care process**.
- Proper cost measurement requires a **different cost accounting approach** than prevailing approaches such as departmental, charge, or RVU based costing.

**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 and raises cost
- **Reduce cycle times** across the care cycle
- Invest in higher costs inputs or additional services that will **lower overall care cycle cost**
- Move uncomplicated services **out of highly-resourced** facilities
- Reduce **service duplication** and **volume fragmentation** across sites
- Rationalize redundant **administrative** and **scheduling** units
- Increase **cost awareness** in clinical teams
  - Our work reveals typical **cost reduction opportunities of 20-30%**
  - Many cost improvements will **improve outcomes**
Creating a Value-Based Health Care Delivery Organization

The Strategic Agenda

1. Re-organize into Integrated Practice Units (IPUs) around Conditions
2. Measure Outcomes and Costs for Every Patient
3. Move to Value-Based Reimbursement Models, and Ultimately Bundled Payments for Conditions
### Alternative Value-Based Reimbursement Models

<table>
<thead>
<tr>
<th><strong>Capitation (Population-Based)</strong></th>
<th><strong>Bundled Payment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A single risk-adjusted payment for the overall care for a <strong>life</strong></td>
<td>A single risk adjusted payment for the overall care for a <strong>condition</strong></td>
</tr>
<tr>
<td>Responsible for <strong>all needed care</strong> in the covered population</td>
<td><strong>Not</strong> a specialty, procedure, or short episode</td>
</tr>
<tr>
<td>Accountable for <strong>population level quality metrics</strong></td>
<td>Covers the <strong>full set</strong> of services needed <strong>over an acute care cycle</strong>, or a <strong>defined time period</strong> for chronic care</td>
</tr>
<tr>
<td>At risk for the difference between the <strong>sum of payments</strong> for the population and <strong>overall spending</strong></td>
<td>Contingent on <strong>condition-specific outcomes</strong></td>
</tr>
<tr>
<td>Accountable for <strong>overall cost and population level quality measures</strong></td>
<td>Including responsibility for avoidable <strong>complications</strong></td>
</tr>
<tr>
<td></td>
<td>At risk for the difference between the <strong>bundled price</strong> for each patient and the <strong>actual cost</strong> of all included services</td>
</tr>
<tr>
<td></td>
<td>Limits of responsibility for unrelated care and outliers</td>
</tr>
<tr>
<td></td>
<td>Accountable for costs and <strong>outcomes, patient by patient and condition by condition</strong></td>
</tr>
</tbody>
</table>
### Bundled Payment in Practice

**Hip and Knee Replacement in Stockholm, Sweden**

- **Components** of the OrthoChoice bundle
  - Pre-op evaluation
  - Lab tests
  - Anesthesiology
  - all radiology
  - Prosthesis
  - Drugs
  - Inpatient rehab
  - Related admissions
  - 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

- Initial bundle applied only to **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**
### Bundled Payment in Practice

**Hip and Knee Replacement in Stockholm, Sweden**

- **Components** of the OrthoChoice bundle

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</tr>
<tr>
<td>Prosthesis</td>
<td></td>
</tr>
<tr>
<td>Drugs</td>
<td></td>
</tr>
<tr>
<td>Inpatient rehab</td>
<td></td>
</tr>
<tr>
<td>Related admissions</td>
<td></td>
</tr>
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- Initial bundle applied only to **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**

### Results:
- Complications fell 16% after 1\(^{st}\) year; 25% after 2\(^{nd}\) 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
### Alignment with Value

<table>
<thead>
<tr>
<th>Capitation (Population-Based)</th>
<th>Bundled Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Care</strong></td>
<td><strong>System</strong></td>
</tr>
<tr>
<td>- Little or no accountability at the patient level</td>
<td>- Expands and informs patient choice</td>
</tr>
<tr>
<td>- Decouples payment from patients’ problems</td>
<td>- Encourages provider organization to focus on areas of excellence</td>
</tr>
<tr>
<td>- Accurate risk adjustment is highly challenging</td>
<td>- Creates competition and transparency by condition</td>
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<tr>
<td>- Leads to focus cost reduction on generic high cost areas across the population</td>
<td>- Competition on value, condition by condition</td>
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<table>
<thead>
<tr>
<th>Capitation (Population-Based)</th>
<th>Bundled Payment</th>
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<tbody>
<tr>
<td><strong>System</strong></td>
<td><strong>System</strong></td>
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<tr>
<td>- Often reduces patient choice</td>
<td>- <strong>Patient Care</strong> condition by condition</td>
</tr>
<tr>
<td>- Provider organizations offer every service to capture revenue (&quot;leakage&quot;)</td>
<td>- Risk factors by condition are usually well understood</td>
</tr>
<tr>
<td>- Threatens competition by encouraging health system consolidation</td>
<td>- Drives multidisciplinary care (IPUs)</td>
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<tr>
<td>- Risks of competition at the wrong level (the system) and on the wrong things</td>
<td>- Directly rewards good outcomes</td>
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<td></td>
<td>- Strong incentives to improve efficiency, but not at expense of quality</td>
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</tbody>
</table>

**Questions or Comments:**
Please contact HBS/ISC Senior Health Care Project Leader and Lecturer, Dr. Toyin Okanlawon (tok@hbs.edu)
Creating a Value-Based Health Care Delivery Organization

The Strategic Agenda

1. Re-organize into Integrated Practice Units (IPUs) around Conditions
2. Measure Outcomes and Costs for Every Patient
3. Move to Value-Based Reimbursement Models, and Ultimately Bundled Payments for Conditions
4. Integrate Multi-Site Care Delivery Systems
Four Levels of Provider System Integration

1. Focus the organization’s overall scope of services on those conditions where it can deliver high value
   - Do more of what you do well
   - Be open to partner or affiliate in other service lines

2. Aggregate volume by condition in fewer locations

3. Perform the right services in the right locations based on the acuity level, resource fit, and need for convenience
   - E.g., move routine surgeries out of tertiary hospitals to smaller, more specialized facilities and outpatient surgery centers

4. Integrate the care cycle across locations via an IPU structure
Delivering the Right Care at the Right Location
Rothman Institute, Philadelphia

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

Cost of Total Hip Replacement:
- Ambulatory Surgery Center: ~$12,000 USD
- Bryn Mawr Community Hospital: ~$12,000 USD
- Rothman Orthopaedic Specialty Hospital: ~$45,000 USD
- Jefferson University Academic Medical Center: ~$45,000 USD

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

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4. Integrate Multi-Site Care Delivery Systems
5. Expand or Affiliate Across Geography to Enable Excellence
6. Build an Enabling Information Technology Platform
How do Anesthesiologists Create Value?

- What **conditions** do anesthesiologists participate in?
- How do anesthesiologists fit into **care cycles** and **IPUs**?
- What **outcomes important to patients** do anesthesiologists influence?
- How do anesthesiologists **know their costs** and participate in efficiency improvement?
- How should anesthesiologists engage in **bundled payments**?
- How do anesthesiologists **better focus** on **conditions and services** where they add the most value?
A New Conception of the Anesthesiologist’s Role

- Specialist
  - Care for Conditions

- Solo Actor
  - Active Part of an IPU team

- Intervention in the OR
  - Role in the Overall Care Cycle

- Do a Little Bit of Everything
  - Focus on Areas Where Can Build Distinctive Expertise

- Focus on Safety
  - Influence Multiple Patient Outcomes

- Protect Traditional Roles
  - Expand Role

- Commodity Player
  - Deliver Distinctive Value

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Expanding the Role in the Surgical Condition Care Cycle

- **Preparing for Surgery**: Proper role in pre-habilitation
- **Surgery Assessment**: Timely, convenient, and accurate
- **Surgery**: Safe and effective, Minimize cognitive effects, Fast cycle time, Faster step-down from ICU/PACU, Speed to beginning rehab
- **Post-op/ Recovery Rehabilitation**: Minimize discomfort and complications, Pain management, Enable comprehensive rehabilitation, Faster discharge to home
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### Value Creation Outside the Traditional Operating Room

- **Alternative Surgical Practice Settings**
  - Outpatient surgery, rural coverage

- **Out of OR care**
  - E.g. sedation, XRT, endoscopy, interventional radiology, imaging

- **Pain management not related to surgery**
  - Acute
  - Chronic

- **Critical care**

- **Obstetrical anesthesia**

- **Hospice and Palliative care**
Broader Implications for the Field and ASA

• Focus on conditions and specific care settings

• Cross-specialty collaboration

• Research on anesthesia-affected outcomes
  – ICHOM Standards
  – Registry

• Costing tools and methodology to demonstrate overall impact on efficiency and value

• Advocacy for bundled payment
  – Shift compensation away from time per se

• Anesthesiology silos and rollups are not a long-term solution