Welcome by Robert Huckman, Faculty Co-Chair of the Healthcare Initiative

Introduction by Emily Kloeblen and Zihan Lin, MBA ‘12, Co-Presidents of Healthcare Club
Value-Based Health Care Delivery

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HBS Healthcare Initiative & Healthcare Club
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This presentation draws on Redefining Health Care: Creating Value-Based Competition on Results (with Elizabeth O. Teisberg), Harvard Business School Press, May 2006; “A Strategy for Health Care Reform—Toward a Value-Based System,” New England Journal of Medicine, June 3, 2009; “Value-Based Health Care Delivery,” Annals of Surgery 248: 4, October 2008; “Defining and Introducing Value in Healthcare,” Institute of Medicine Annual Meeting, 2007. Additional information about these ideas, as well as case studies, can be found the Institute for Strategy & Competitiveness Redefining Health Care website at http://www.hbs.edu/ihc/index.html. 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 O. Teisberg.
Redefining Health Care Delivery

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

  Value: Patient health outcomes per dollar spent

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

• How to design a health care delivery system that **dramatically improves patient value**

• 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

Today, 21st century medical technology is often delivered with 19th century organization structures, management practices, measurement methods, and payment models

• Care pathways, process improvements, safety initiatives, case managers, disease management and other overlays to the current structure are beneficial, but not sufficient
Creating The Right Kind of Competition

- Patient **choice** and **competition** for patients are powerful forces to encourage continuous improvement in value and restructuring of care.

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

  ![Diagram]

  Financial success of system participants ≠ Patient success

- Creating positive-sum **competition on value** is fundamental to health care reform in every country.
Principles of Value-Based Health Care Delivery

• The overarching goal in health care must be value for patients, not access, cost containment, convenience, or customer service.

\[
\text{Value} = \frac{\text{Health outcomes}}{\text{Costs of delivering the outcomes}}
\]

– Outcomes are the health results that matter for a patient’s condition over the care cycle.
– Costs are the total costs of care for a patient’s condition over the care cycle.
**Principles of Value-Based Health Care Delivery**

- **Quality improvement** is the most powerful driver of cost containment and value improvement, where quality is **health outcomes**

<table>
<thead>
<tr>
<th>Prevention of illness</th>
<th>Fewer complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early detection</td>
<td>Fewer mistakes and repeats in treatment</td>
</tr>
<tr>
<td>Right diagnosis</td>
<td>Faster recovery</td>
</tr>
<tr>
<td>Right treatment to the right patient</td>
<td>More complete recovery</td>
</tr>
<tr>
<td>Rapid cycle time of diagnosis and treatment</td>
<td>Greater functionality and less need for long term care</td>
</tr>
<tr>
<td>Treatment earlier in the causal chain of disease</td>
<td>Fewer recurrences, relapses, flare ups, or acute episodes</td>
</tr>
<tr>
<td>Less invasive treatment methods</td>
<td>Reduced need for ER visits</td>
</tr>
<tr>
<td></td>
<td>Slower disease progression</td>
</tr>
<tr>
<td></td>
<td>Less care induced illness</td>
</tr>
</tbody>
</table>

- **Better health** is the goal, not more treatment
- Better health is **inherently less expensive** than poor health
Creating a Value-Based Health Care Delivery System

The Strategic Agenda

1. Organize Care into Integrated Practice Units (IPUs) around Patient Medical Conditions
   - Organize primary and preventive care to serve distinct patient segments

2. Measure Outcomes and Cost for Every Patient

3. Reimburse through Bundled Prices for Care Cycles

4. Integrate Care Delivery Across Separate Facilities

5. Expand Areas of Excellence Across Geography

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

Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services

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

1. Organizing Care Around Patient Medical Conditions
Migraine Care in Germany

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

**New Model:**
Organize into Integrated Practice Units (IPUs)

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
  – Involving **multiple** specialties and services
  – **Including** common co-occurring conditions and complications

• In primary / preventive care, the **unit of value creation** is **defined patient segments** with similar preventive, diagnostic, and primary treatment needs (e.g. healthy adults, frail elderly)

• The medical condition / patient segment is the proper **unit of value creation** and the **unit of value measurement** in health care delivery
Integrating Across the Cycle of Care
Breast Cancer

<table>
<thead>
<tr>
<th>INFORMING AND ENGAGING</th>
<th>MEASURING</th>
<th>ACCESSING THE PATIENT</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>Mammograms</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>
</tr>
<tr>
<td>Consultations on risk factors</td>
<td>Self exams</td>
<td>Mammography unit</td>
<td>Control of risk factors (obesity, high fat diet)</td>
<td>Determining the specific nature of the disease (mammograms, pathology, biopsy results)</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>
<td>Follow-up clinical exams</td>
</tr>
<tr>
<td></td>
<td>Mammograms</td>
<td>Lab visits</td>
<td>Genetic screening</td>
<td>Genetic evaluation</td>
<td>Plastic or oncoplastic surgery evaluation</td>
<td>Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</td>
<td>Treatment for any continued or later onset side effects or complications</td>
<td>Treatment for any continued or later onset side effects or complications</td>
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<td>Ultrasound</td>
<td>High risk clinic visits</td>
<td>Clinical exams</td>
<td>Labs</td>
<td>Neo-adjuvant chemotherapy</td>
<td>Physical therapy</td>
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<td>MRI</td>
<td>Lab visits</td>
<td>Monitoring for lumps</td>
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<tr>
<td></td>
<td>Labs</td>
<td>Office visits</td>
<td>Monitoring for lumps</td>
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<td></td>
<td>Procedure-specific measurements</td>
<td>Office visits</td>
<td>Choosing a treatment plan</td>
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<td></td>
<td>Range of movement</td>
<td>Hospital visits</td>
<td>Surgery (breast preservation or mastectomy, oncoplastic alternative)</td>
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<td></td>
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<tr>
<td></td>
<td>Side effects measurement</td>
<td>Visits to outpatient radiation or chemotherapy units</td>
<td>Plastic or oncoplastic surgery evaluation</td>
<td></td>
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<td></td>
<td></td>
<td>Pharmacy visits</td>
<td>Neo-adjuvant chemotherapy</td>
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- Counseling patient and family on the diagnostic process and the diagnosis
- Explaining patient treatment options/shared decision making
- Patient and family psychological counseling
- Counseling on the treatment process
- Education on managing side effects and avoiding complications
- Achieving compliance
- Psychological counseling
- Counseling on rehabilitation options, process
- Achieving compliance
- Psychological counseling
- Counseling on long term risk management
- Achieving compliance

- Self exams
- Mammograms
- Office visits
- Mammography unit
- Lab visits
- Office visits
- Lab visits
- High risk clinic visits
- Office visits
- Hospital visits
- Lab visits
- Hospital stays
- Visits to outpatient radiation or chemotherapy units
- Pharmacy visits
- Office visits
- Rehabilitation facility visits
- Pharmacy visits
- Office visits
- Lab visits
- Mammographic labs and imaging center visits
- Office visits
- Lab visits
- Mammographic labs and imaging center visits
- Office visits
- Lab visits
- Mammographic labs and imaging center visits

- Medical history
- Control of risk factors (obesity, high fat diet)
- Genetic screening
- Clinical exams
- Monitoring for lumps
- Office visits
- Lab visits
- Mammography unit
- Office visits
- Lab visits
- High risk clinic visits
- Medical history
- Determining the specific nature of the disease (mammograms, pathology, biopsy results)
- Genetic evaluation
- Labs
- Medical history
- Choosing a treatment plan
- Surgery prep (anesthetic risk assessment, EKG)
- Plastic or oncoplastic surgery evaluation
- Neo-adjuvant chemotherapy

- In-hospital and outpatient wound healing
- Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphedema and chronic fatigue)
- Physical therapy
- Periodic mammography
- Other imaging
- Follow-up clinical exams
- Treatment for any continued or later onset side effects or complications
Attributes of an Integrated Practice Unit (IPU)

1. Organized around the **patient medical condition** or set of closely related conditions (or patient segment in primary care)
2. Involves a **dedicated, multidisciplinary team** who devotes a significant portion of their time to the condition
3. Providers involved are members of or affiliated with a **common organizational unit**
4. Provides the **full cycle of care** for the condition
   - Encompassing **outpatient**, **inpatient**, and **rehabilitative** care as well as **supporting services** (e.g. nutrition, social work, behavioral health)
5. Includes **patient education, engagement, and follow-up**
6. Utilizes a **single administrative and scheduling structure**
7. **Co-located** in dedicated facilities
8. Care is led by a **physician team captain** and a **care manager** who oversee each patient’s care process
9. **Measures** outcomes, costs, and processes for each patient using a **common information platform**
10. **Meets formally and informally** on a regular basis to discuss patients, processes and results
11. Accepts **joint accountability** for outcomes and costs
Integrating Mental Health and Physical Health

• More than a quarter of adults with physical health problems also suffer from mental illness
  – E.g., depression is 2 to 3 times more common following a heart attack or stroke and leads to worse clinical outcomes

• Mental illness is common in primary care, yet underrecognized and undertreated
  – 25% of primary care patients have depression or anxiety
  – Primary care providers recognize only half of all mental illnesses
  – Among patients with recognized illness, only half are offered medication

• Patients with mental illness frequently present to primary care with physical health symptoms (e.g. fatigue, insomnia, palpitations)

• Primary care providers, focusing on physical ailments, can overlook underlying psychological causes

• Physical health IPUs should include dedicated mental health providers who understand the mental health needs of the patients they treat, detect developing mental illness, and intervene early
  – Social workers or other mid-level providers can occupy such roles, referring out complex cases to psychologists or psychiatrists

• Incorporating mental health clinicians into primary care will improve patient value
Volume and experience will have an even greater impact on value in an IPU structure than in the current system.
Role of Volume in Value Creation
Fragmentation of Hospital Services in 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>


- Minimum volume standards, in the absence of rigorous outcome information, are an interim step to drive value and service consolidation.
Low Volume Undermines Value: Germany

Mortality of low-birth weight infants in Baden-Württemberg

<table>
<thead>
<tr>
<th>Category</th>
<th>Low Birth Weight &lt; 26 weeks</th>
<th>Low Birth Weight 26-27 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five large centers</td>
<td>15.0%</td>
<td>8.9%</td>
</tr>
<tr>
<td>All other hospitals</td>
<td>33.3%</td>
<td>11.4%</td>
</tr>
</tbody>
</table>

2. Measuring Outcomes and Cost for Every Patient

- **Patient Initial Conditions**
  - **Patient Adherence**
  - **Processes**
  - **Indicators**
  - **(Health) Outcomes**

- **Protocols/Guidelines**
  - E.g., Hemoglobin A1c levels for diabetics

- **Structure**
  - E.g., Staff certification, facilities standards
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)

Source: NEJM Dec 2010
The Outcome Measures Hierarchy
Head and Neck Cancer

- Survival
  - Cancer free survival

Degree of recovery / health
- Achieved remission
  - Ability to speak
  - Ability to eat normally
  - Maintenance of facial appearance

Time to recovery or return to normal activities
- Time to remission
  - Time to completion of treatment plan

Disutility of care or treatment process (e.g., treatment-related discomfort, complications, adverse effects, diagnostic errors, treatment errors)
- Nosocomial infection
  - Nausea/Vomiting
  - Fatigue
  - Febrile neutropenia
  - Thrombocytopenia
  - Radiation dermatitis

Sustainability of recovery or health over time
- Cancer recurrence

Long-term consequences of therapy (e.g., care-induced illnesses)
- Secondary cancer related to radiation exposure
  - Premature osteoporosis
  - Permanent facial disfigurement
  - Dysphasia

- Pain status
  - Mental health status

- Anxiety
  - Depression

- Pain
  - Loss of speech
  - Need for feeding tube
  - Unnecessary facial disfigurement

- Lymphoma
  - Long-term depression due to treatment
  - Hormone imbalance/replacement dependence

Survival

Degree of recovery / health

Time to recovery or return to normal activities

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

Sustainability of recovery or health over time

Long-term consequences of therapy (e.g., care-induced illnesses)
Adult Kidney Transplant Outcomes
U.S. Centers, 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%)
Adult Kidney Transplant Outcomes
U.S. Center Results, 2008-2010

Number of programs included: 236
Number of transplants: 38,535
1-year graft survival: 93.55%

- 8 greater than expected graft survival (3.4%)
- 14 worse than expected graft survival (5.9%)
Measuring the Cost of Care Delivery: Principles

• Cost is the **actual expense** of patient care, not the **charges** billed or collected

• Cost should be measured around the **patient**

• Cost should be aggregated over the **full cycle of care for the patient’s medical condition**, not for departments, services, or line items

• Cost depends on the **actual use of resources** involved in a patient’s care process (personnel, facilities, supplies)
  – The **time** devoted to each patient by these resources
  – The **capacity cost** of each resource
  – The **support costs** required for each patient facing a resource
Mapping Resource Utilization
MD Anderson Cancer Center – New Patient Visit

Registration and Verification
- Receptionist, Patient Access Specialist, Interpreter
  - Patient arrives
    - Check in patient; communicate arrival
      - RCPT
  - Interpreter needed?
    - Yes: Perform laryngoscopy
    - No: Add language translation time for each process
      - INT, RCPT

Intake
- Nurse, Receptionist
  - Verify patient information; complete consent forms
    - PAS
  - Assess patient; assemble paperwork; place patient in room
    - RN

Clinician Visit
- MD, mid-level provider, medical assistant, patient service coordinator, RN
  - Initiate patient workup; review patient history; conduct physical exam
    - MLP
  - Laryngoscopy needed?
    - Yes: Perform laryngoscopy
    - No: Discussion of plan of care

Plan of Care Discussion
- RN/LVN, MD, mid-level provider, patient service coordinator
  - Review plan of care; introduce team; review schedule for return visit
    - RN

Plan of Care Scheduling
- Patient Service Coordinator
  - Schedule tests and consults; communicate schedule to patient
    - PSC

Decision point
- Time (min)
- RCPT: Receptionist
- INT: Interpreter
- PAS: Patient Access Specialist
- RN: Registered Nurse
- MD: Medical Doctor, MA: Medical Assistant
- PHDB: Patient History Database

Pt discharged

Enter next process
Selected Cost Reduction Opportunities in Health Care

- **Process variation** that reduces efficiency without improving outcomes
- Over-provision of **low-** or **non-value adding** services or tests
  - Sometimes to follow rigid protocols or justify billing
- Redundant **administrative** and **scheduling** units
- **Low utilization** of expensive physicians, staff, clinical space and equipment, partly due to duplication and service fragmentation
- Use of **physicians and skilled staff** for less skilled activities
- Delivering care in **over-resourced** facilities
  - E.g. routine care delivered in expensive hospital settings
- **Long cycle times** and unnecessary delays
- Excess **inventory** and weak inventory management
- Focus on minimizing the costs of discrete services rather than **optimizing the total cost** of the care cycle
- Lack of **cost awareness** in clinical teams

- There are numerous cost reduction opportunities that do not require outcome **tradeoffs**, but will actually **improve outcomes**
3. Reimbursing through Bundled Prices for Care Cycles

Fee for service → Bundled reimbursement for medical conditions → Global capitation

**Bundled Price**
- A single price covering the **full care cycle for an acute medical condition**
- Time-based reimbursement for overall care of a **chronic condition**
- Time-based reimbursement for **primary/preventive care** for a **defined patient segment**
**Components** of the bundle

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pre-op evaluation</td>
<td>All physician and staff fees and costs</td>
</tr>
<tr>
<td>Lab tests</td>
<td>1 follow-up visit within 3 months</td>
</tr>
<tr>
<td>Radiology</td>
<td>Any additional surgery to the joint within 2 years</td>
</tr>
<tr>
<td>Surgery &amp; related admissions</td>
<td>If post-op infection requiring antibiotics occurs, guarantee extends to 5 years</td>
</tr>
<tr>
<td>Prosthesis</td>
<td></td>
</tr>
<tr>
<td>Drugs</td>
<td></td>
</tr>
<tr>
<td>Inpatient rehab, up to 6 days</td>
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</tbody>
</table>

- Currently applies to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- The same **referral process** from PCPs is utilized as the traditional system
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- Applies to all qualifying patients. Provider participation is **voluntary**, but all providers are continuing to offer total joint replacements
- The Stockholm bundled price for a knee or hip replacement is about **US $8,000**
4. Integrating Care Delivery Across Separate Facilities
Children’s Hospital of Philadelphia Care Network

Network Hospitals:
- CHOP Newborn Care
- CHOP Pediatric Care
- CHOP Newborn & Pediatric Care

Wholly-Owned Outpatient Units:
- Pediatric & Adolescent Primary Care
- Pediatric & Adolescent Specialty Care Center
- Pediatric & Adolescent Specialty Care Center & Surgery Center
- Pediatric & Adolescent Specialty Care Center & Home Care

The Children’s Hospital of Philadelphia®
Four Levels of Provider System Integration

1. Choose an **overall scope of services** where the provider system can achieve excellence in value

2. **Rationalize service lines / IPUs across facilities** to improve volume, better utilize resources, and deepen teams

3. Offer specific services at the **appropriate facility**
   - E.g. acuity level, resource intensity, cost level, need for convenience

4. Clinically integrate care **across units and facilities** using an IPU structure
   - Integrate services across the care cycle
   - Integrate preventive/primary care units with specialty IPUs

- There are major value improvements available from **concentrating volume** by medical condition and moving care **out of heavily resourced** hospital, tertiary and quaternary facilities
5. Expanding Across Geography
The Cleveland Clinic Affiliate Practices

- Central DuPage Hospital, IL
  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
6. Building 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
- Data encompasses the **full care cycle**, including care by referring entities
- Allow access and communication among **all involved parties**, including with patients
- **Templates** for medical conditions to enhance the user interface
- “**Structured**” data vs. free text
- Architecture that allows easy extraction of **outcome measures**, **process measures**, and **activity-based cost measures** for each patient and medical condition
- Interoperability standards enabling communication among **different provider** (and payor) **organizations**
A Mutually Reinforcing Strategic Agenda

- Organize into Integrated Practice Units
- Measure Outcomes and Cost For Every Patient
- Move to Bundled Prices for Care Cycles
- Integrate Care Delivery Across Separate Facilities
- Grow Excellent Services Across Geography

Build an Enabling IT Platform
Creating a Value-Based Health Care Delivery System

Implications for Government

1. Organise Care into Integrated Practice Units (IPUs) Around Patient Medical Conditions
   • Reduce regulatory obstacles to care integration
   • Introduce certification standards that include multidisciplinary teams, care cycle coverage, unified patient scheduling, and care management

2. Measure Outcomes and Cost for Every Patient
   • Create a national framework of medical condition outcome registries and a path to universal measurement
   • Tie reimbursement to outcome reporting (e.g., through registries)
   • Introduce cost accounting standards that measure actual resource use by patient condition

3. Reimburse through Bundled Prices for Care Cycles
   • Create a bundled pricing framework and support local roll out across specialty conditions and primary care segments
Creating a Value-Based Health Care Delivery System

Implications for Government

4. Integrate Care Delivery Across Separate Facilities
   • Introduce **minimum volume standards** by medical condition to enable consolidation of services to support excellence

5. Expand Excellent IPUs Across Geography
   • Encourage **affiliations** between providers who fall below minimum volume standards and qualifying centers of excellence for more complex care

6. Build an Enabling Information Technology Platform
   • Set **standards** for common data definitions, interoperability, and the ability to easily extract outcome, process, and costing measures for qualifying HIT systems
   • Promote **transparency** and patient ownership of information