

# Value-Based Health Care Delivery

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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>.

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# 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 system that **dramatically improves value**
  - Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
- How to create a **dynamic system** that keeps rapidly improving

# Creating a Value-Based Health Care System

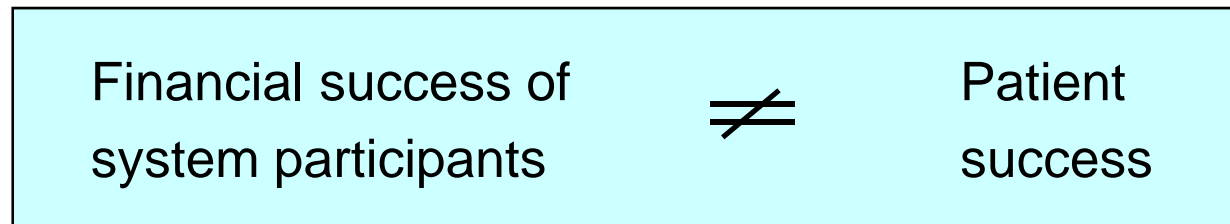
- Significant improvement in value will require **fundamental restructuring of health care delivery**, not incremental improvements

Today, 21<sup>st</sup> century medical technology is delivered with 19<sup>th</sup> century organization structures, management practices, and pricing models

- TQM, process improvements, safety initiatives, pharmacy management, and disease management overlays are beneficial but **not sufficient** to substantially improve value
- Consumers **cannot fix the dysfunctional structure** of the current system

# Harnessing Competition on Value

- Competition is a powerful force to encourage **restructuring of care** and **continuous improvement in value**
  - Competition for patients
  - Competition for health plan subscribers
- Today's competition in health care **is not aligned with value**



- Creating **competition to improve value** is a central challenge in health care reform

# Zero-Sum Competition in U.S. Health Care

## Bad Competition

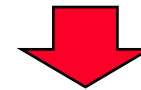
- Competition to **shift costs** or **capture more revenue**
- Competition to **increase bargaining power** and secure discounts or price premiums
- Competition to **capture patients** and **restrict choice**
- Competition to **restrict services** in order to maximize revenue per visit or reduce costs



Zero or Negative Sum

## Good Competition

- Competition to **increase value for patients**



Positive Sum

# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**
  - Not volume
  - Not access
  - Not equity
  - Not cost reduction
  - Not “profit” in the current system

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



- Outcomes are the **full set of health outcomes** achieved by the patient
- Costs are the **total costs**, including costs not necessarily borne by any one provider or even within the health care system

# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**
2. The best way to improve value and contain cost is to **improve quality**, where quality is health **outcomes**

- Prevention of disease
- Early detection
- Right diagnosis
- Early and timely treatment
- Right treatment to the right patients
- Treatment earlier in the causal chain of disease
- Rapid care delivery process with fewer delays
- 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

# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**
2. The best way to improve value and contain cost is to **improve quality**, where quality is health **outcomes**
3. To maximize value, health care delivery must be organized around **medical conditions** over the **full cycle of care**

- A medical condition is **an interrelated set of patient medical circumstances best addressed in an integrated way**
  - Defined from the **patient's** perspective
  - **Includes** the most common co-occurring conditions
  - Involving **multiple** specialties and services



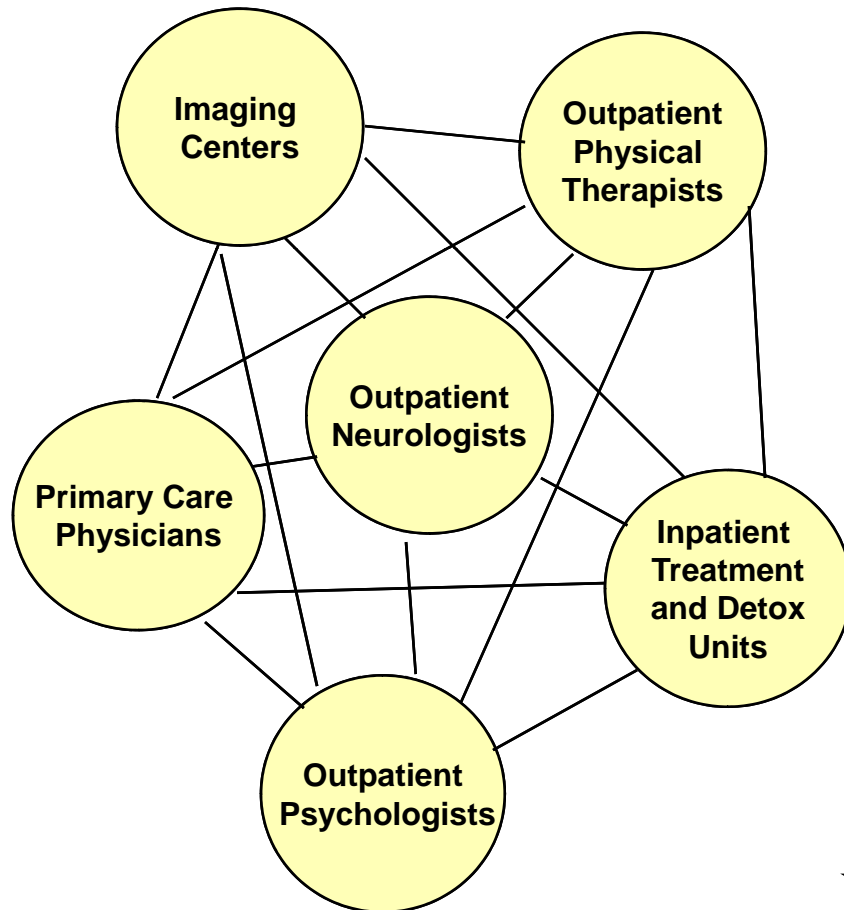
- The medical condition is the **unit of value creation** in health care delivery



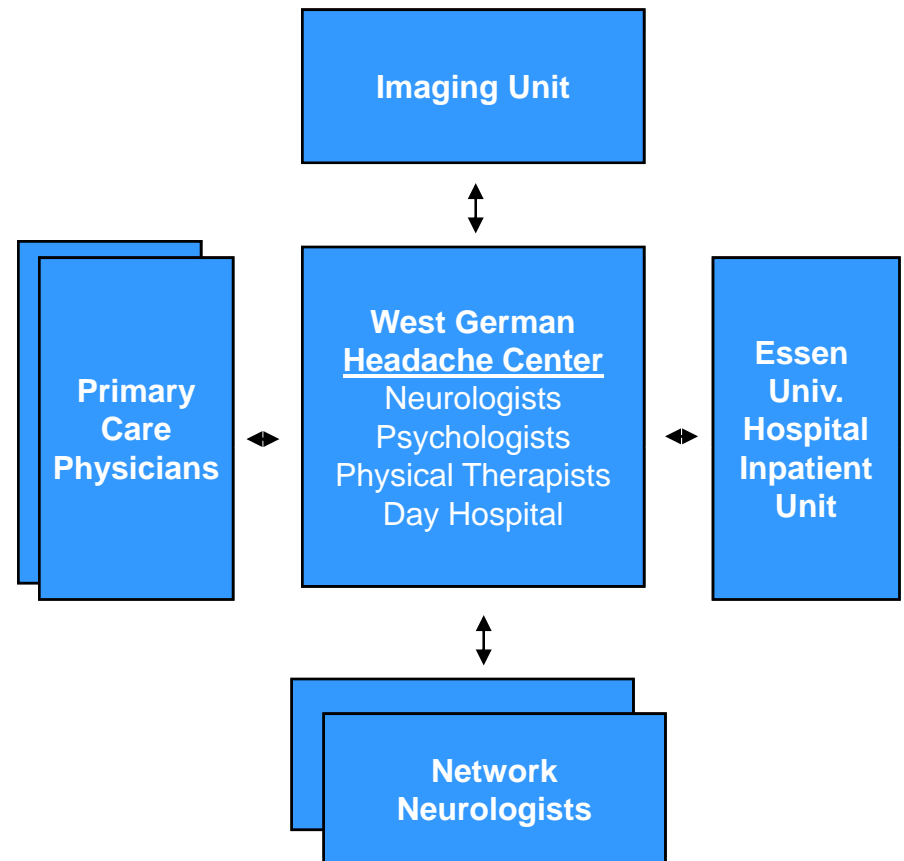
# Restructuring Care Delivery

## Migraine Care in Germany

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



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



- The health plan was crucial to this transformation

# The Cycle of Care Breast Cancer

<b>ENGAGING</b>	<ul style="list-style-type: none"> <li>▪Advice on Self screening</li> <li>▪Consultations on risk factors</li> </ul>	<ul style="list-style-type: none"> <li>▪Counseling patient and family on the diagnostic process and the diagnosis</li> </ul>	<ul style="list-style-type: none"> <li>▪Explaining patient choices of treatment</li> <li>▪Patient and family psychological counseling</li> </ul>	<ul style="list-style-type: none"> <li>▪Counseling on the treatment process</li> <li>▪Achieving compliance</li> </ul>	<ul style="list-style-type: none"> <li>▪Counseling on rehabilitation options, process</li> <li>▪Achieving compliance</li> <li>▪Psychological counseling</li> </ul>	<ul style="list-style-type: none"> <li>▪Counseling on long term risk management</li> <li>▪Achieving Compliance</li> </ul>
	<ul style="list-style-type: none"> <li>▪Self exams</li> <li>▪Mammograms</li> </ul>	<ul style="list-style-type: none"> <li>▪Mammograms</li> <li>▪Ultrasound</li> <li>▪MRI</li> <li>▪Biopsy</li> <li>▪BRACA 1, 2...</li> </ul>		<ul style="list-style-type: none"> <li>▪Procedure-specific measurements</li> </ul>	<ul style="list-style-type: none"> <li>▪Range of movement</li> <li>▪Side effects measurement</li> </ul>	<ul style="list-style-type: none"> <li>▪Recurring mammograms (every six months for the first 3 years)</li> </ul>
<b>ACCESSING</b>	<ul style="list-style-type: none"> <li>▪Office visits</li> <li>▪Mammography lab visits</li> </ul>	<ul style="list-style-type: none"> <li>▪Office visits</li> <li>▪Lab visits</li> <li>▪High risk clinic visits</li> </ul>	<ul style="list-style-type: none"> <li>▪Office visits</li> <li>▪Hospital visits</li> </ul>	<ul style="list-style-type: none"> <li>▪Hospital stays</li> <li>▪Visits to outpatient or radiation chemotherapy units</li> </ul>	<ul style="list-style-type: none"> <li>▪Office visits</li> <li>▪Rehabilitation facility visits</li> </ul>	<ul style="list-style-type: none"> <li>▪Office visits</li> <li>▪Lab visits</li> <li>▪Mammographic labs and imaging center visits</li> </ul>
	<b>MONITORING/ PREVENTING</b>	<b>DIAGNOSING</b>	<b>PREPARING</b>	<b>INTERVENING</b>	<b>RECOVERING/ REHABING</b>	<b>MONITORING/ MANAGING</b>
	<ul style="list-style-type: none"> <li>▪Medical history</li> <li>▪Control of risk factors (obesity, high fat diet)</li> <li>▪Genetic screening</li> <li>▪Clinical exams</li> <li>▪Monitoring for lumps</li> </ul>	<ul style="list-style-type: none"> <li>▪Medical history</li> <li>▪Determining the specific nature of the disease</li> <li>▪Genetic evaluation</li> <li>▪Choosing a treatment plan</li> </ul>	<ul style="list-style-type: none"> <li>▪Surgery prep (anesthetic risk assessment, EKG)</li> <li>▪Plastic or onco-plastic surgery evaluation</li> </ul>	<ul style="list-style-type: none"> <li>▪Surgery (breast preservation or mastectomy, oncoplastic alternative)</li> <li>▪Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</li> </ul>	<ul style="list-style-type: none"> <li>▪In-hospital and outpatient wound healing</li> <li>▪Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema and chronic fatigue)</li> <li>▪Physical therapy</li> </ul>	<ul style="list-style-type: none"> <li>▪Periodic mammography</li> <li>▪Other imaging</li> <li>▪Follow-up clinical exams</li> <li>▪Treatment for any continued side effects</li> </ul>

**PROVIDER MARGIN**

- Breast Cancer Specialist
- Other Provider Entities

# Integrated Care Delivery Includes the Patient

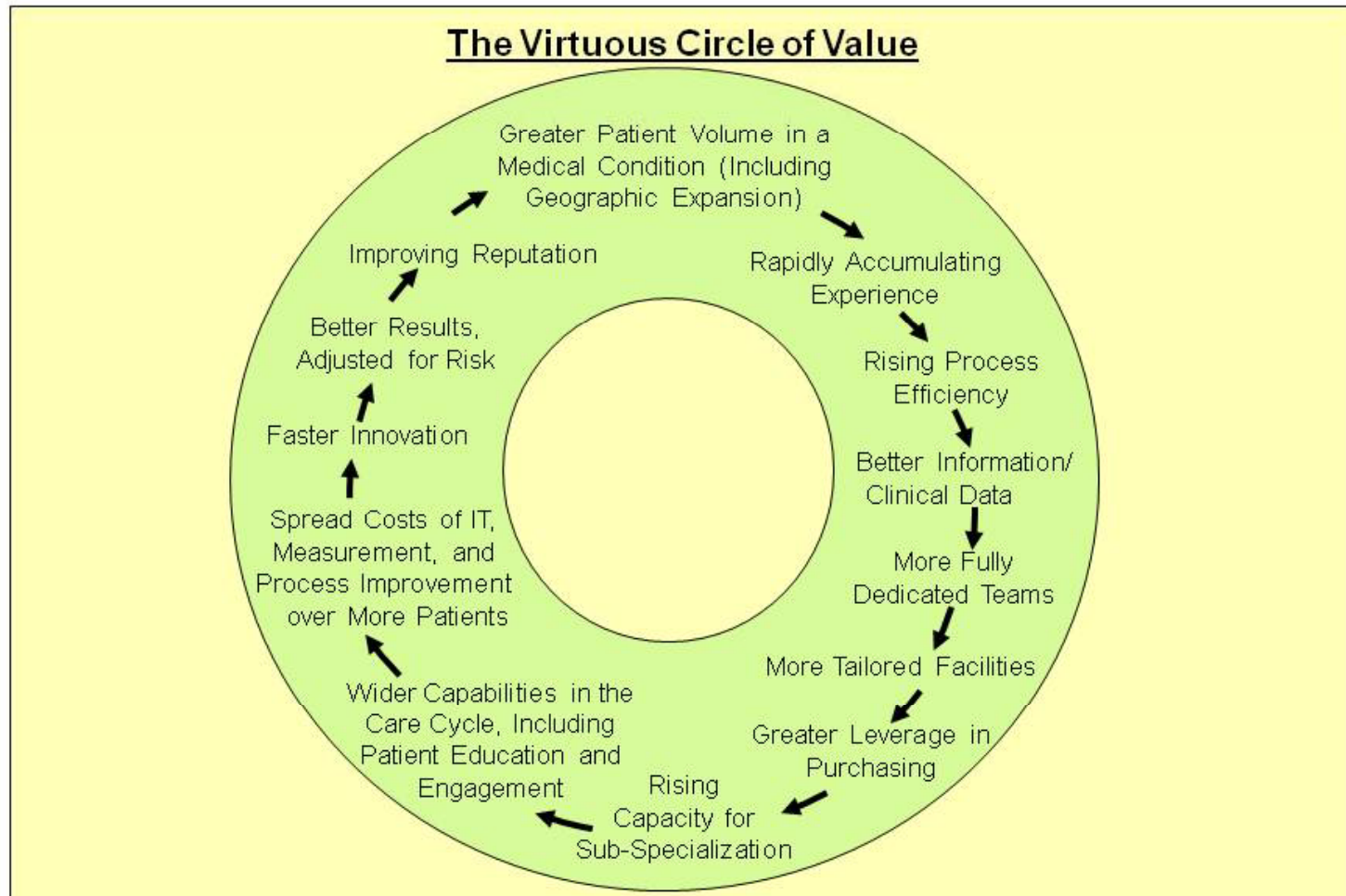
- Value in health care is **co-produced** by patients and clinicians
- Unless patients **comply** with care and treatment plans and take steps to improve their health, even the best delivery team will fail
- For chronic care, patients **are often the best experts** on their own health and personal barriers to compliance
- Today's fragmented system creates **obstacles** to patient education, involvement, and adherence to care
- Simply forcing consumers to pay more is a **false solution**



- **IPUs** will improve patient engagement

# Principles of Value-Based Health Care Delivery

- Value is enhanced by increasing provider **experience**, **scale**, and **learning** at the **medical condition level**



- The virtuous circle **extends across geography** when care for a medical condition is integrated across locations

# Fragmentation of Hospital Services

## Sweden

<b>DRG</b>	<b>Total admissions per year nationwide</b>	<b>Number of admitting providers</b>	<b>Average admissions/provider/year</b>	<b>Average admissions/provider/week</b>	<b>Average percent of total national admissions per provider</b>
Diabetes age > 35	7,649	80	96	2	1.3%
Kidney failure	7,742	80	97	1	1.3%
Multiple sclerosis and cerebellar ataxia	2,218	78	28	1	1.3%
Inflammatory bowel disease	4,816	73	66	1	1.4%
Implantation of cardiac pacemaker	6,324	51	124	2	2.0%
Splenectomy age > 17	129	37	3	<1	2.6%
Cleft lip & palate repair	583	7	83	2	14.2%
Heart transplant	74	6	12	<1	16.6%

Source: Compiled from The National Board of Health and Welfare Statistical Databases – DRG Statistics, Accessed April 2, 2009.

# Fragmentation of Hospital Services

## Japan

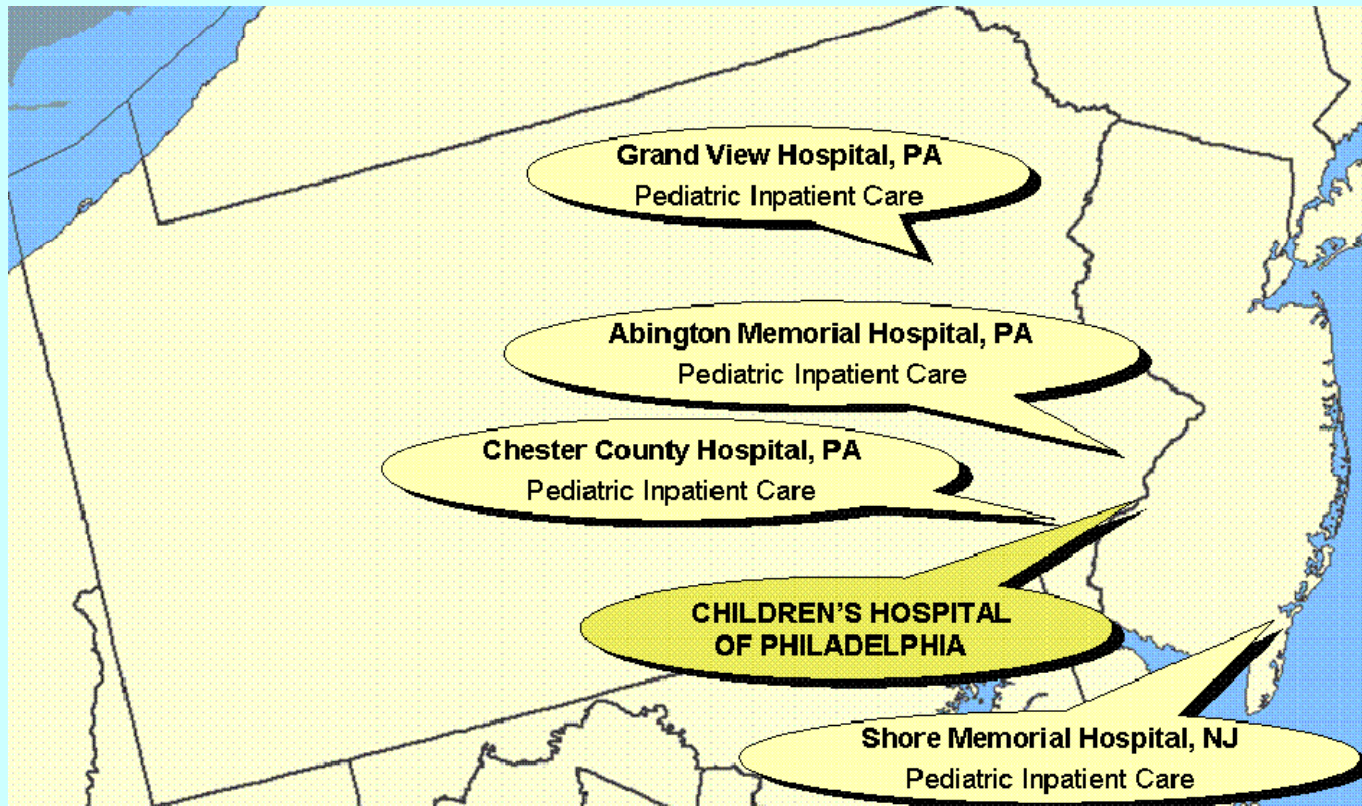
<b>Procedure</b>	<b>Number of hospitals performing the procedure</b>	<b>Average number of procedures per provider per year</b>	<b>Average number of procedures per provider per month</b>
Craniotomy	1,098	71	6
Operation for gastric cancer	2,336	72	6
Operation for lung cancer	710	46	4
Joint replacement	1,680	50	4
Pacemaker implantation	1,248	40	3
Laparoscopic procedure	2,004	72	6
Endoscopic procedure	2,482	202	17
Percutaneous transluminal coronary angioplasty	1,013	133	11

Source: Porter, Michael E. and Yuji Yamamoto, *The Japanese Health Care System: A Value-Based Competition Perspective*, Unpublished draft, September 1, 2007

# Principles of Value-Based Health Care Delivery

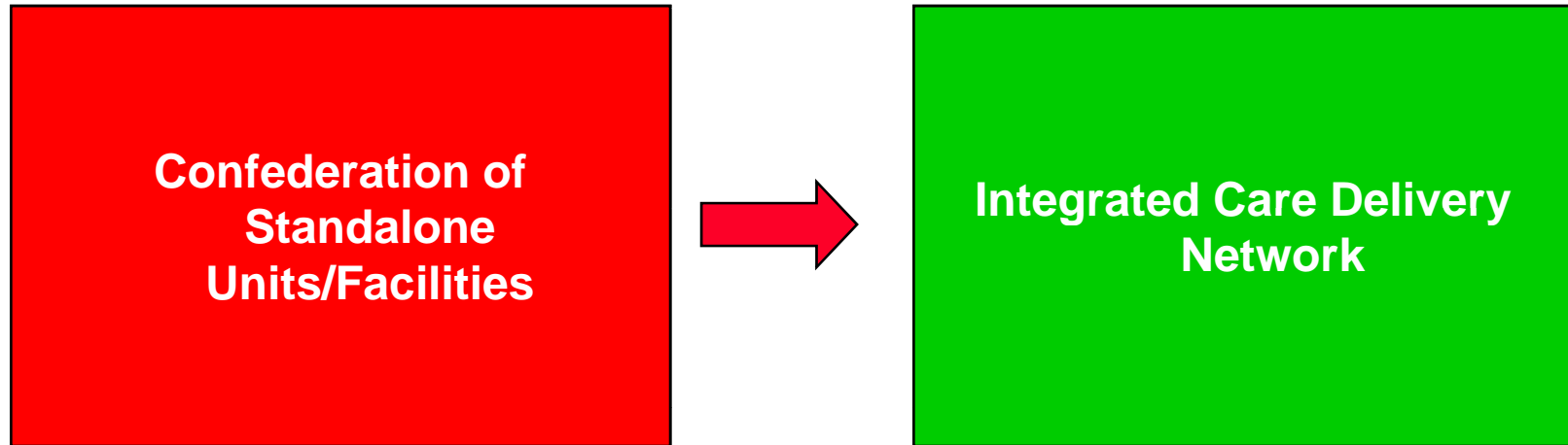
- Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units

## Children's Hospital of Philadelphia (CHOP) Affiliations



- Excellent providers can manage care delivery **across multiple geographies**

# System Integration



- **Rationalize service lines/ IPU**s across facilities to improve volume, avoid duplication, and achieve excellence
- Offer specific services at the **appropriate facility**
  - e.g. acuity level, cost level, importance of convenience
- Clinically integrate care **across facilities**, but within IPUs
  - Clinical coordination
  - Common organizational unit across facilities
- Link **primary care** to IPUs



## **Growth Across Geography**

### **The Cleveland Clinic**

- Affiliate Programs in Cardiac Surgery and Urology
- Internet-based Second Opinion Services
- Community Hospitals in the Region
- Hospitals and Outpatient Clusters in Other Regions
- Hospital Management in Other Countries

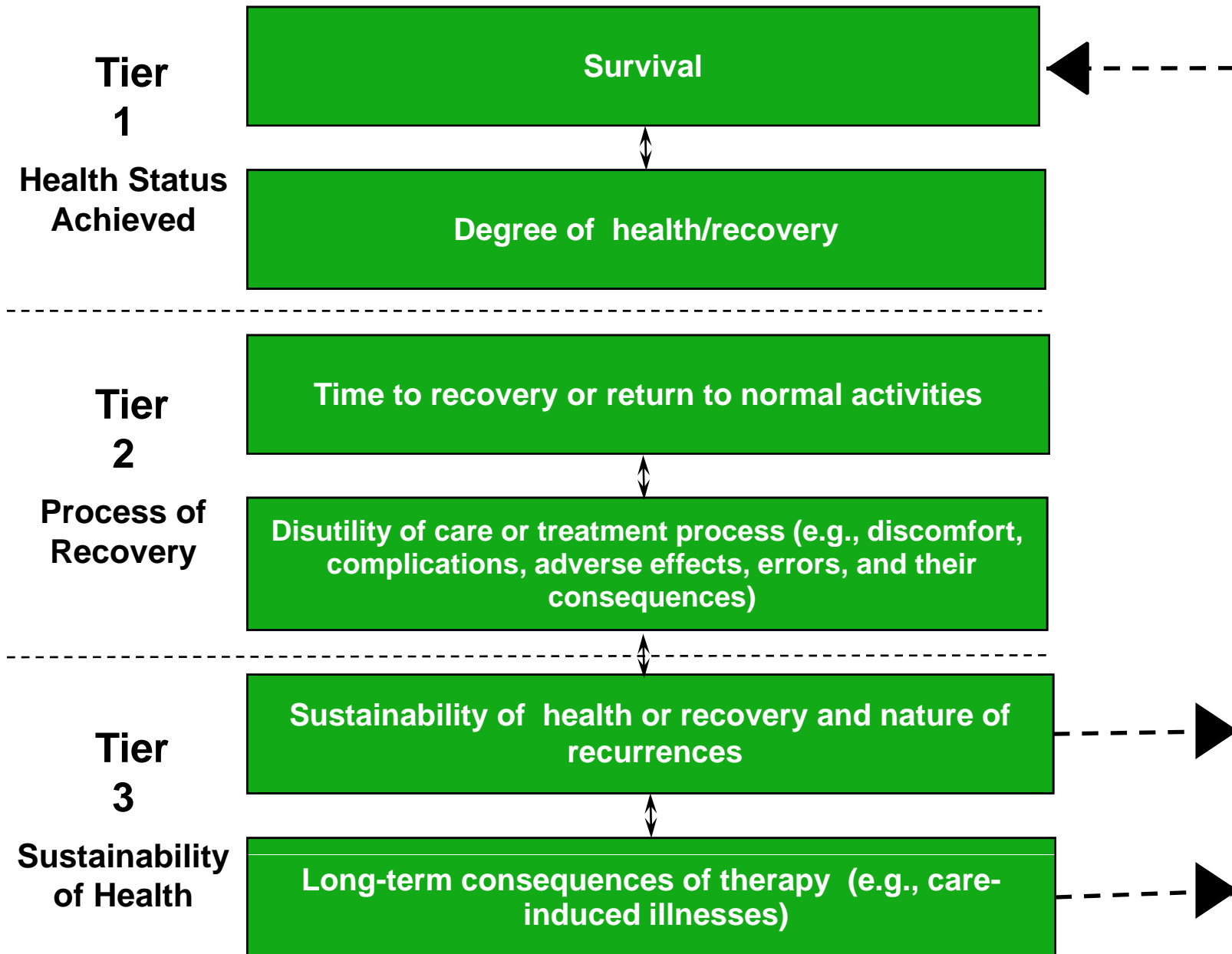
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3. To maximize value, health care delivery must be organized around **medical conditions** over the **full cycle of care**
4. Drive value improvement by increasing provider **experience, scale,** and **learning** at the **medical condition level**
5. Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. **Measure** and **report** outcomes for every provider for every medical condition

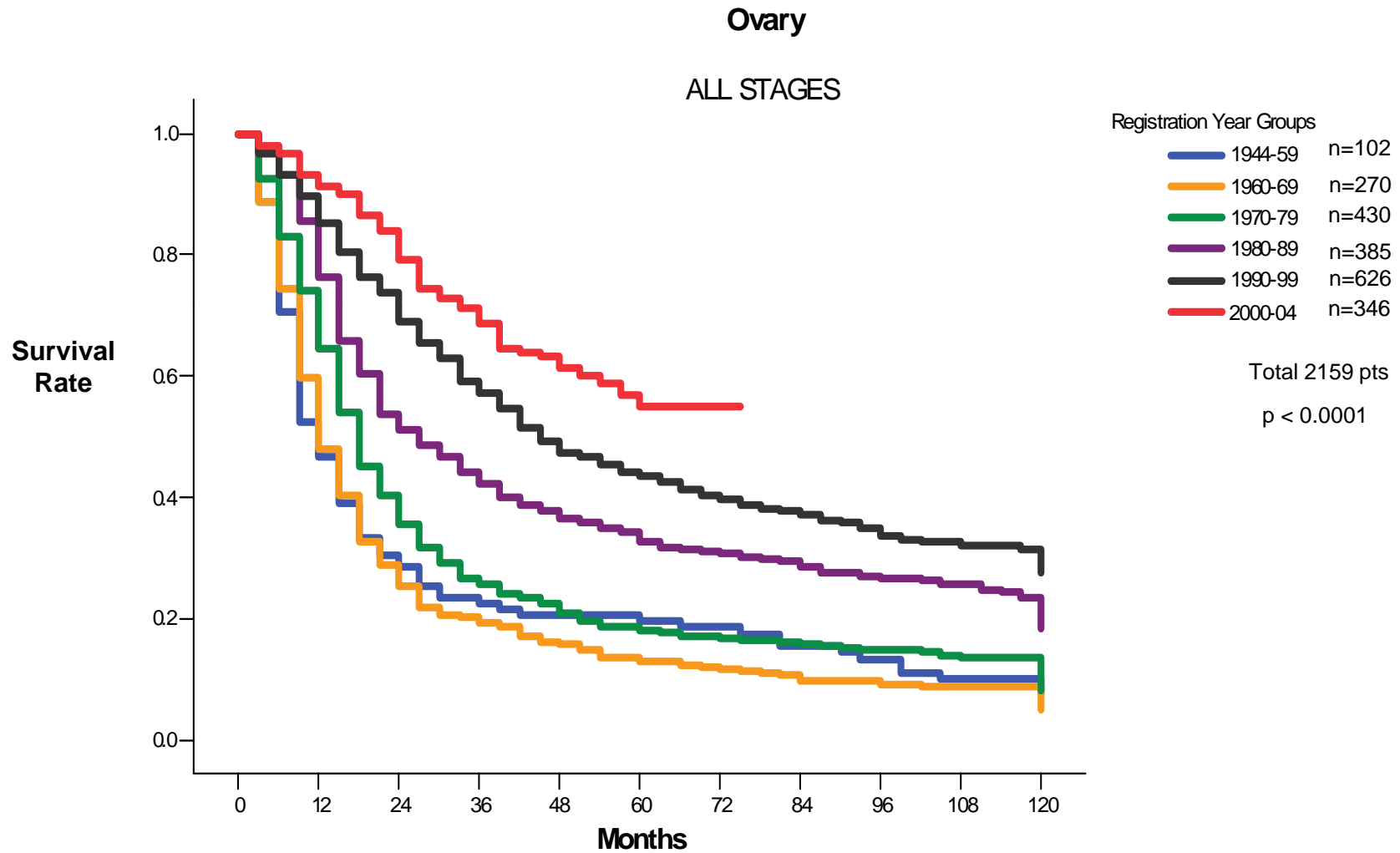


- For **medical conditions** over the **cycle of care**
  - Not for interventions or short episodes
  - Not for practices, departments, clinics, or hospitals
  - Not separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)
- Results should be measured at **the level at which value is created**

# The Outcome Measures Hierarchy



# Ovarian Cancer Outcomes, MD Anderson Cancer Center



# Swedish Obesity Registry Indicators

## Initial Conditions

- Demographics (age, sex, height, weight, BMI, waist circumference etc)
- Baseline labs – HbA1c (a measure of long-term blood glucose control), Triglycerides, Low Density Lipoprotein (bad cholesterol), High Density Lipoprotein (good cholesterol) Comorbidities (sleep apnea, diabetes, depression, etc)
- SF-36/OP-9 (validated quality of life measures)

## Surgery

- Background (Previous surgeries, anesthesia risk class)
- Operation type and concurrent operations (gall bladder removal, appendix removal, etc)
- Perioperative complications
- Surgery data (surgery/anesthesia times, blood loss, etc)
- 6 week follow-up

Source: SOReg: Swedish National Obesity Registry

## **6-week follow-up**

- Length of stay
- <30d surgical complications (bleeding, leakage, infection, technical complications, etc)
- <30d general complications (blood clot, urinary infection, etc)
- Other operations required (gall bladder, plastic surgery, etc)
- Repetition of anthropometric measurements (height, weight, waist, BMI, and change from initial)
- Diabetes labs (HbA1c)

## **1,2 & 5-year follow-up**

- Anthropometrics and change from initial
- Labs (diabetes, triglycerides & cholesterol)
- Comorbidities, and ongoing treatments
- Delayed complications of operation (hernia, ulcer, treatment related malnutrition or anemia, etc)
- Other surgeries since registration
- SF-36/OP-9 (validated quality of life measures)

Source: SOReg: Swedish National Obesity Registry

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4. Drive value improvement by **increasing** provider **experience, scale**, and **learning** at the **medical condition level**
5. Care should be **integrated across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. Value must be **measured** and ultimately **reported** by every provider for each medical condition
7. Reimbursement must be aligned with **value** and reward **innovation**

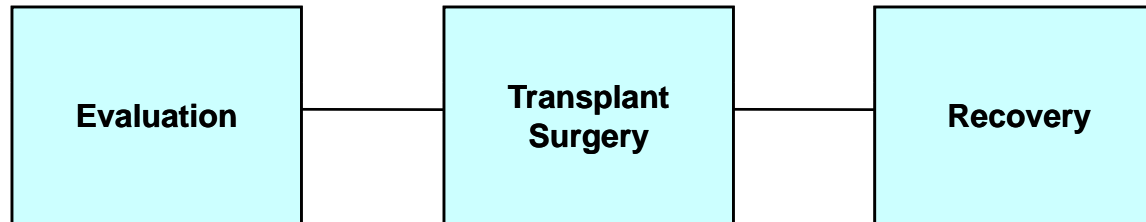
- **Bundled reimbursement** for **care cycles**, not payment for discrete treatments or services
  - Adjusted for **patient complexity**
  - Most DRG systems are **too narrow**
- Time base bundled reimbursement for **managing chronic conditions**
- Reimbursement for **prevention, wellness, screening**, and **health maintenance** service bundles, not just treatment



- **Providers** and **health plans** must be proactive in driving new reimbursement models, not wait for government

# Reimbursement for the Cycle of Care

## Organ Transplantation



- Addressing organ rejection
- Fine-tuning the drug regimen
- Adjustment and monitoring

- Leading transplantation centers offer a **single bundled price**



- UCLA Medical Center was a pioneer
- In dividing the revenue from transplantation, some UCLA physicians **bear risk** and capture some of the value improvement, while others are compensated with conventional charges



# Principles of Value-Based Health Care Delivery

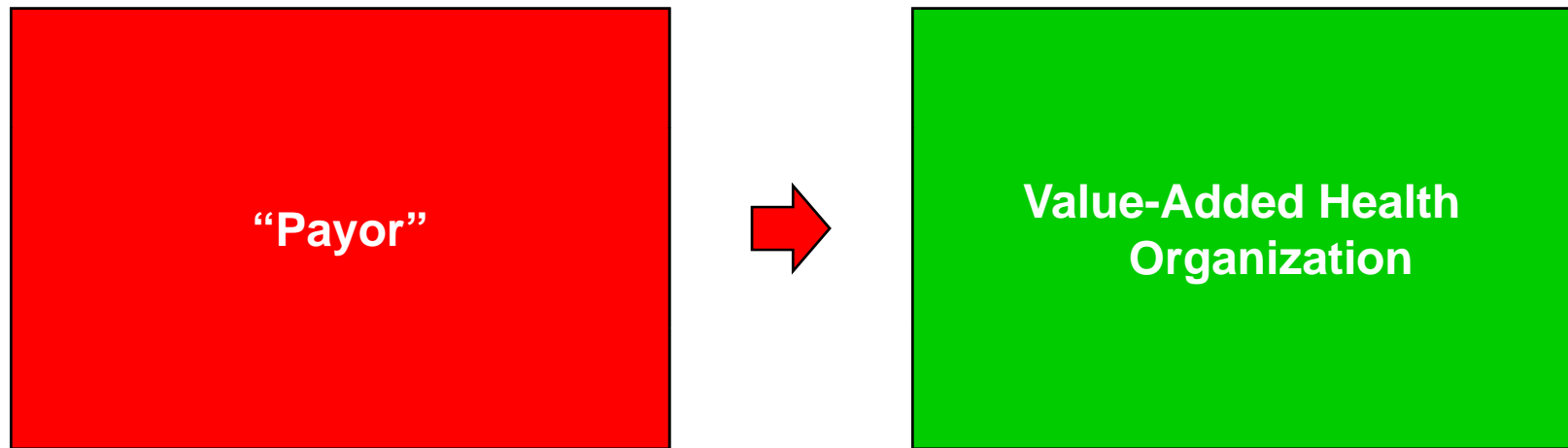
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7. Reimbursement must be aligned with **value** and reward **innovation**
8. Information technology can enable **restructuring of care delivery** and **measuring results**, but is not a solution by itself

- Common data definitions
- Precise interoperability standards
- Patient-centered data warehouse
- Include all types of data (e.g. notes, images)
- Cover the full care cycle, including referring entities
- Accessible to all involved parties
- Templates for medical conditions


# Value-Based Health Care Delivery: Implications for Providers

- Organize around **integrated practice units** (IPUs)
  - Integrate care for each IPU **across geographic locations**
  - Employ formal **partnerships** and **alliances** with other organizations involved in the care cycle
- Measure **outcomes** and **costs** for every patient
- Lead the development of **new IPU reimbursement models**
- **Specialize** and **integrate** health systems
- Grow high-performance practices **across regions**
- Develop an integrated **electronic medical record** system to support these functions


# Value-Based Healthcare Delivery: Implications for Health Plans



# Value-Adding Roles of Health Plans

- Measure and report **overall health results** for members by medical condition versus other plans
  - Assemble, analyze and manage the **total medical records** of members
  - Provide for comprehensive **prevention, wellness, screening, and disease management** services to all members
  - Monitor and compare **provider results** by medical condition
  - Provide advice to patients (and referring physicians) in selecting **excellent providers**
  - Assist in coordinating patient care across the **care cycle** and **across medical conditions**
  - Encourage and reward **integrated practice unit** models by providers
  - Design new **bundled reimbursement structures** for care cycles instead of fees for discrete services
- 
- Health plans will require **new capabilities** and **new types of staff** to play these roles

# Value-Based Health Care Delivery: Implications for Employers

- Set the goal of **employee health**
  - Assist employees in **healthy living** and **active participation in their own care**
  - Provide for convenient and high value **prevention, screening, and disease management** services
    - On site clinics
  - Set **new expectations for health plans**
    - Plans should contract for **integrated care**, not discrete services
    - Plans should assist subscribers in **accessing excellent providers** for their medical condition
    - Plans should contract for care **cycles rather** than discrete services
    - Plans should **measure** and **improve** member health results, and expect providers to do the same
  - Provide for **health plan continuity** for employees, rather than plan churning
  - Find ways to **expand insurance coverage** and advocate **reform of the insurance system**
- 
- Measure and hold employee benefit staff accountable for the company's **health value received**

# Value-Based Health Care: Implications for Government

## Achieving Universal Insurance:

- **Maintain competition** between private and public plans
- Shift insurance competition to **value-based competition for subscribers**
- Build upon the current **employer based system**
- Create a viable insurance option for **individuals and small groups**
- Create large statewide and multistate **insurance pools** coupled with a **reinsurance system** for high cost individuals
- Establish **income-based subsidies** on a sliding scale to for lower income individuals
- Once viable insurance options are established, **mandate the purchase of health insurance** for all Americans

# Value-Based Health Care: Implications for Government

## Restructure Delivery

- Establish universal and mandatory measurement and reporting of provider **health outcomes**
  - **Experience** reporting as an interim step
- Creation of new integrated **prevention, wellness, screening** and **health maintenance** models
- Drive **restructuring of health care delivery** around the integrated care of medical conditions
  - Eliminate obstacles such as stark laws
- Shift reimbursement systems to **bundled prices for cycles of care** instead of payments for discrete treatments or services
- **Open up value-based competition** for patients within and across state boundaries
- Mandate **HIT** that enables integrated care and supports outcome measurement
  - National standards for data, communication, and aggregation
- Create greater **responsibility of individuals** for their health and health care

# How Will Redefining Health Care Begin?

- It is **already happening** in the U.S. and other countries
- Steps by pioneering institutions will be **mutually reinforcing**
- Once competition begins working, value improvement will **no longer be discretionary**
- Those organizations that **move early** will gain major benefits



- **Providers** can and should take the lead