Value-Based Health Care Delivery
Welcome and Introduction

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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/rhc/index.html.

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, and payment models

  - Care pathways, process improvements, safety initiatives, disease management and other **overlays** to the current structure are beneficial, but not sufficient

Creating The Right Kind of Competition on Value

- **Choice** and **Competition** for patients/subscribers are powerful forces to encourage restructuring of care and continuous improvement in value
- Today's competition in health care **is often not aligned with value**

Financial success of system participants	$\neq$	Patient success

- Creating positive-sum **competition on value** is integral 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 **full set of patient health results** 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 a powerful driver of cost containment and value improvement, where quality is **health outcomes**

- Prevention of illness	- Fewer complications
- Early detection	- Fewer mistakes and repeats in treatment
- Right diagnosis	- Faster recovery
- Right treatment to the right patient	- More complete recovery
- Early and timely treatment	- Less disability
- Treatment earlier in the causal chain of disease	- Fewer recurrences, relapses, flare ups, or acute episodes
- Rapid cycle time of diagnosis and treatment	- Slower disease progression
- Less invasive treatment methods	- Greater functionality and 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

Creating a Value-Based Health Care Delivery Organization

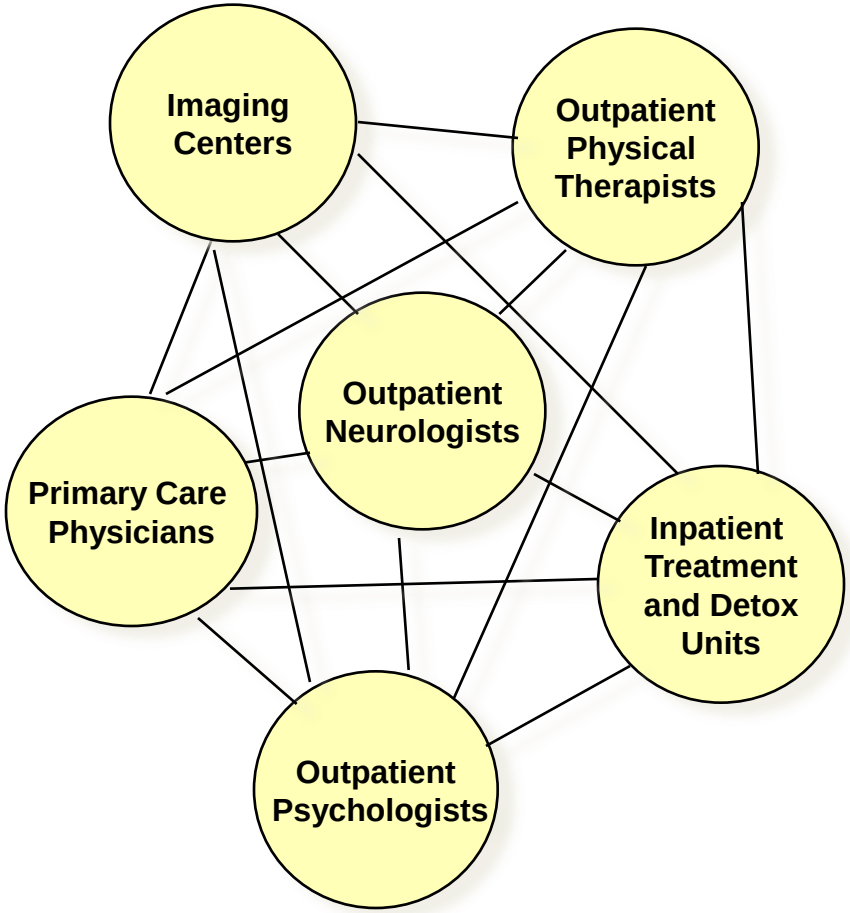
The Strategic Agenda

1. Organize into Integrated Practice Units (IPUs) Around Patient Medical Conditions
   - Organize primary and preventive care to serve distinct patient populations
2. Establish Universal Measurement of Outcomes and Cost for Every Patient
3. Move to Bundled Prices for Care Cycles
4. Integrate Care Delivery Across Separate Facilities
5. Expand Excellent IPUs Across Geography
6. Create an Enabling Information Technology Platform

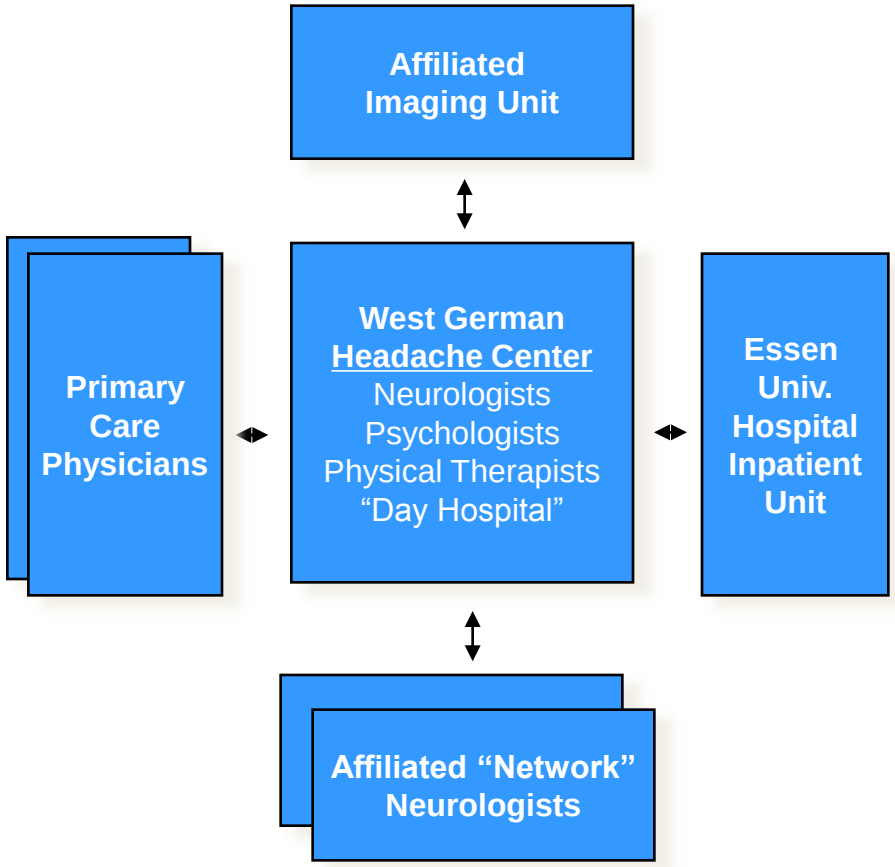
1. Organizing Around Patient Medical Conditions

Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services



New Model:
Organize into Integrated Practice Units (IPUs)



Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, *The West German Headache Center: Integrated Migraine Care*, Harvard Business School Case 9-707-559, September 13, 2007

Organizing Around the Patient's 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
  - **Including** common co-occurring conditions and complications
  - Involving **multiple** specialties and services
- In primary / preventive care, the organizational unit for care is a **defined patient population** (e.g. healthy adults, frail elderly)

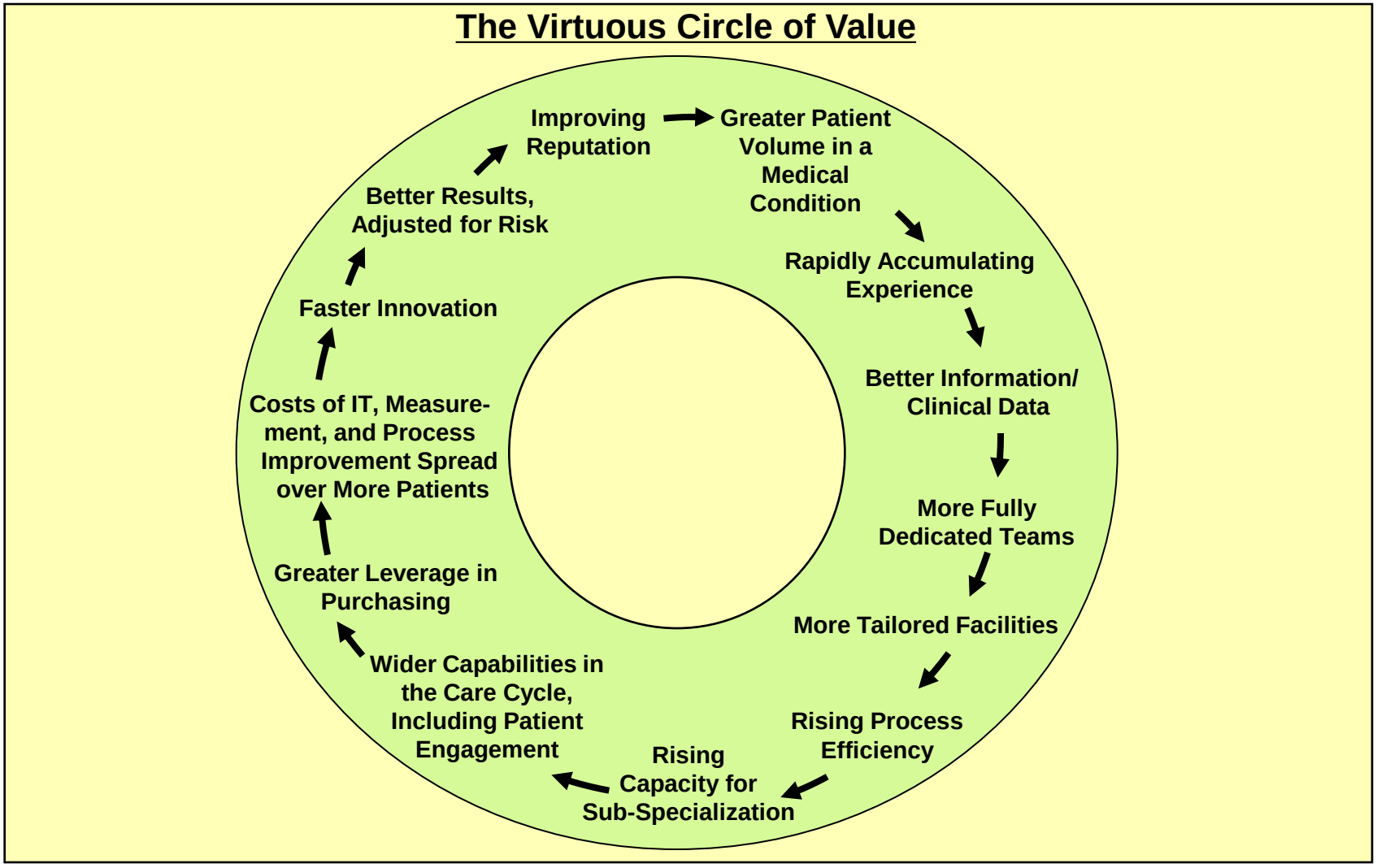
- IPUs can address a single medical condition or **groups of closely related medical conditions** involving similar specialties, services, and expertise

- The patient's medical condition is the **unit of value creation** and **unit of value measurement** in health care delivery

Integrating Across the Cycle of Care
Breast Cancer

	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABING	MONITORING/ MANAGING
INFORMING AND ENGAGING	• Advice on self screening • Consultations on risk factors	• 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	• Counseling on rehabilitation options, process • Achieving compliance • Psychological counseling	• Counseling on long term risk management • Achieving compliance
MEASURING	• Self exams • Mammograms	• Mammograms • Ultrasound • MRI • Labs (CBC, etc.) • Biopsy • BRACA 1, 2… • CT • Bone Scans	• Labs	• Procedure-specific measurements	• Range of movement • Side effects measurement	• MRI, CT • Recurring mammograms (every six months for the first 3 years)
ACCESSING THE PATIENT	• 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 chemo-therapy units • Pharmacy visits	• Office visits • Rehabilitation facility visits • Pharmacy 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	• Medical history • Determining the specific nature of the disease (mammograms, pathology, biopsy results) • Genetic evaluation • Labs	• Choosing a treatment plan • Surgery prep (anesthetic risk assessment, EKG) • Plastic or onco-plastic surgery evaluation • Neo-adjuvant chemotherapy	• Surgery (breast preservation or mastectomy, oncoplastic alternative) • Adjuvant therapies (hormonal medication, radiation, and/or 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

Volume in a Medical Condition Enables 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

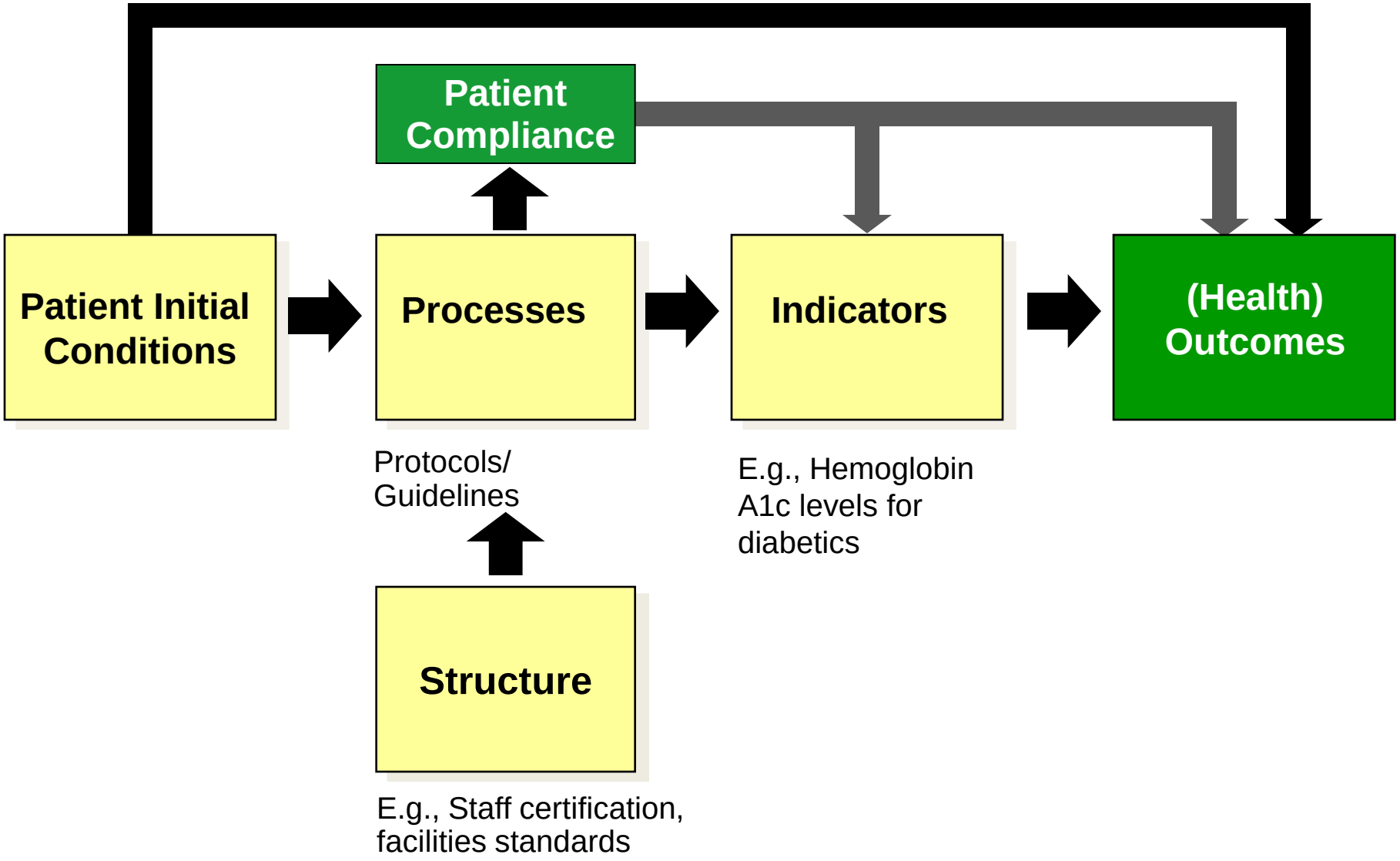
Fragmentation of Hospital Services in Sweden

DRG	Number of admitting providers	Average percent of total national admissions	Average admissions/ provider/ year	Average admissions/ provider/ week
Knee Procedure	68	1.5%	55	1
Diabetes age > 35	80	1.3%	96	2
Kidney failure	80	1.3%	97	2
Multiple sclerosis and cerebellar ataxia	78	1.3%	28	1
Inflammatory bowel disease	73	1.4%	66	1
Implantation of cardiac pacemaker	51	2.0%	124	2
Splenectomy age > 17	37	2.6%	3	<1
Cleft lip & palate repair	7	14.2%	83	2
Heart transplant	6	16.6%	12	<1

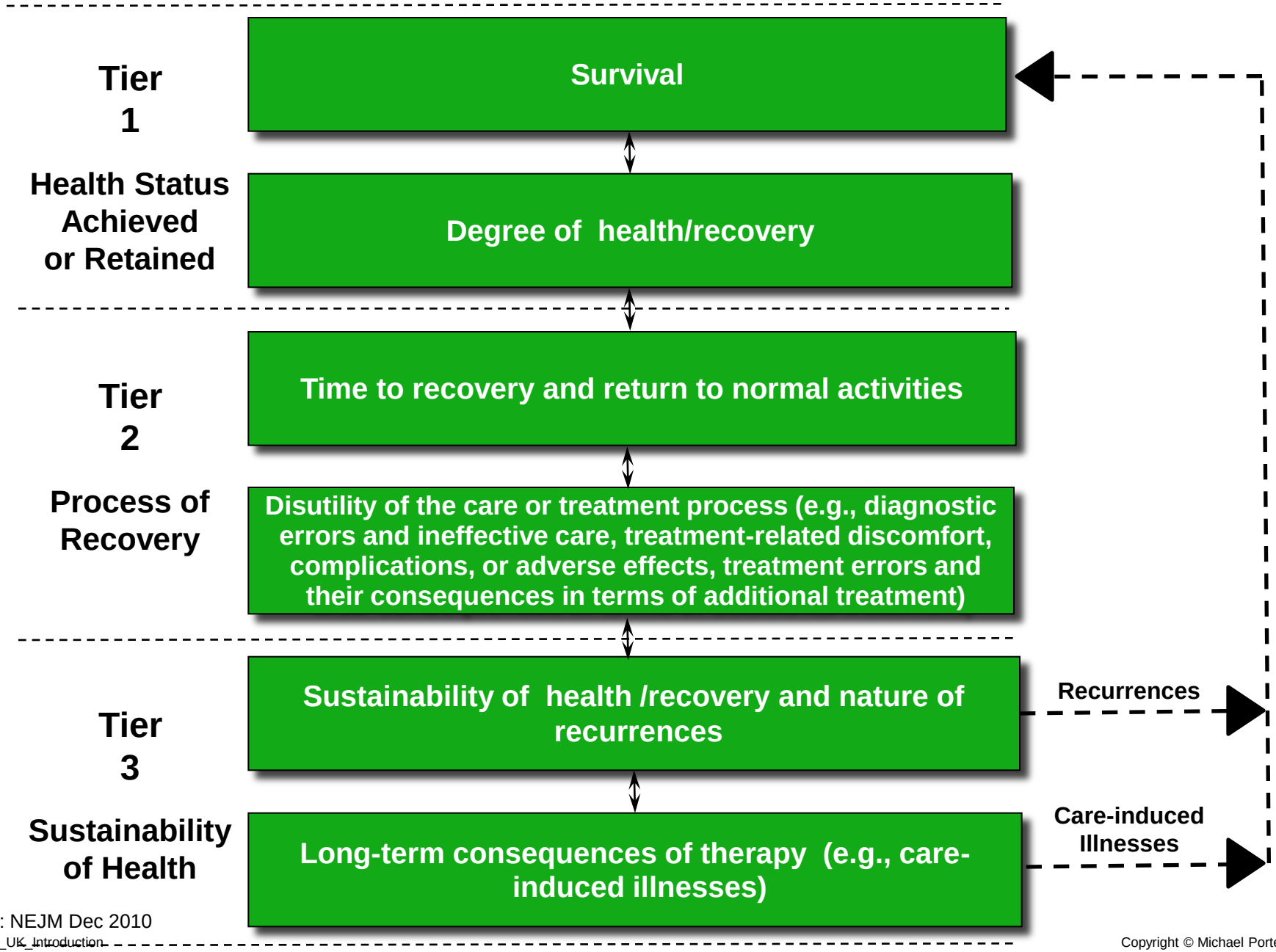
Source: Compiled from The National Board of Health and Welfare Statistical Databases – DRG Statistics, Accessed April 2, 2009.

- **Minimum volume standards** in lieu of rigorous outcome information are an interim step to drive service consolidation

2. Measure Outcomes and Cost for Every Patient



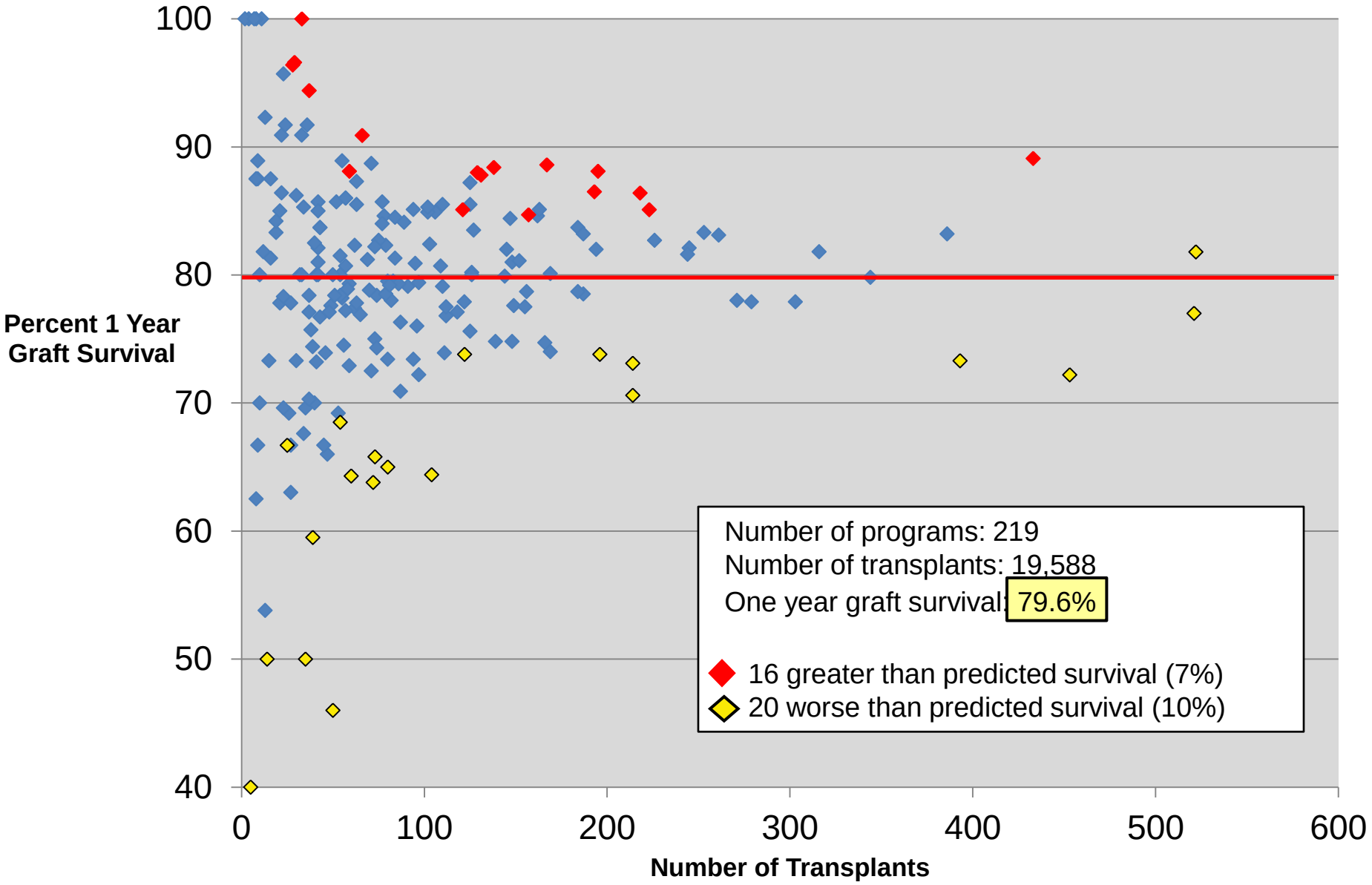
The Outcome Measures Hierarchy



Source: NEJM Dec 2010

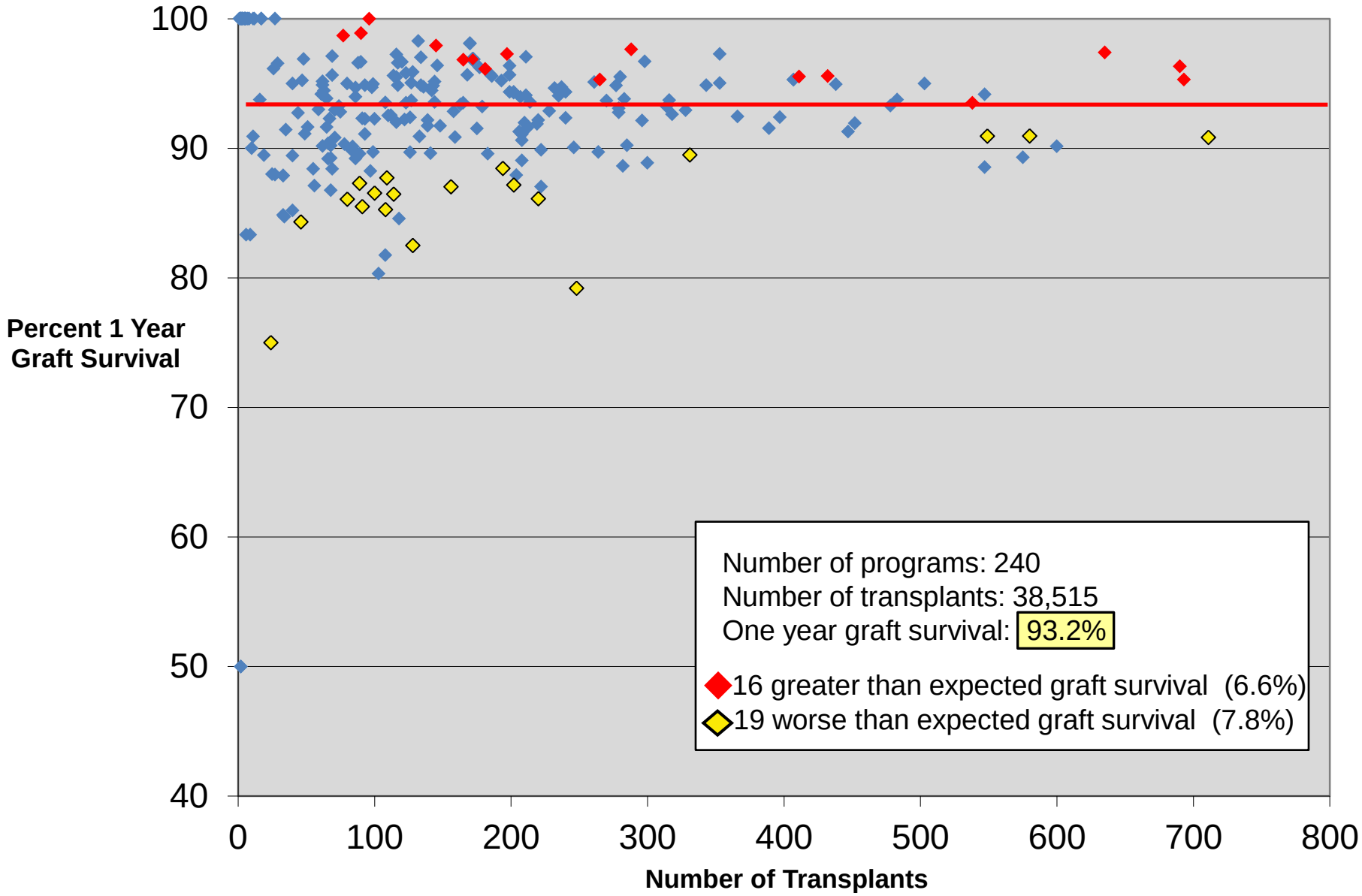
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

U.S. Centers, 2005-2007



Flawed Cost Measurement in Health Care

- Current cost accounting practices in health care **obscure understanding of the actual costs** of care delivery and **severely compromise** true cost reduction

Cost Definition Problem

- Costs are widely confused with **prices**, or allocated based on prices
- **Reimbursement** has been based on past reimbursement rates, rather than actual costs

Cost Aggregation Problem

- Costs are measured and aggregated for departments, specialties, discrete services, and line items (e.g. devices)
- Costs are measured **independent of outcomes**

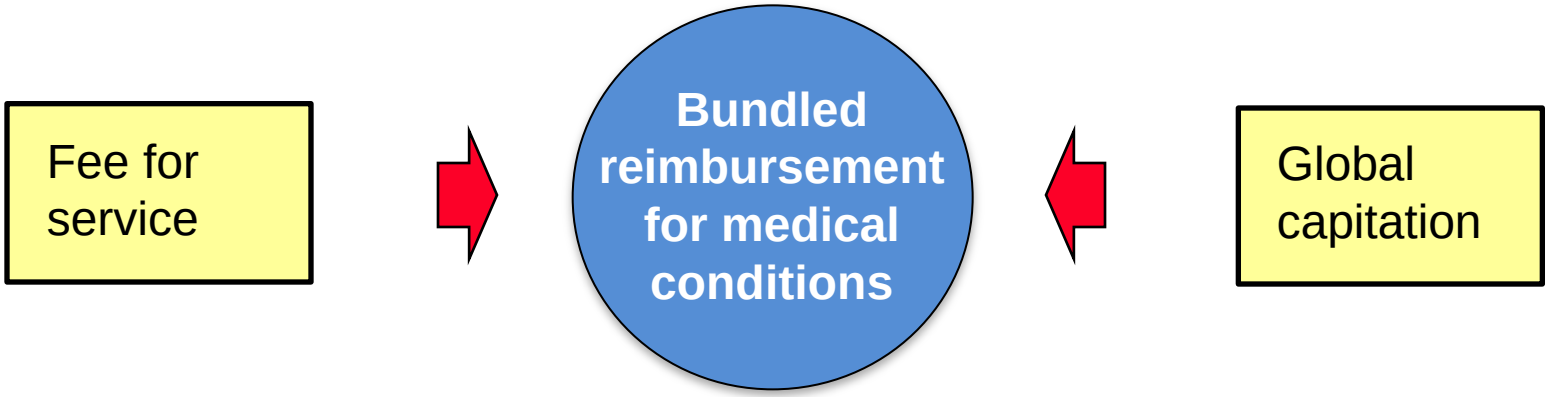
- Costs should be aggregated for **patient medical conditions** over the **full care cycle**

Cost Allocation Problem

- Resource costs are allocated across departments and to patients using **averages or estimates**
- Unbilled serves are included in **overhead**

- Costs should be allocated to **individual patients** based on the **actual use of the resources involved** in their care
- The application of **time-driven activity-based costing (TDABC)** to health care delivery reveals many structural opportunities for cost reduction

3. Setting Bundled Prices for Care Cycles



Bundled Price

- A single price covering the **full care cycle for an acute medical condition**
- Time-based reimbursement for full care of a **chronic condition**
- Time-based reimbursement for **primary/preventive care for a defined patient population**

Bundled Payment in Practice
Hip and Knee Replacement in Stockholm, Sweden

- **Components** of the bundle

- Pre-op evaluation - Lab tests - Radiology - Surgery & related admissions - Prosthesis - Drugs - Inpatient rehab, up to 6 days	- All physician and staff fees and costs - 1 follow-up visit within 3 months - Any additional surgery to the joint within 2 years - If post-op infection requiring antibiotics occurs, guarantee extends to 5 years

- 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
- Provider participation is **voluntary**. All providers are participating

- 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

The Children's Hospital *of* Philadelphia®

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

5. Expanding Excellent IPUs Across Geography

Leading Provider

- Grow **areas of excellence across locations**:
  - Satellite pre- and post-acute services
  - Affiliations with community providers
  - New IPU hubs

NOT:

  - Further widening the service line locally
  - Growing through new broad line, stand-alone units

Community Provider

- **Affiliate with excellent providers** in medical conditions and patient populations to access sufficient volume, expertise, and sophisticated facilities and services to achieve superior value
  - New roles for rural and community hospitals

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**

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Participants (91)

Regions

- North West, North East, Yorkshire, Northumberland (14)
- West Midlands, East Midlands, East of England (8)
- South West, South Central, South East Coast (10)
- London & National (54)
- United States (5)

Roles

- Executives (20)
  - 19 CEOs
- Medical Directors (23)
- Clinical Leaders (20)
  - Including 8 GPs
- Nurses (5)
- Managers (17)
- Academics (6)

Senior Faculty

- **Michael E. Porter**, Harvard Business School
- **Thomas H. Lee,** Harvard Medical School, Harvard School of Public Health, Partners HealthCare

Other Principles

- **Professor Kamalini Ramdas,** London Business School
- **Dr. James Mountford,** UCL Partners
- **Dr. Emma Stanton,** Harkness Fellow, Harvard Business School
- **Dr. Jenny Shand,** UCL Partners
- **Dr. Caleb Stowell,** Harvard Business School

Value-Based Health Care Delivery: Seminar Schedule

Monday, June 20	Tuesday, June 21
	08:00-8:15 Welcome Michael Porter
08:30-08:45 Welcome Michael Porter	**08:15-10:45 UK Mini Cases** 8:15-8:35 UCLH Homeless Case Discussion: Tom Lee 8:35-8:45 Protagonist Discussion: Alex Bax, Nigel Hewett 8:50-9:10 GWH Maternity Case Discussion: Michael Porter 9:10-9:20 Protagonist Discussion: Harini Narayan 9:25-9:45 Stroke Case Discussion: Tom Lee 9:45-9:55 Protagonist Discussion: Charlie Davie 10:00-10:45 Synthesis and Discussion
08:45-09:15 Value and the NHS today Bruce Keogh	
09:15-10:00 Topic Lecture: Intro to Value-Based Health Care Delivery Michael Porter	
10:00-11:30 HBS Case 1: MD Anderson Cancer Care Michael Porter	**10:45-11:00 Break**
	11:00-12:30 HBS Case 3: Cleveland Clinic Michael Porter
11:30-11:45 Break	
11:45-12:30 HBS Case 1: MD Anderson Video and Discussion Michael Porter	
12:30-13:15 Topic Lecture: IPUs, Outcomes and Cost Measurement, and Bundled Pricing Michael Porter	**12:30-13:30 Lunch**
13:15-14:15 Lunch	**13:30-14:45 HBS Case 3: Cleveland Clinic Protagonist** Dr. Toby Cosgrove, CEO
14:15-15:45 HBS Case 2: Commonwealth Care Alliance Tom Lee	**14:45- 15:15 Facilitated Discussion: Moving to Action** Tom Lee
	15:15-15:45 Topic Lecture: System Integration and Growth Michael Porter
15:45-16:00 Break	
16:00-16:45 HBS Case 2: Commonwealth Care Alliance Protagonist/Video Tom Lee	**15:45-16:15 Wrap Up, Take Aways, and Next Steps** Michael Porter and Tom Lee
16:45-17:15 Topic Lecture: Applying a Value Framework Within a Delivery System and Next Generation Outcome Measurement Tom Lee	
17:15-17:45 Discussion and Take-Aways from Day 1 Tom Lee	
17:45-18:00 Break	
18:00-21:30 Reception and Dinner at Barber-Surgeons' Hall	

The Case Method

- **Raise your hand** to participate
- Use **case facts only** during the discussion
- **No questions** to the instructor are appropriate **during the case discussion**
- There are **no "right" answers**