Value-Based Health Care Delivery

Professor Michael E. Porter
Harvard Business School

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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. 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.

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Redefining Health Care Delivery

- Achieving 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 patient value**
  - Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
- How to construct a **dynamic system** that keeps rapidly improving

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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

  - Process improvements, safety initiatives, disease management and other **overlays** to the current structure are beneficial, but not sufficient
  - Consumers alone **cannot fix the dysfunctional structure** of the current system

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Creating Competition on Value

- **Competition and choice 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	≠	Patient success

- Creating positive-sum **competition on value** is a central challenge in health care reform in every country

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Principles of Value-Based Health Care Delivery

The central goal in health care must be **value for patients**, not access, volume, convenience, or cost containment

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

- Outcomes are the **full set of patient health outcomes** over the care cycle
- Costs are the **total costs of care for the patient's condition** over the care cycle

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

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Principles of Value-Based Health Care Delivery

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

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

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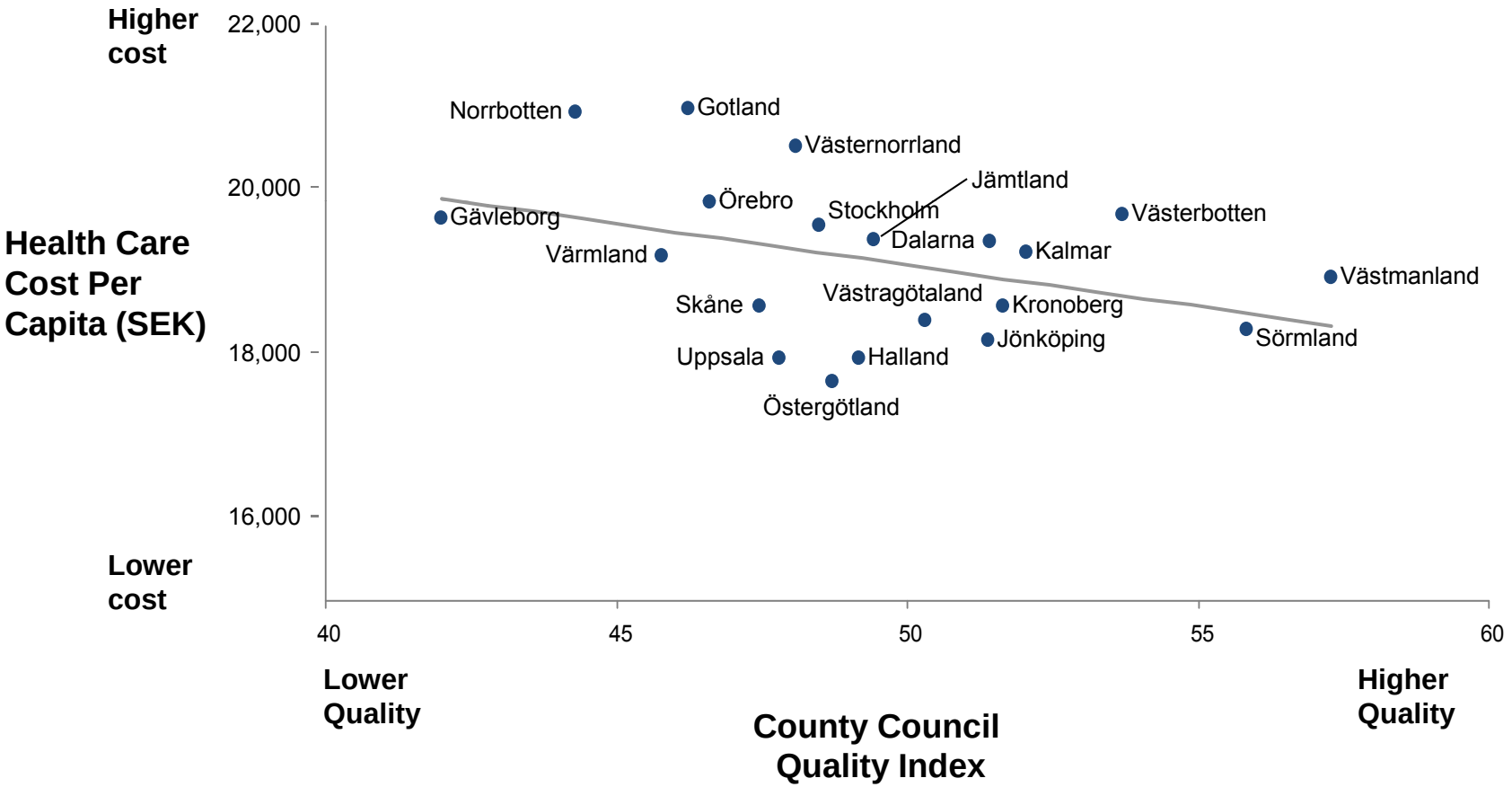
Cost versus Quality, Sweden
Health Care Spending by County, 2008



Note: Cost including; primary care, specialized somatic care, specialized psychiatry care, other medical care, political health- and medical care activities, other subsidies (e.g. drugs)
Source: Öpnna jämförelser, Socialstyrelsen 2008;Sjukvårdsdata i fokus 2008; BCG analysis

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Creating a Value-Based Health Care Delivery System

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**

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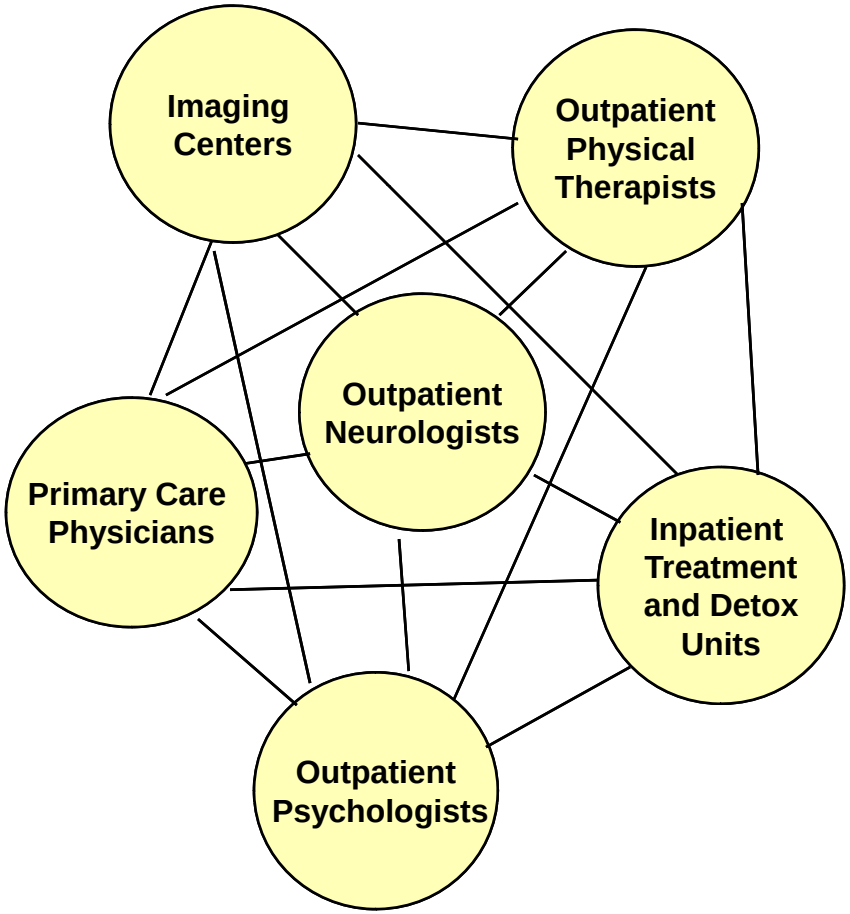
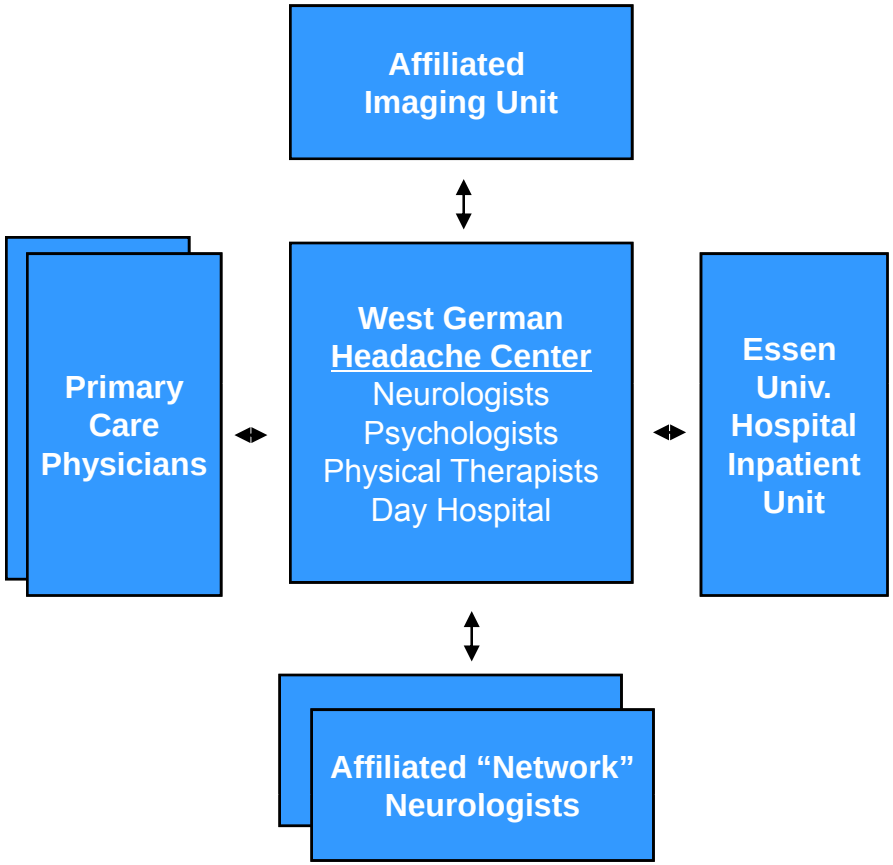
1. Organize Around Patient Medical Conditions

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

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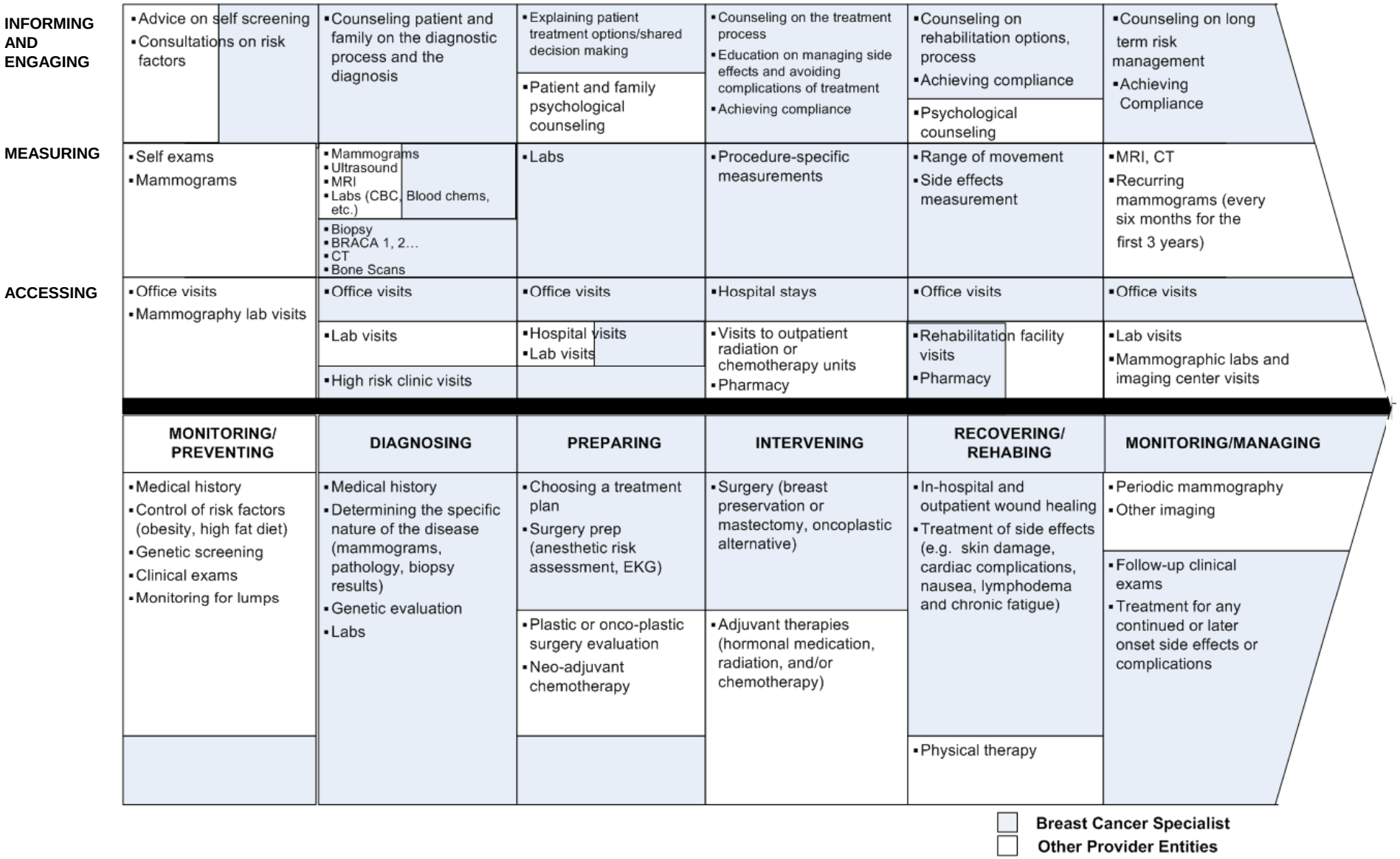
Integrating Across the Cycle of Care

Breast Cancer



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What is Integrated Care?

Attributes of an Integrated Practice Unit (IPU):

1. Organized around the **patient's medical condition**
2. Involves a **dedicated**, **multidisciplinary team** who devote a significant portion of their time to the condition
3. Where providers are part of a **common organizational unit**
4. Utilizing a **single administrative** and **scheduling structure**
5. Provides the **full cycle of care** for the condition
   - Encompasses **inpatient, outpatient, and rehabilitative** care as well as **supporting services** (e.g. nutrition, social work, behavioral health)
   - Includes **patient education, engagement** and **follow-up**
6. **Co-located** in **dedicated facilities**
7. With a **physician team captain** and a **care manager** who oversee each patient's care process
8. Where the team **meets formally and informally** on a regular basis
9. And measures **processes** and **outcomes** as a **team**, not individually
10. And accepts **joint accountability** for outcomes and costs

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Integrated Models of Primary Care

- Today's primary care is **fragmented** and attempts to address **overly broad needs** with limited resources

- Organize primary care around teams serving **specific patient populations** (e.g. healthy adults, frail elderly, type II diabetics) rather than attempting to be all things to all patients
- Deliver **defined service bundles** covering appropriate prevention, screening, diagnosis, wellness and health maintenance
- Provide services with **multidisciplinary teams**, including ancillary health professionals and support staff in **dedicated facilities**
- Form **alliances with specialty IPUs** covering the prevalent medical conditions represented in the patient population
- Deliver services not only in traditional settings but at the **workplace**, **community organizations**, **schools**, and in **other locations** that offer regular patient contact and the ability to develop a group culture of wellness

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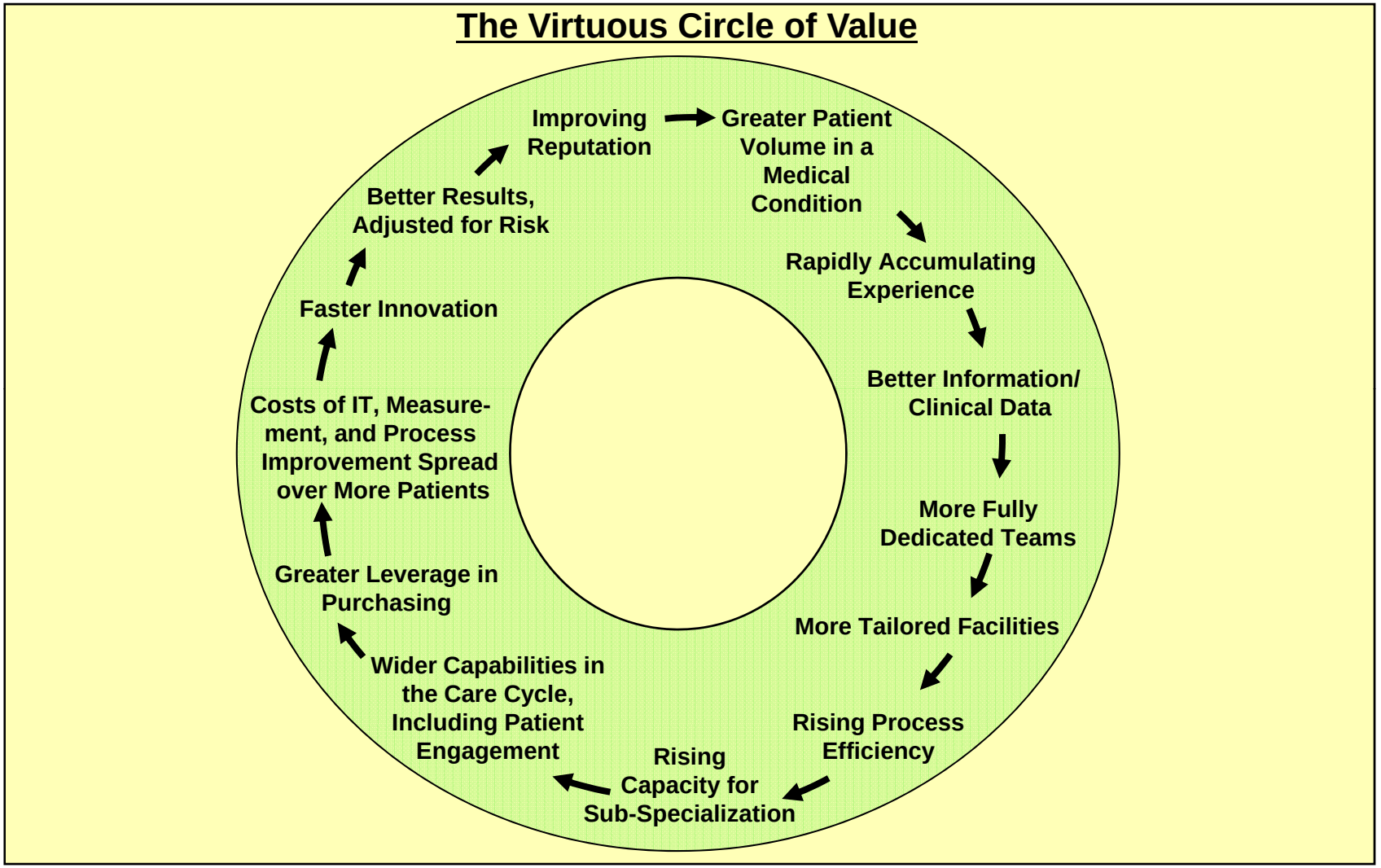
Volume in a Medical Condition Enables Value



- Volume and experience will have an **even greater** impact on value in an IPU structure than in the current system

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Fragmentation of Hospital Services
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.

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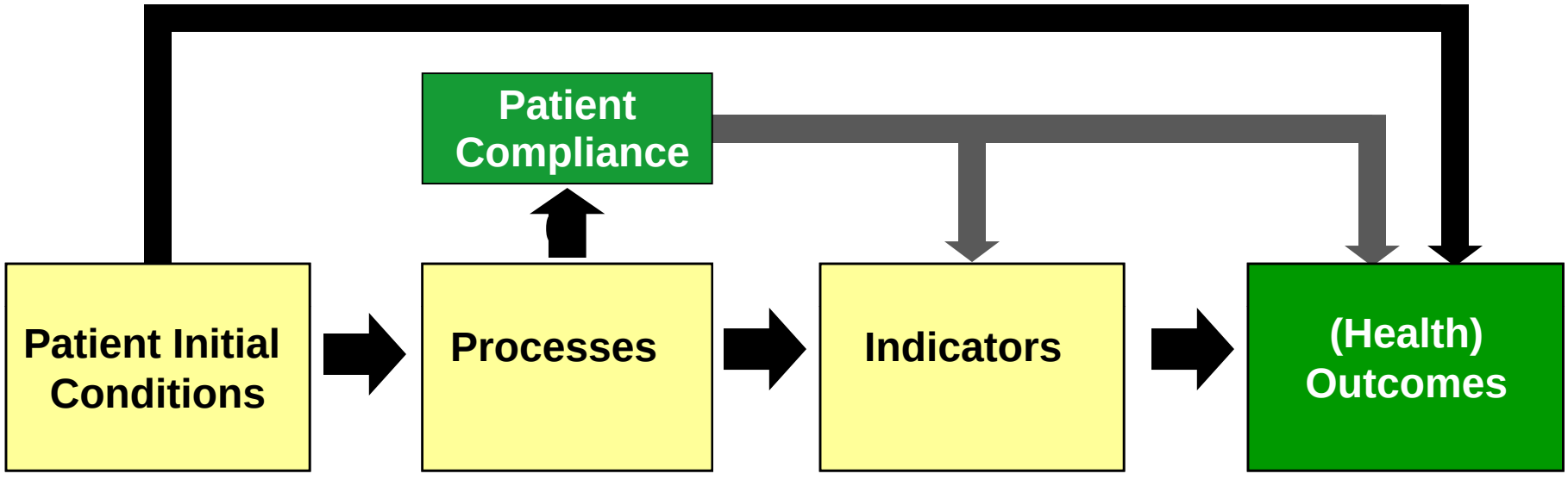
2. Measure Outcomes and Cost for Every Patient



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Measuring Outcomes and Costs

- **For** medical conditions/primary care patient populations
- **Real time** and **"on-line"** in care delivery, not just retrospectively or in clinical studies
- **Not** for interventions or short episodes
- **Not** separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)
- **Not** for practices, departments, clinics, or entire hospitals

Measuring and reporting **volume** by medical condition

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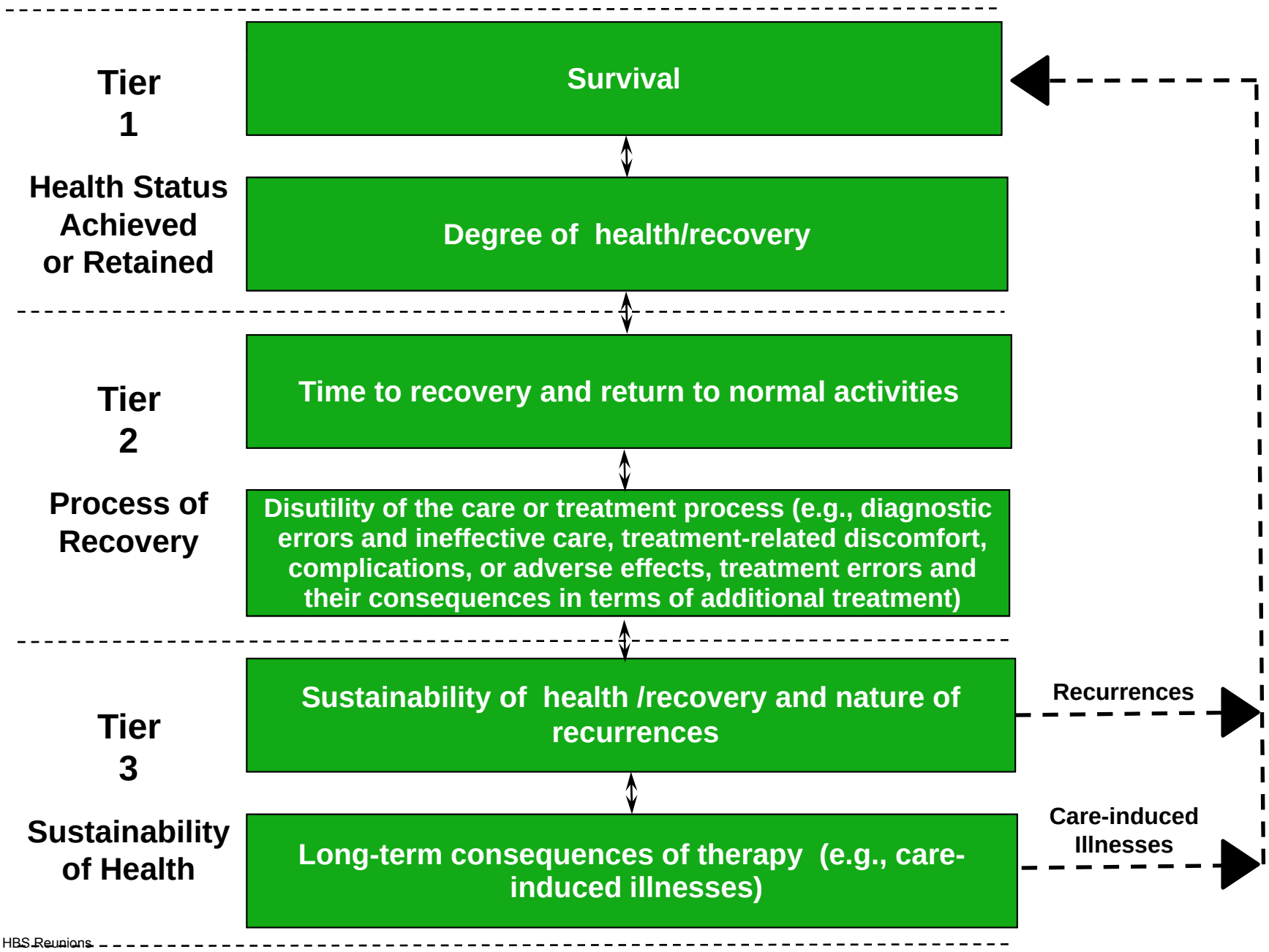
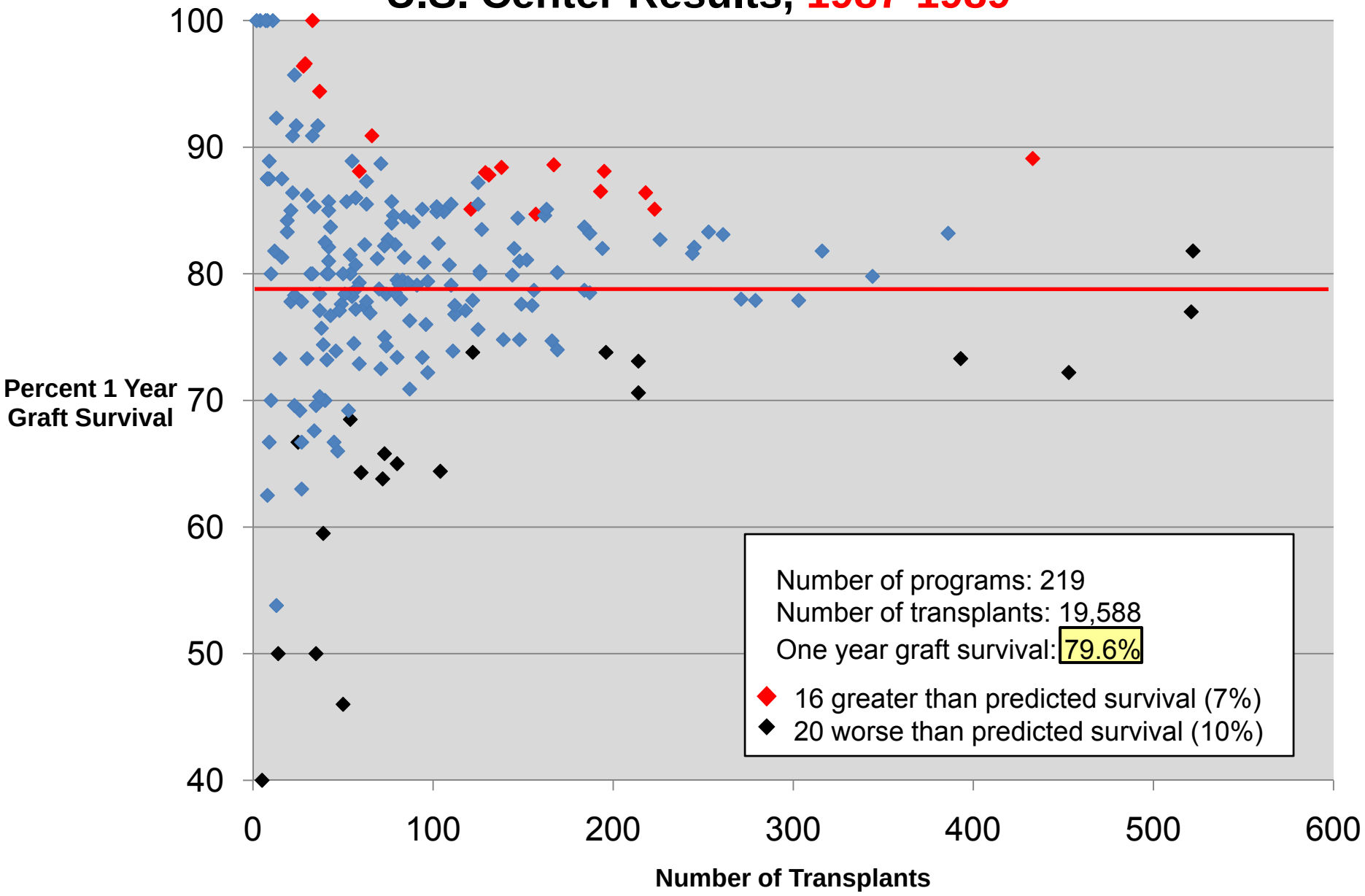
The Outcome Measures Hierarchy



Adult Kidney Transplant Outcomes, U.S. Center Results, 1987-1989



Adult Kidney Transplant Outcomes
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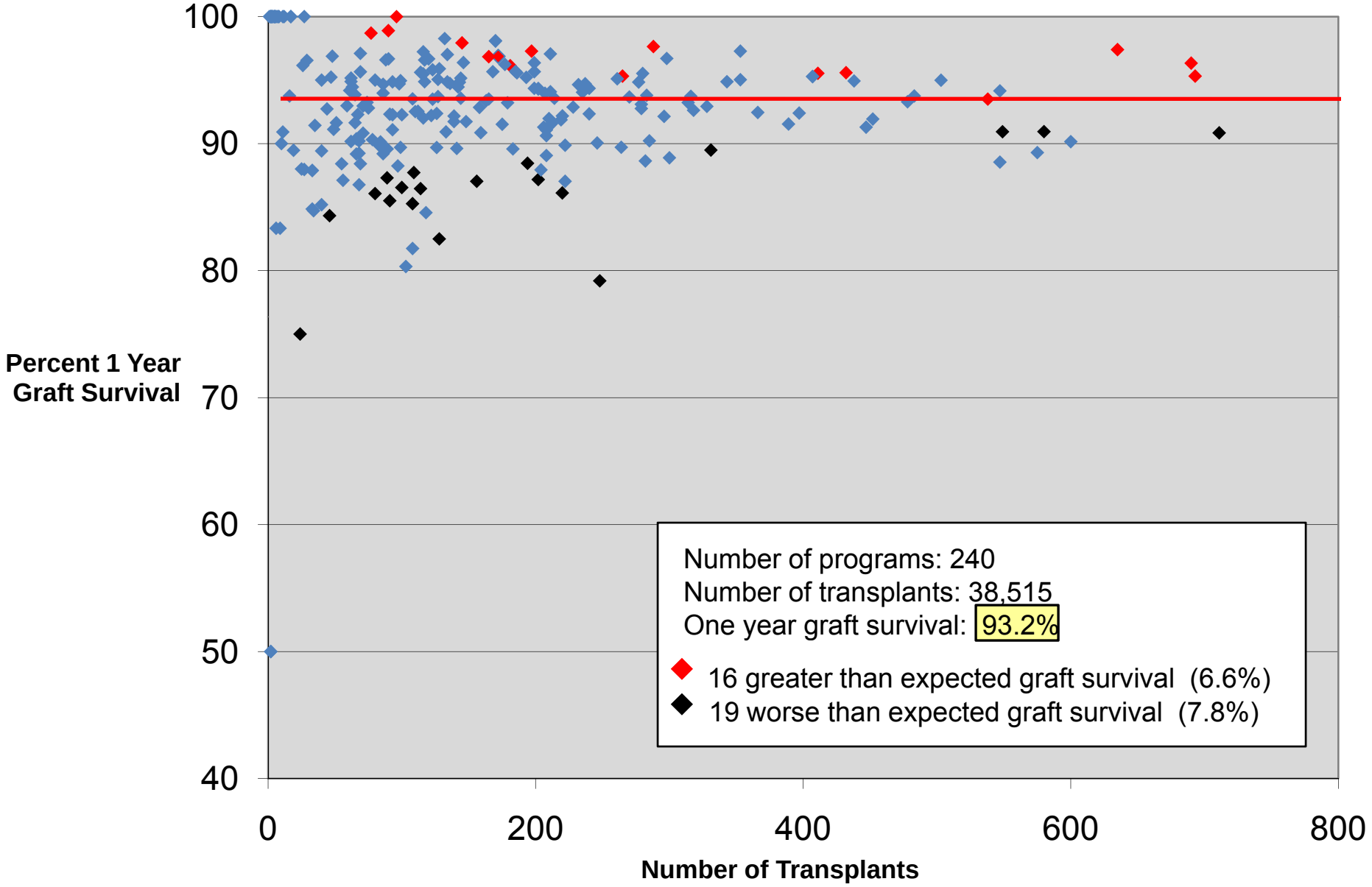

Swedish National Quality Registers, 2007*

Respiratory Diseases
- Respiratory Failure Register (Swedevox)
- Swedish Quality Register of Otorhinolaryngology

Childhood and Adolescence
- The Swedish Childhood Diabetes Registry (SWEDIABKIDS)
- Childhood Obesity Registry in Sweden (BORIS)
- Perinatal Quality Registry/Neonatology (PNQn)
- National Registry of Suspected/Confirmed Sexual Abuse in Children and Adolescents (SÖK)

Circulatory Diseases
- Swedish Coronary Angiography and Angioplasty Registry (SCAAR)
- Registry on Cardiac Intensive Care (RIKS-HIA)
- Registry on Secondary Prevention in Cardiac Intensive Care (SEPHIA)
- Swedish Heart Surgery Registry
- Grown-Up Congenital Heart Disease Registry (GUCH)
- National Registry on Out-of-Hospital Cardiac Arrest
- Heart Failure Registry (RiksSvikt)
- National Catheter Ablation Registry
- Vascular Registry in Sweden (Swedvasc)
- National Quality Registry for Stroke (Riks-Stroke)
- National Registry of Atrial Fibrillation and Anticoagulation (AuriculA)

Endocrine Diseases
- National Diabetes Registry (NDR)
- Swedish Obesity Surgery Registry (SOReg)
- Scandinavian Quality Register for Thyroid and Parathyroid Surgery

Gastrointestinal Disorders
- Swedish Hernia Registry
- Swedish Quality Registry on Gallstone Surgery (GallRiks)
- Swedish Quality Registry for Vertical Hernia

Musculoskeletal Diseases
- Swedish Shoulder Arthroplasty Registry
- National Hip Fracture Registry (RIKSHÖFT)
- Swedish National Hip Arthroplasty Register
- Swedish Knee Arthroplasty Register
- Swedish Rheumatoid Arthritis Registry
- National Pain Rehabilitation Registry
- Follow-Up in Back Surgery
- Swedish Cruciate Ligament Registry – X-Base
- Swedish National Elbow Arthroplasty Register (SAAR)

* Registers Receiving Funding from the Executive Committee for National Quality Registries in 2007

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Structural Cost Reduction in Health Care

- Current organization structure and cost accounting practices in health care obscure true costs, opening major **opportunities for cost efficiencies**
  - Over-resourced facilities
    - E.g. routine care delivered in expensive hospital settings
  - Under-utilization of expensive clinical space, equipment, and facilities
  - Poor utilization of highly skilled physicians and staff
  - Over-provision of low- or no-value testing and other services in order to justify billing/follow rigid protocols
  - Long cycle times
  - Redundant administrative and scheduling personnel
  - Missed opportunities for volume procurement
  - Excess inventory and weak inventory management
  - Lack of cost knowledge and awareness in clinical teams

- These cost reduction opportunities **do not require outcome tradeoffs**, but may actually improve outcomes

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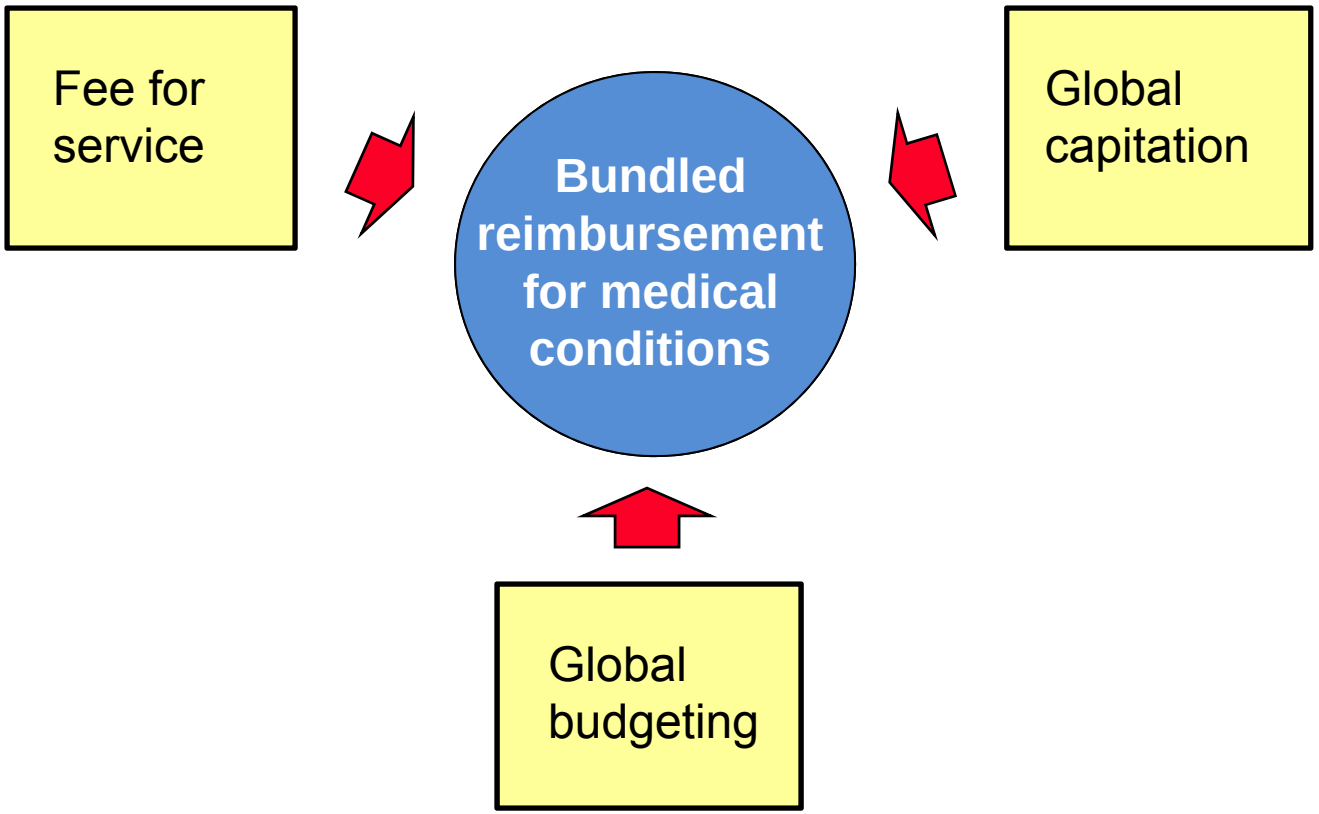
3. Move to Bundled Prices for Care Cycles



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

- **Components** of the bundle

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

- 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** but all providers are involved

- The bundled price for a knee or hip replacement is about **US $8,000**

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4. Integrate 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

Levels of System Integration

- Choose a **scope of service lines** where the organization can achieve excellence
- **Rationalize service lines/ IPUs** across facilities to improve volume, avoid duplication, and deepen teams
- **Offer specific services** at the **appropriate facility**
  - E.g. acuity level, cost level, need for convenience
- **Clinically integrate care across facilities**, within an IPU structure
  - **Expand** and **integrate** the care cycle
  - Better connect **preventive/primary care** units to specialty IPUs

- There is a major opportunity to improve value through **moving care out** of heavily resourced hospital, tertiary and quaternary facilities

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5. Expand Excellent IPUs Across Geography

- Grow **areas of excellence** and **leverage across locations**, rather than adding broad line, stand-alone units
- **Affiliate with excellent providers** in medical conditions where there is insufficient volume or expertise to achieve superior value

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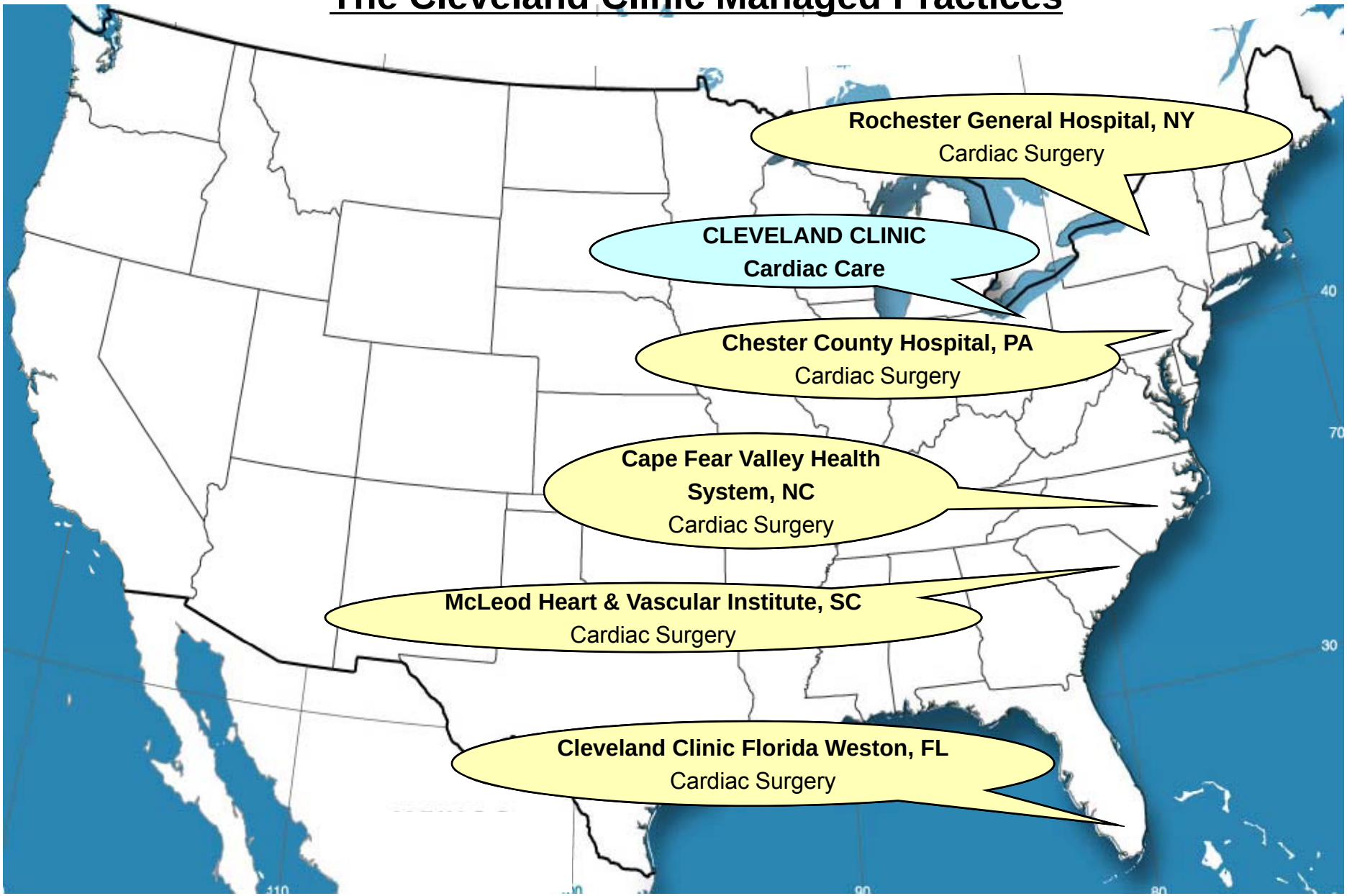
Expanding Excellent IPUs Across Geography

The Cleveland Clinic Managed Practices



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6. Create 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 over time
- Data encompasses the **full care cycle**, including referring entities
- Allows access and communication among **all involved parties**, including patients
- **"Structured"** data vs. free text
- **Templates** for medical conditions to enhance the user interface
- 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 systems**

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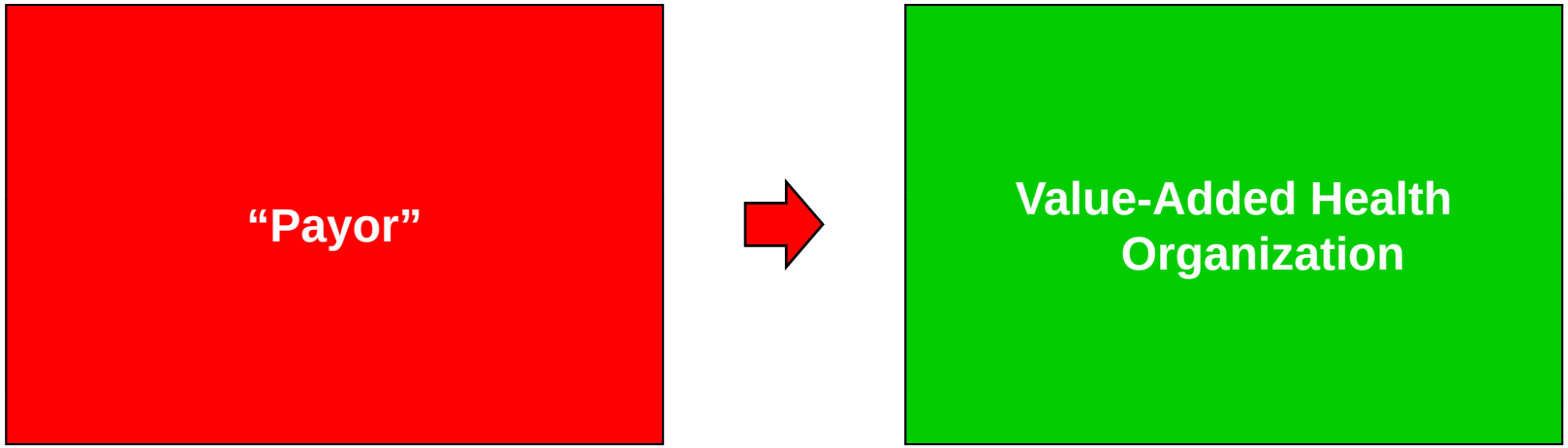
Value-Based Health Care Delivery:
Implications for Contracting Parties/Health Plans



- Providers can lead in developing new relationships with health plans through their role in **providing health benefits for their own employees**

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Value-Based Health Care Delivery: Implications for Government

- Establish **universal measurement** and **reporting** of **health outcomes**
- Remove obstacles to **integrated care for medical conditions**
- Shift reimbursement systems to **bundled prices for care cycles**
- **Open competition** among providers and across geography
- Set standards and mandate **EMR adoption** that supports integrated care and outcome measurement
- Set policies to encourage greater **responsibility of individuals** for their health and their health care

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Value-Based Health Care Delivery: The Role of Employers

- Employer interests are **more closely aligned with patient interests** than any other system participant
  - Employers need healthy, high performing employees
  - Employers bear the costs of chronic health problems and poor quality care

  - The cost of poor health is 2 to 7 times more than the cost of health benefits
    - Absenteeism
    - Presenteeism
- Employers are **uniquely positioned** to improve employee health
  - Daily interactions with employees
  - On-site clinics for quick diagnosis and treatment, prevention, and screening
  - Group culture of wellness
- Employers should require their health plans to **enable value-based delivery**
- Employers can establish **direct relationships with providers** to jump start value based approaches
  - Self-insured employers
  - Consortia of smaller employers

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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, wellness, screening,** and **disease management** services
  - On site clinics
- Set **new expectations for payors**
  - Plans should contract for **integrated care**, not discrete services
  - Plans should contract for care **cycles rather** than single interventions
  - Plans should assist subscribers in **accessing excellent providers** for their medical condition
  - Plans should **measure** and **improve** member health results by condition, 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 **health value achieved** by the company

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