Value-Based Health Care Delivery

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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

- 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

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

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

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**

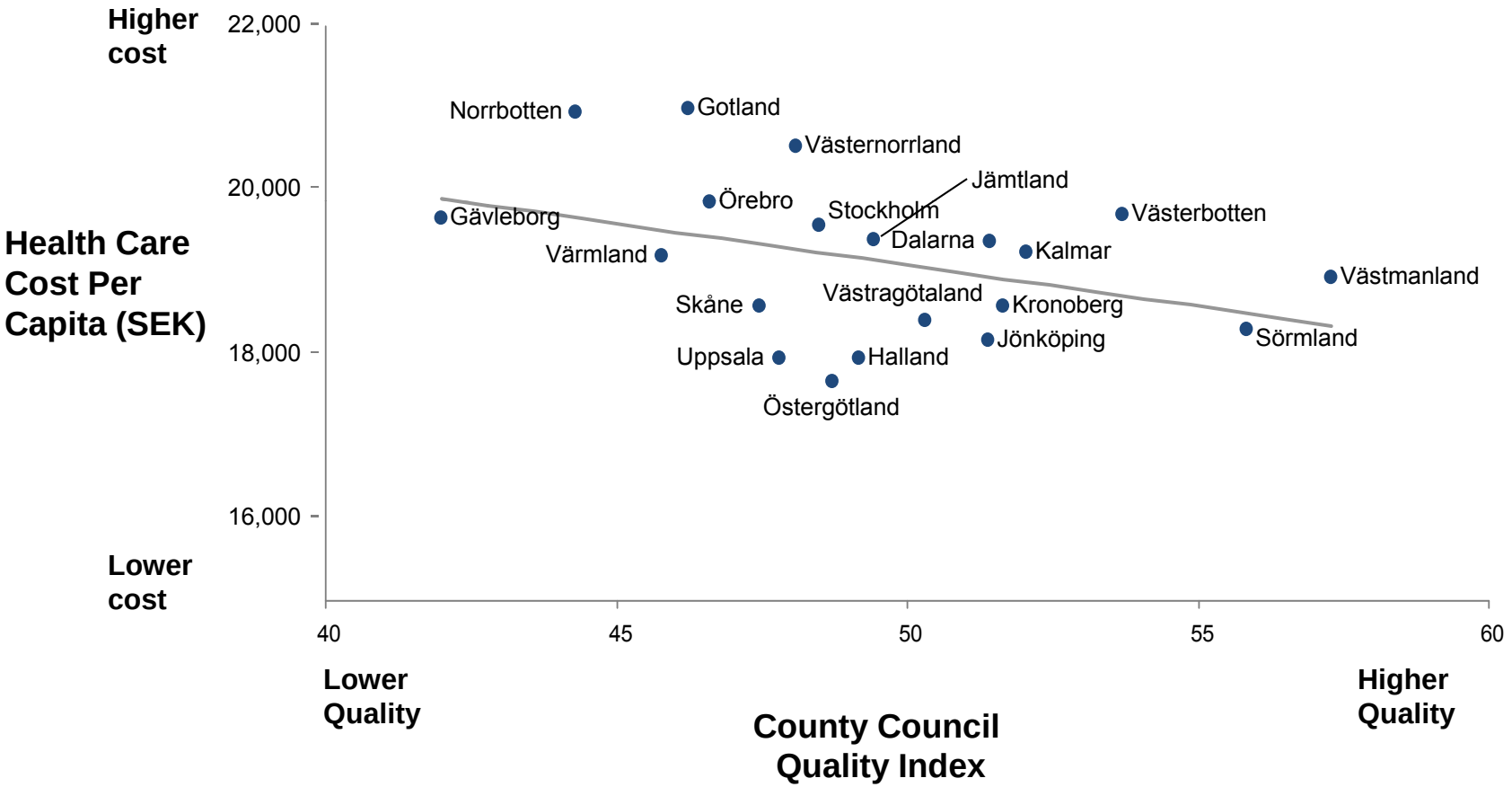
Principles of Value-Based Health Care Delivery

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

- Prevention of illness
- 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 recurrences, relapses, flare ups, or acute episodes
- Slower disease progression
- 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

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

Creating a Value-Based Health Care Delivery System

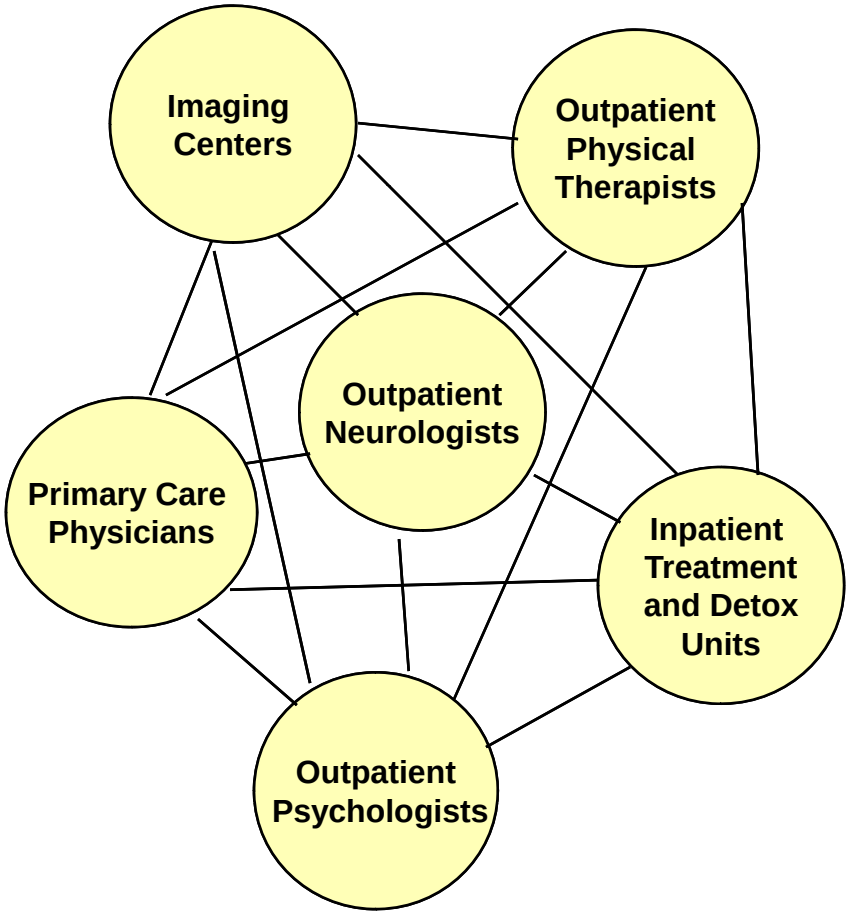
The Strategic Agenda

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**

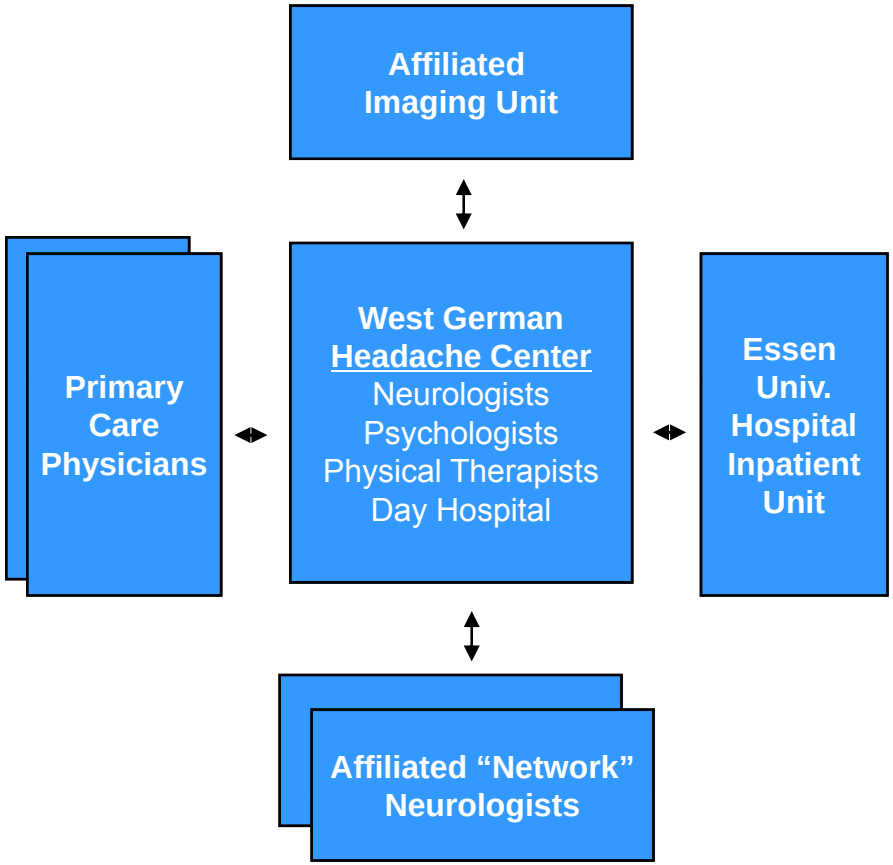
1. Organize Around Patient Medical Conditions

Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services



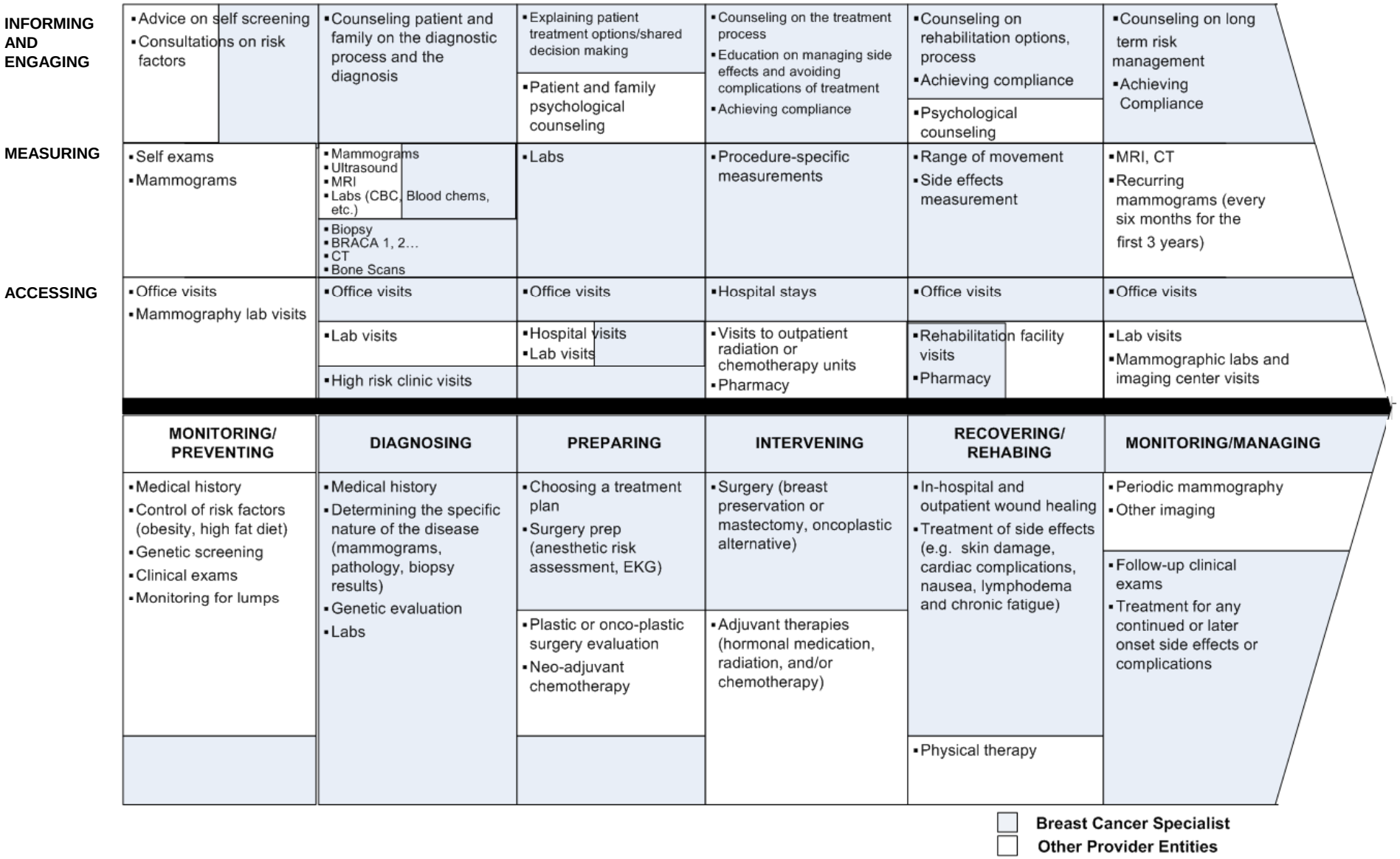
New Model:
Organize into Integrated Practice Units (IPUs)



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

Integrating Across the Cycle of Care

Breast Cancer



What is Integrated Care?

Attributes of an Integrated Practice Unit (IPU):

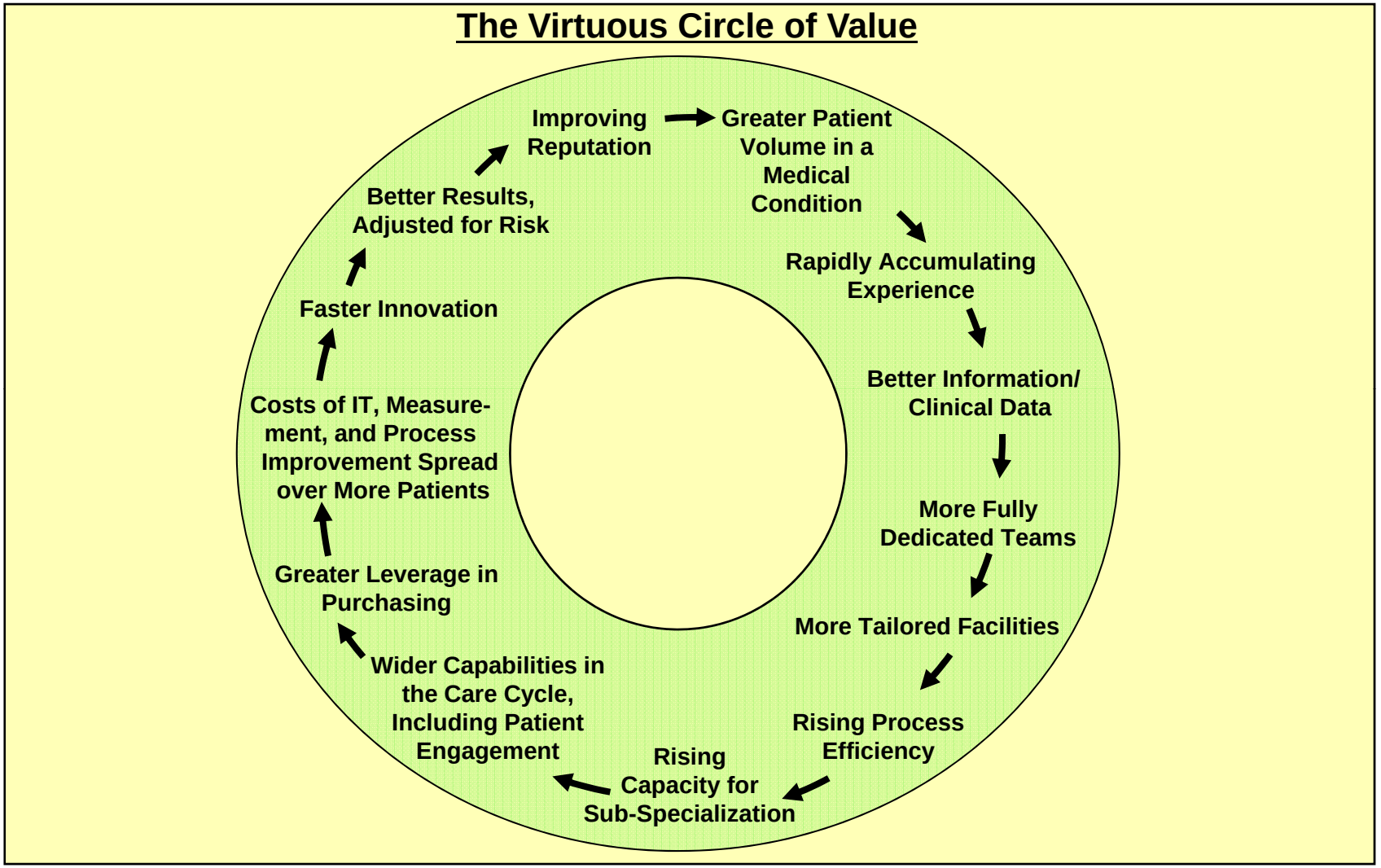
1. Organized around the **patient's medical condition**
2. Involves a **dedicated**, **multidisciplinary team** who devote a significant portion of their time to the condition
3. Where providers are part of a **common organizational unit**
4. Utilizing a **single administrative** and **scheduling structure**
5. Providing 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)
   - Including **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 **outcomes** and **processes** as a **team**, not individually
10. Accepting **joint accountability** for outcomes and costs

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**, **schools**, **community organizations**, and in **other locations** offering regular patient contact and the ability to develop a group culture of wellness

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

Fragmentation of Hospital Services

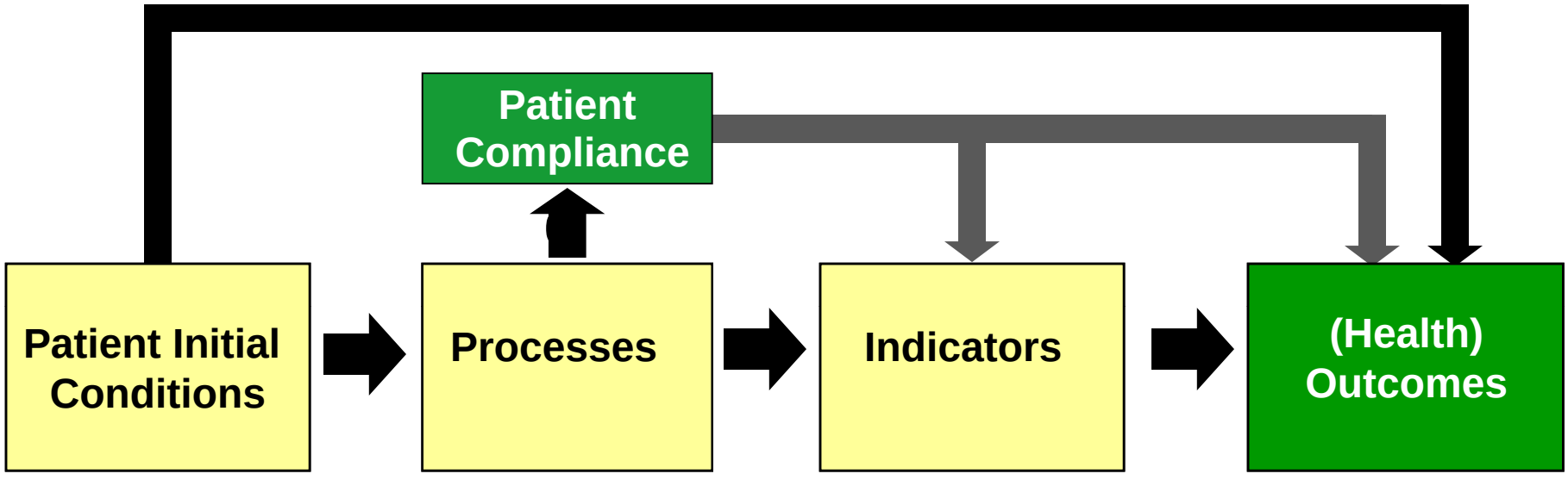
Sweden

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.

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

2. Measure Outcomes and Cost for Every Patient



Protocols/ Guidelines

E.g., Hemoglobin A1c levels for diabetics

Structure

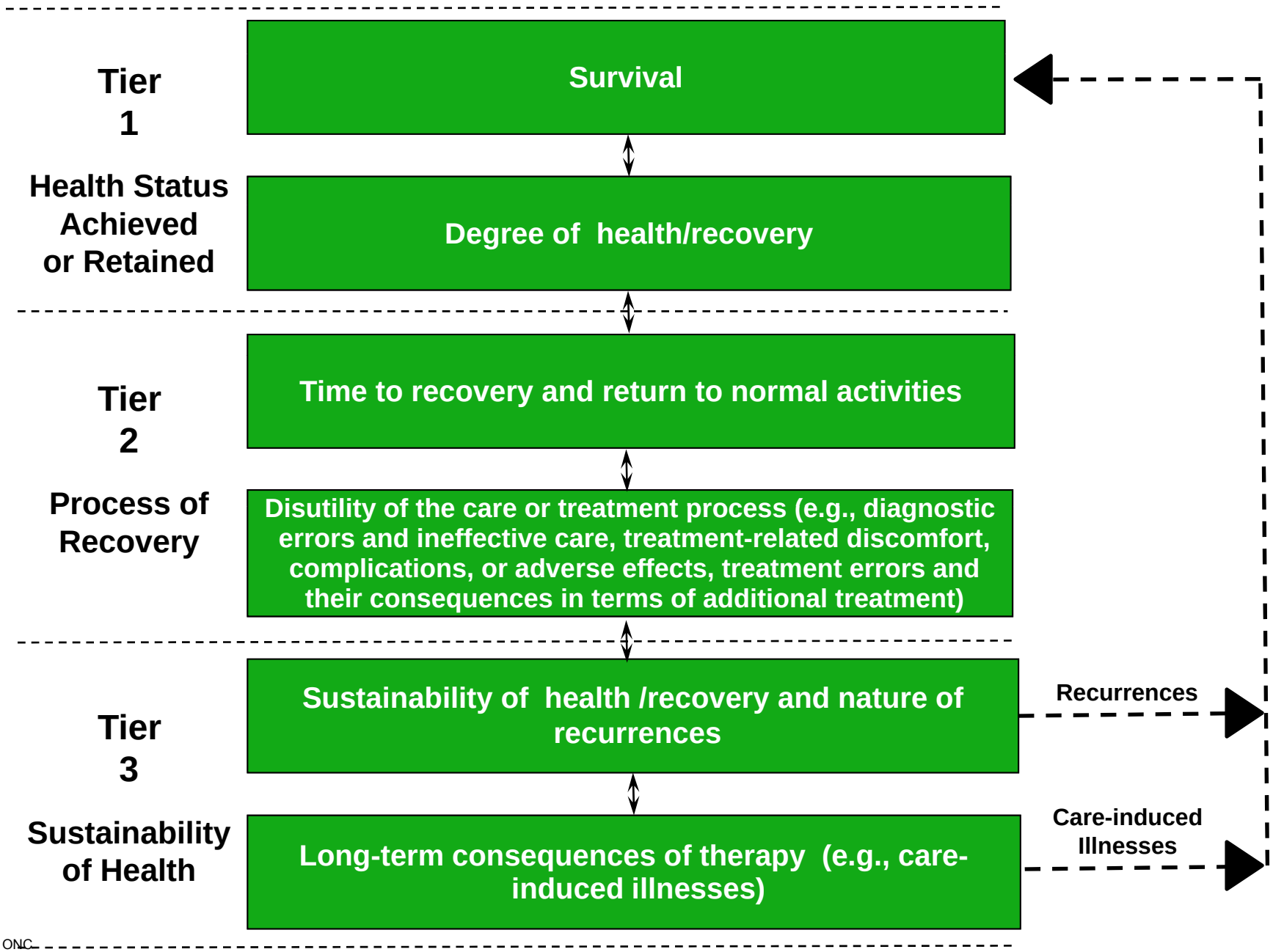
E.g., Staff certification, facilities standards

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

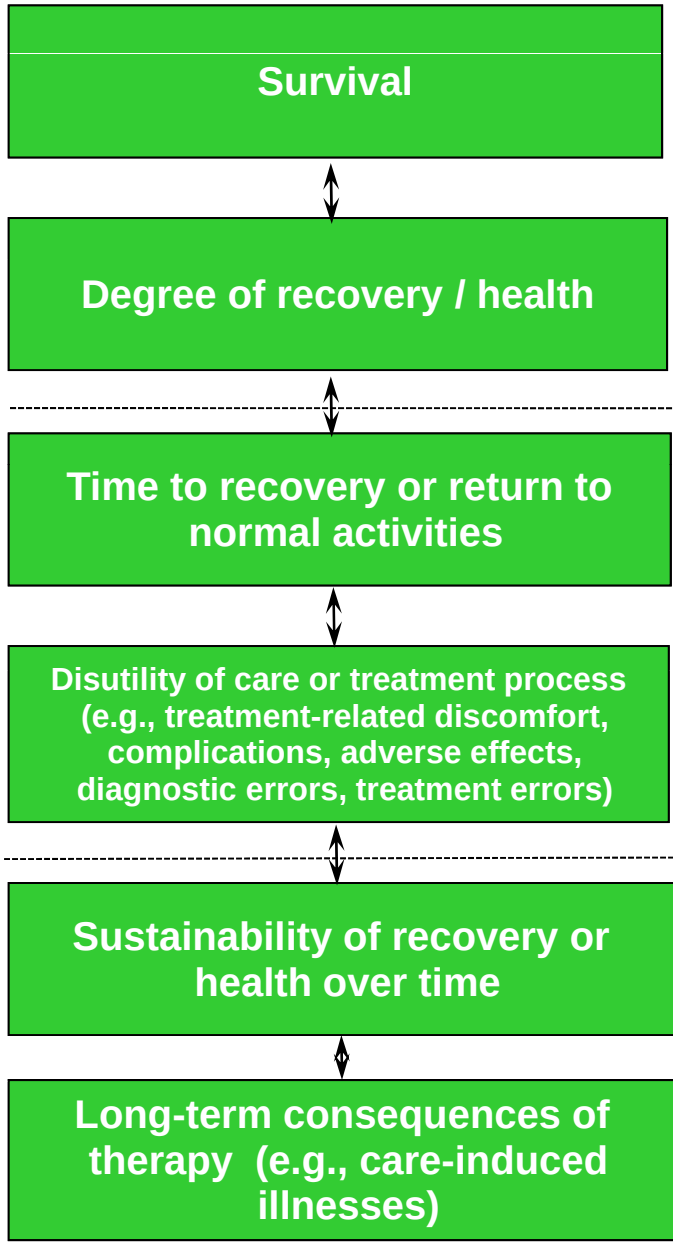
Measuring and reporting **volume** by medical condition

The Outcome Measures Hierarchy



The Outcome Measures Hierarchy

Breast Cancer



- Survival rate (One year, three year, five year, longer)

- Degree of remission
- Functional status
- Breast conservation
- Depression

- Time to remission
- Time to functional status

- Nosocomial infection
- Nausea/vomiting
- Febrile neutropenia
- Suspension of therapy
- Failed therapies
- Limitation of motion
- Depression

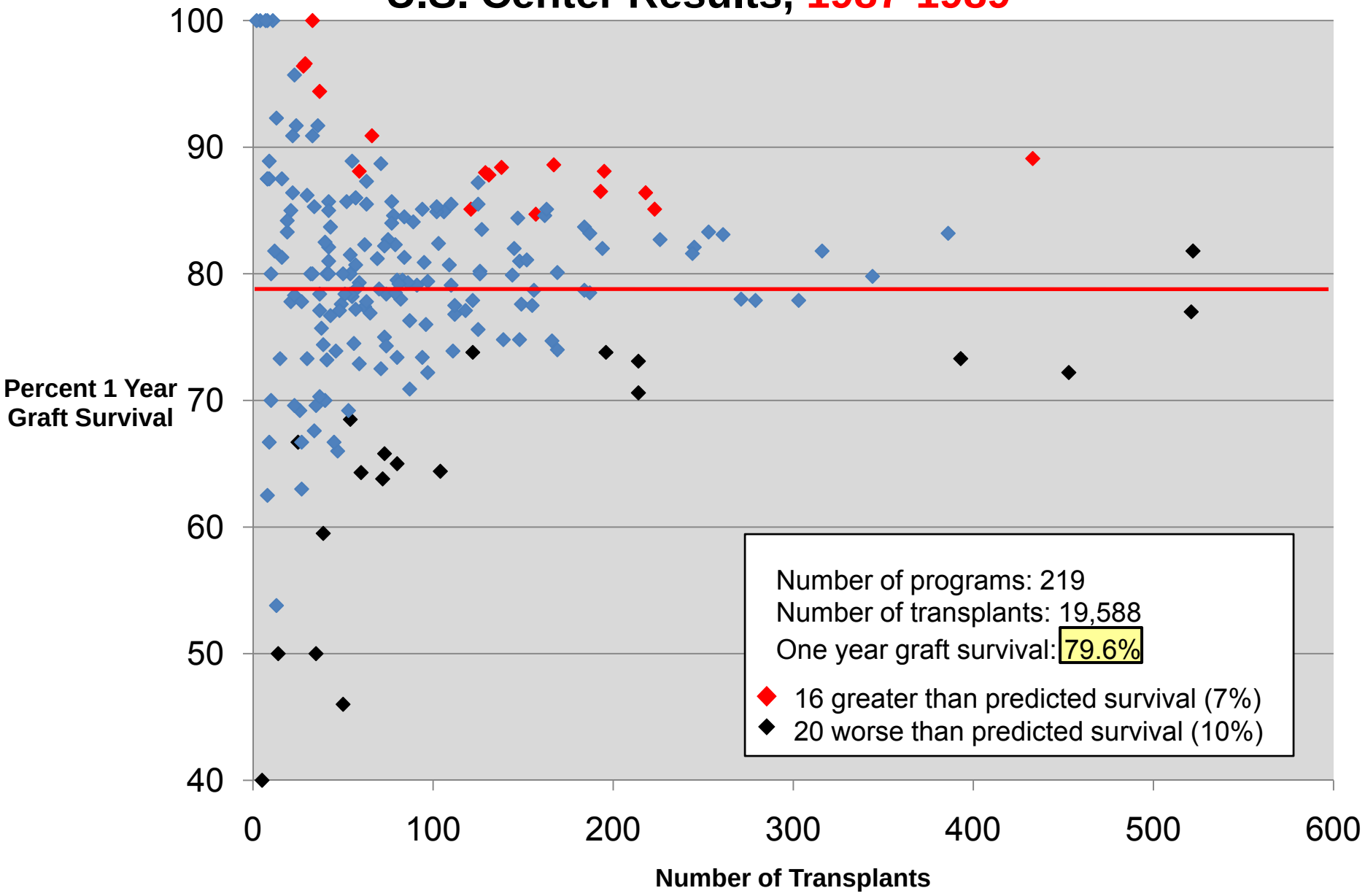
- Cancer recurrence
- Sustainability of functional status

- Incidence of secondary cancers
- Brachial plexopathy
- Fertility/pregnancy complications
- Premature osteoporosis

Initial Conditions/Risk Factors

- Stage upon diagnosis
- Type of cancer (infiltrating ductal carcinoma, tubular, medullary, lobular, etc.)
- Estrogen and progesterone receptor status (positive or negative)
- Sites of metastases
- Previous treatments
- Age
- Menopausal status
- General health, including co-morbidities
- Psychological and social factors

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



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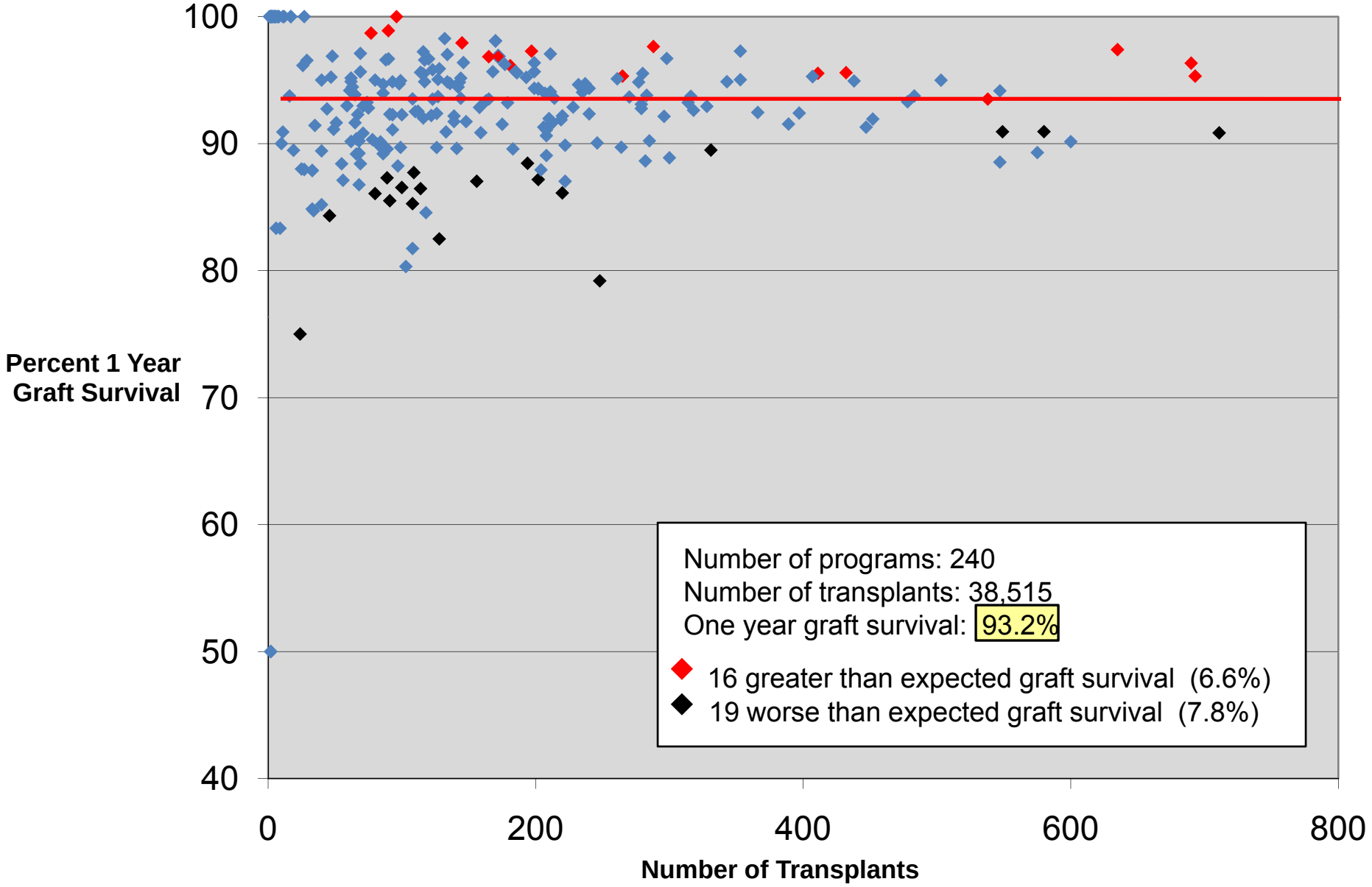
Adult Kidney Transplant Outcomes
U.S. Center Results, 2005-2007



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)

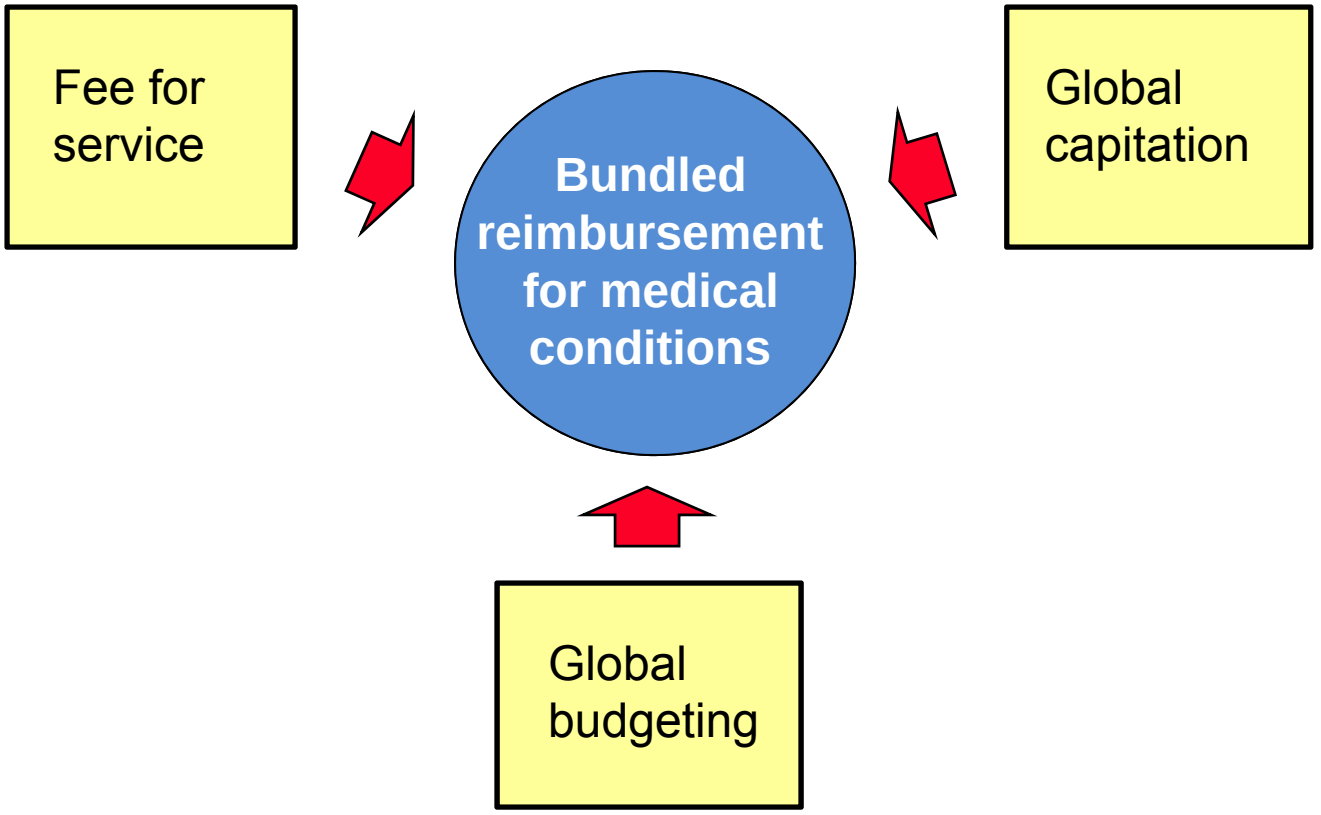
* Registers Receiving Funding from the Executive Committee for National Quality Registries in 2007

Cost Reduction in Health Care

- Current organization structure and cost accounting practices in health care **obscure the understanding of actual costs** in care delivery
- There are 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

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

3. Move to Bundled Prices for Care Cycles



- Bundled reimbursement covers the **full care cycle** for an acute medical condition, and **time-based reimbursement** for chronic conditions or primary/preventive care for a patient population

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

- **Components** of the bundle

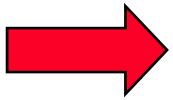
- Pre-op evaluation	- All physician and staff costs
- Lab tests	- 1 follow-up visit within 3 months
- Radiology	- Any additional surgery to the joint within 2 years
- Surgery & related admissions	- If post-op infection requiring antibiotics occurs, guarantee extends to 5 years
- Prosthesis	
- Drugs	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

4. Integrate Care Delivery Across Separate Facilities

Confederation of Standalone Units/Facilities



Integrated Care Delivery Network

- Increase **volume**
- Capture flow of **patients**

- Benefits limited to **contracting** and **spreading limited fixed overhead**

- Increase **value**

- The network is **more than** the sum of its parts

Levels of System Integration

- Choose a **scope of service lines** where the provider 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 are major value improvement opportunities through **moving care out** of heavily resourced hospital, tertiary and quaternary facilities

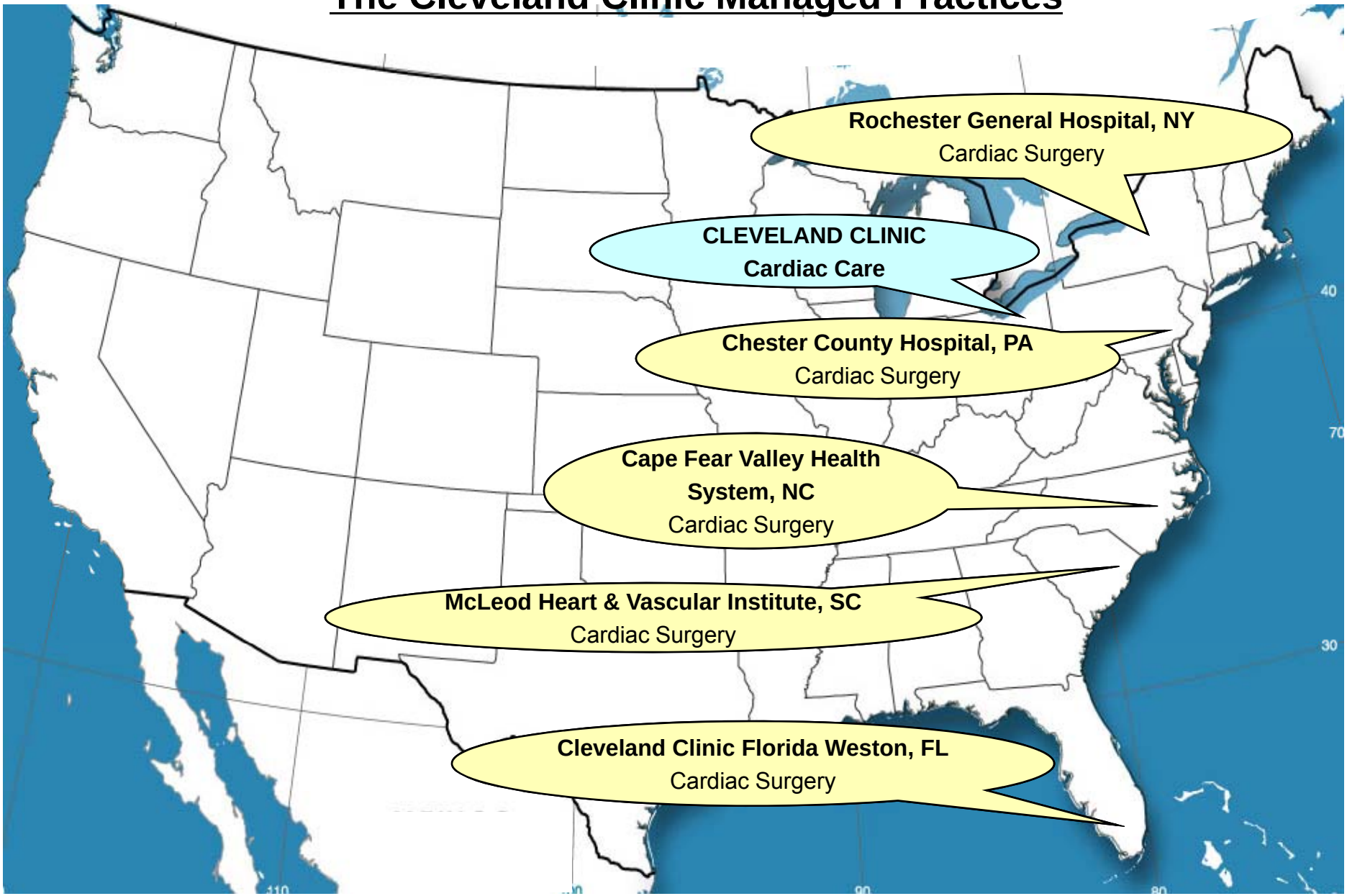
5. Expand Excellent IPUs Across Geography

- 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

Expanding Excellent IPUs Across Geography

The Cleveland Clinic Managed Practices

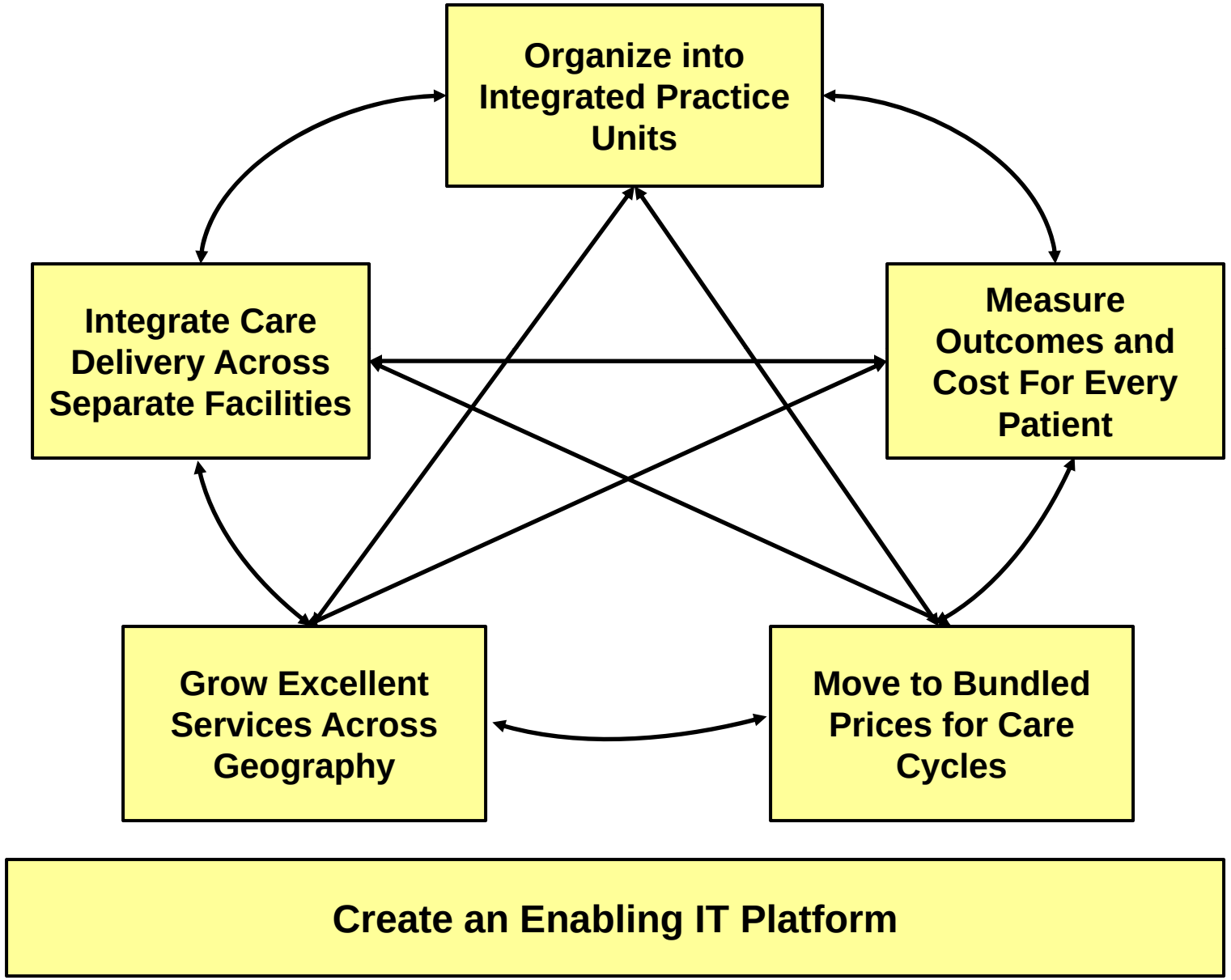


6. Create an Enabling Information Technology Platform

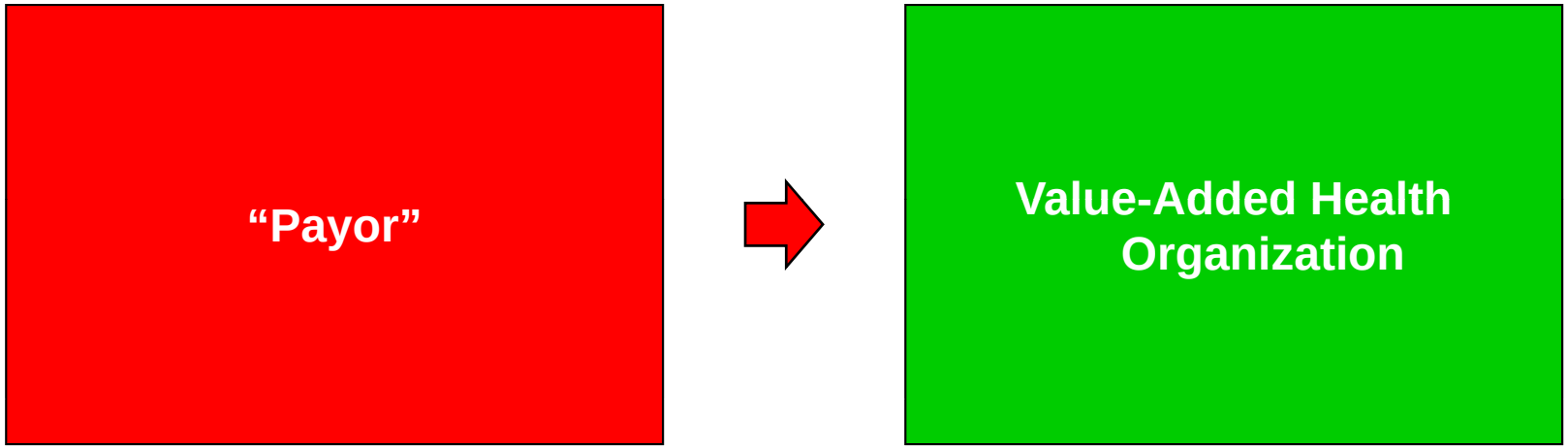
Utilize information technology to enable **restructuring of care delivery** and **measuring results**, rather than treating it as a solution itself

- 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**

A Mutually Reinforcing Strategic Agenda



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**

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 policies to encourage greater **involvement and responsibility of individuals** for their health and their health care
- Set standards and mandate **EMR adoption** that supports integrated care and outcome measurement