

# Value-Based Health Care Delivery

Professor Michael E. Porter  
Harvard Business School  
Institute for Strategy and Competitiveness  
[www.isc.hbs.edu](http://www.isc.hbs.edu)

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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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# 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 health results 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**

- |  |   |
|--|---|
| - 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                                    |
| - Rapid cycle time of diagnosis and treatment      | - Greater functionality and less need for long term care    |
| - Treatment earlier in the causal chain of disease | - Fewer recurrences, relapses, flare ups, or acute episodes |
| - Less invasive treatment methods                  | - Reduced need for ER visits                                |
|  | - Slower disease progression                                |
|  | - 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 System

## The Strategic Agenda

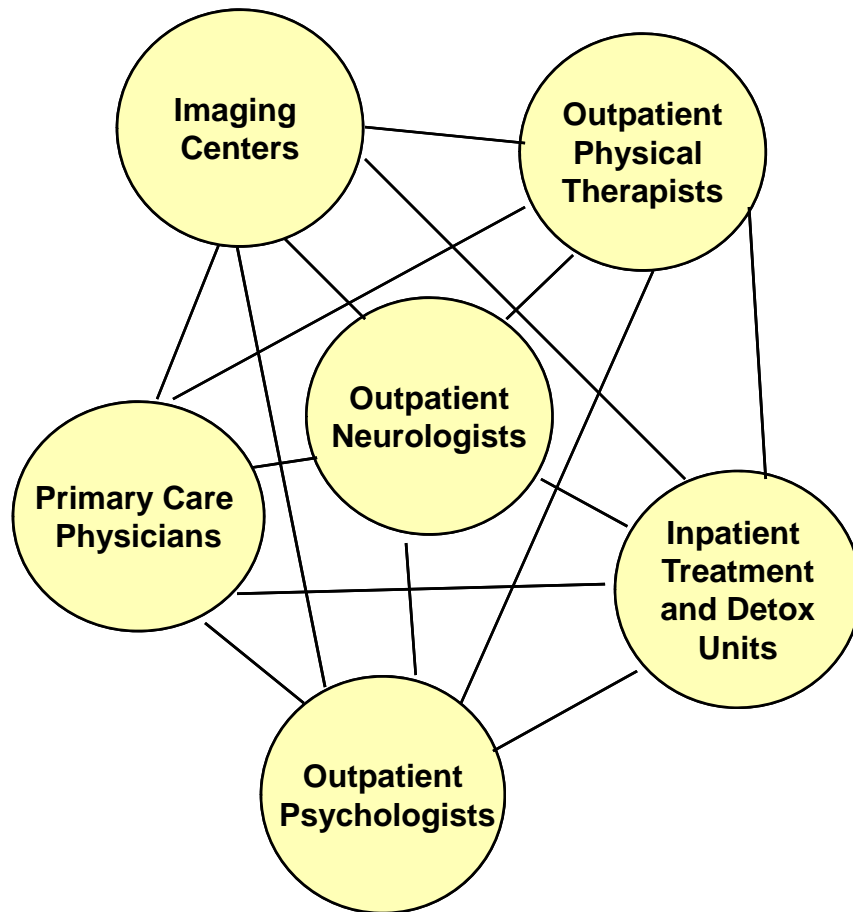
1. Organize Care into **Integrated Practice Units (IPUs)** around Patient Medical Conditions
  - Organize primary and preventive care to serve **distinct patient segments**
2. Measure **Outcomes** and **Cost** for Every Patient
3. Reimburse through **Bundled Prices** for Care Cycles
4. Integrate Care Delivery Across **Separate Facilities**
5. Expand Geographic Coverage by **Excellent Providers** or **Affiliated Providers**
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 Service



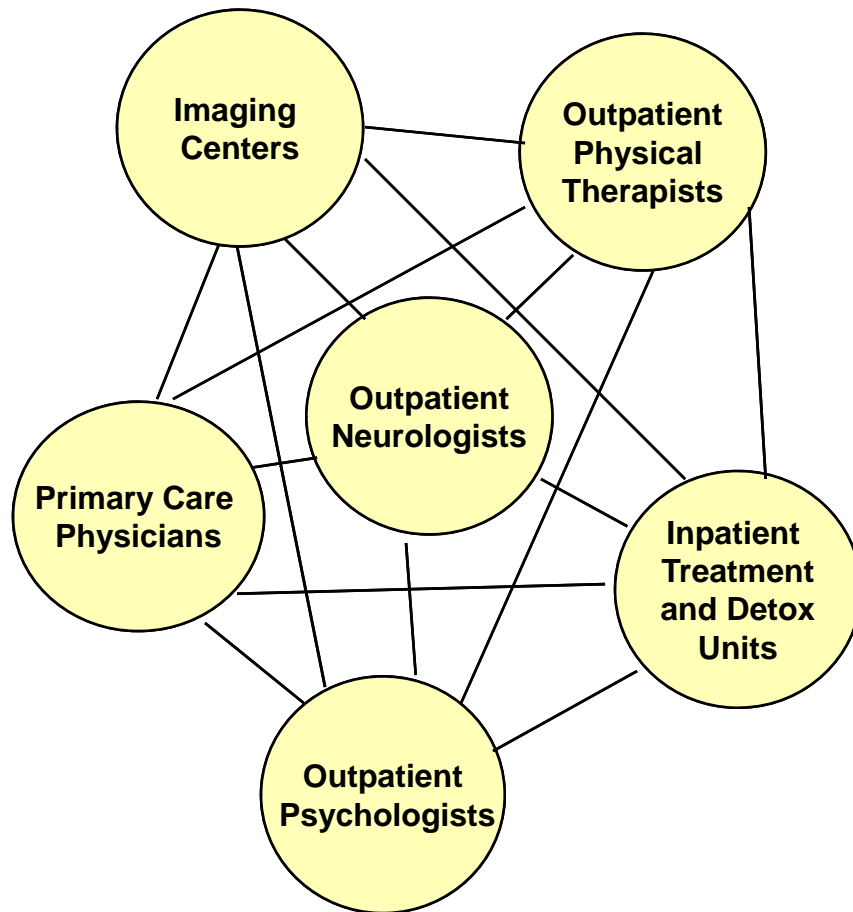
Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, *The West German Headache Center: Integrated Migraine Care*, Harvard Business School Case 9-707-559, September 13, 2007

# 1. Organizing Care Around Patient Medical Conditions

## Migraine Care in Germany

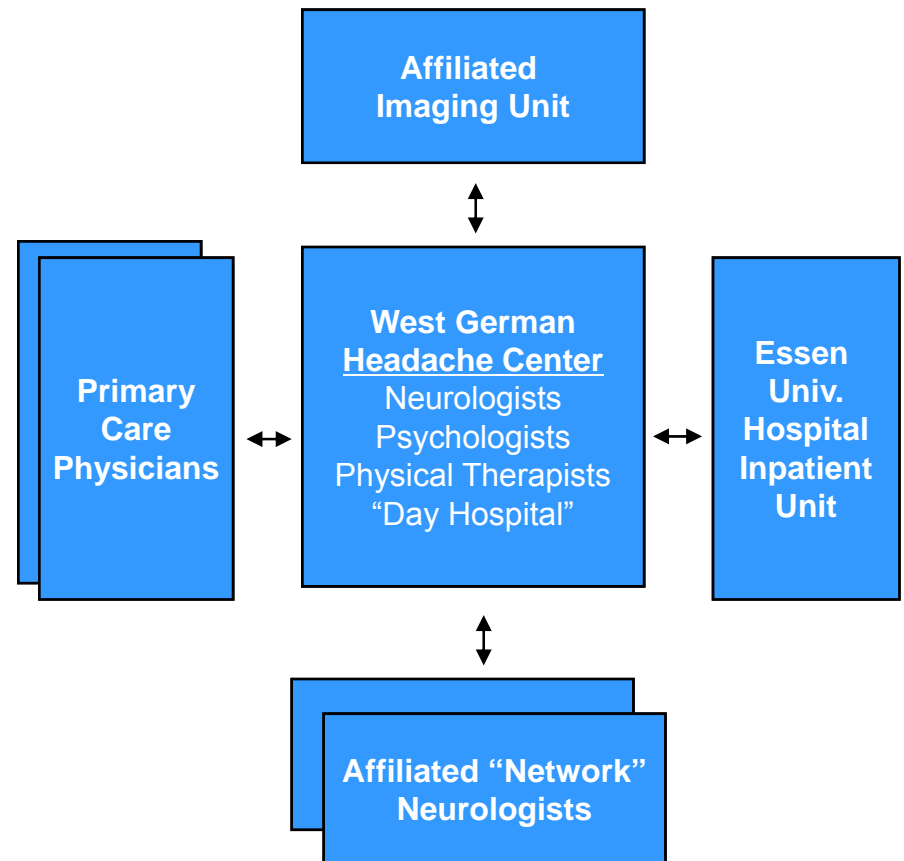
### Existing Model:

Organize by Specialty and Discrete Service



### 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

# 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
  - E.g., diabetes, breast cancer, knee osteoarthritis

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- 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



# Value-Based Primary Care

Organize primary care **around patient segments** with similar health circumstances and primary care needs:

## Illustrative Segments

- **Healthy** adults
- **Mothers** and **young children**
- Adults **at risk** of developing chronic or acute disease
  - E.g. family history, environmental exposures, lifestyle
- Chronically ill adults with one or more complex chronic conditions
  - E.g. diabetes, COPD, heart failure
- Adults with **rare** conditions
- **Frail elderly** or **disabled**

## Primary Care **Integrated Practice Units:**

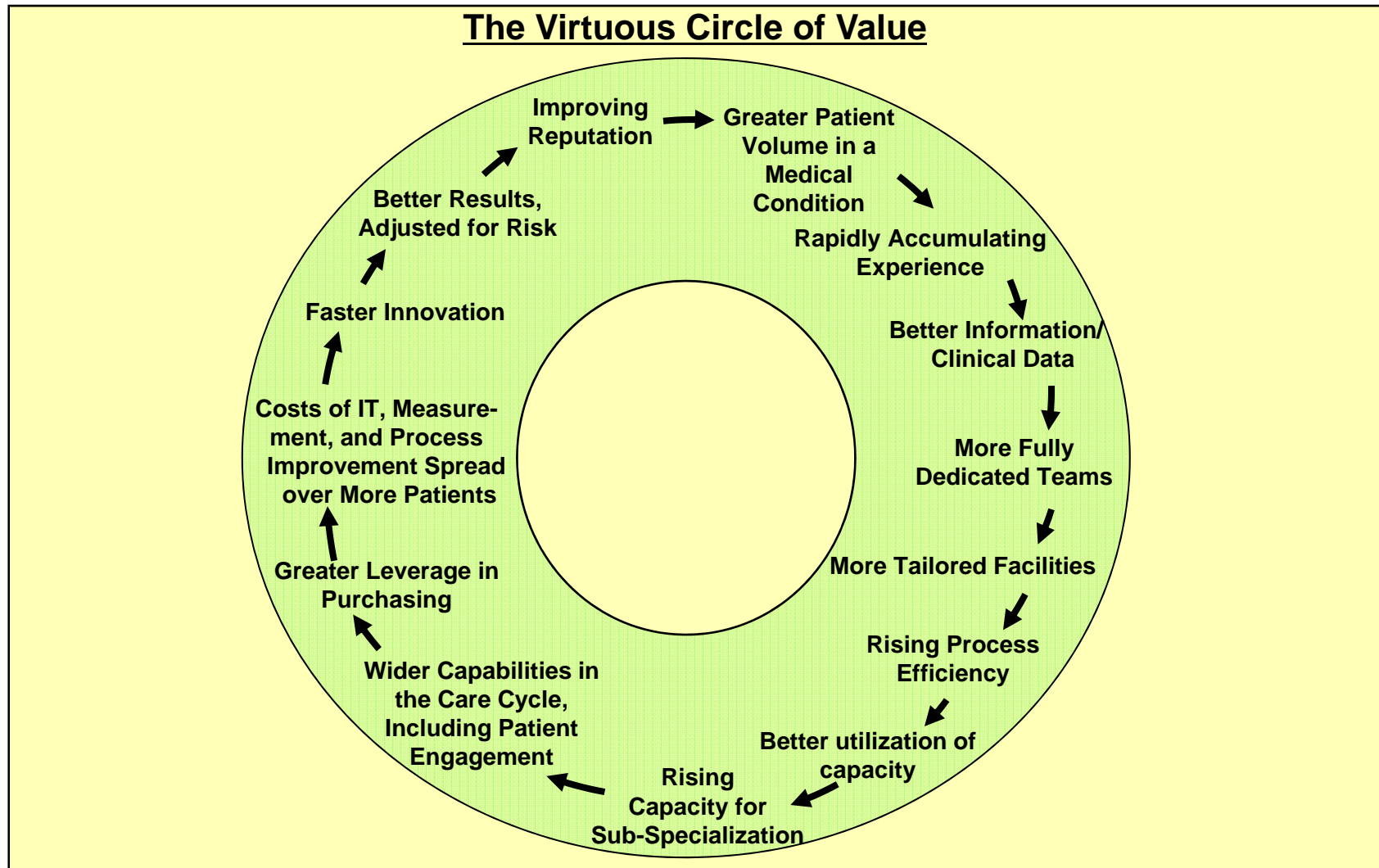
- **Care Delivery Team**: The set of physicians, nurses, educators, and other staff best equipped to meet the medical and non-medical needs of the segment
- **Facilities**: Care delivered in facilities and locations reflecting patient circumstances

Porter, M.E., et al. (2013). "Redesigning primary care: A strategic vision to improve value by organizing around patients' needs." *Health Affairs*.

# Attributes of an Integrated Practice Unit (IPU)

1. Organized around the **patient medical condition** or set of **closely related condition** (patient segments in primary care)
2. Involves a **dedicated, multidisciplinary team** who devotes a significant portion of their time to the condition
3. Providers affiliated with a **common organizational unit**
4. Taking responsibility for 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. Incorporating **patient education, engagement, and follow-up** as integral to care
6. Utilizing a **single administrative and scheduling structure**
7. **Co-located** in **dedicated facilities**
8. **A physician team captain** and a **care manager** oversee each patient's care process
9. **Measure** outcomes, costs, and processes for each patient using a **common information platform**
10. Function as a team, **meeting formally and informally** on a regular basis to discuss patients, processes and results
11. Accept **joint accountability** for outcomes and costs

# 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**

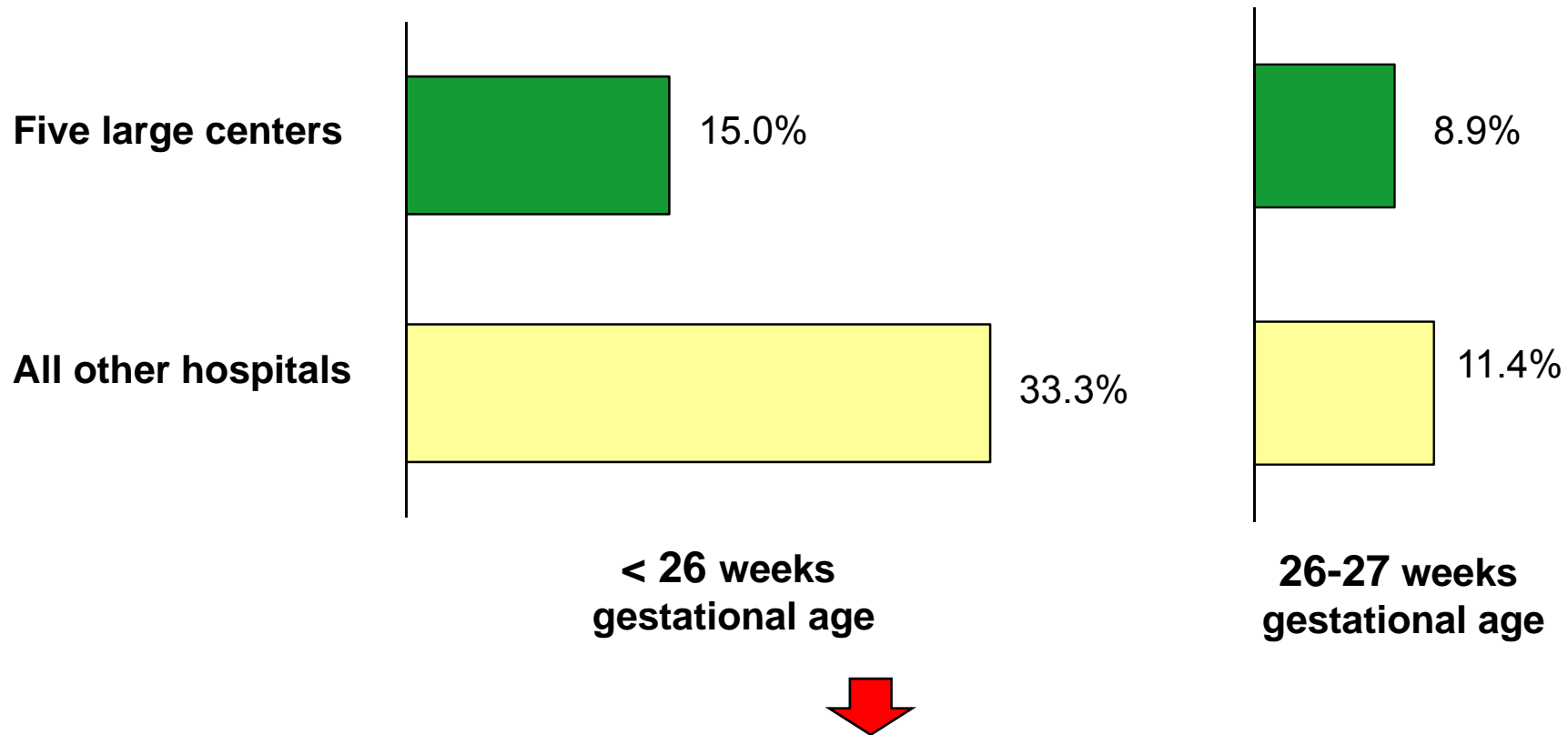
### **Fragmentation of Hospital Services in Sweden**

<b>DRG</b>	<b>Number of admitting providers</b>	<b>Average percent of total national admissions</b>	<b>Average admissions/ provider/ year</b>	<b>Average admissions/ provider/ week</b>
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.

# Low Volume Undermines Value

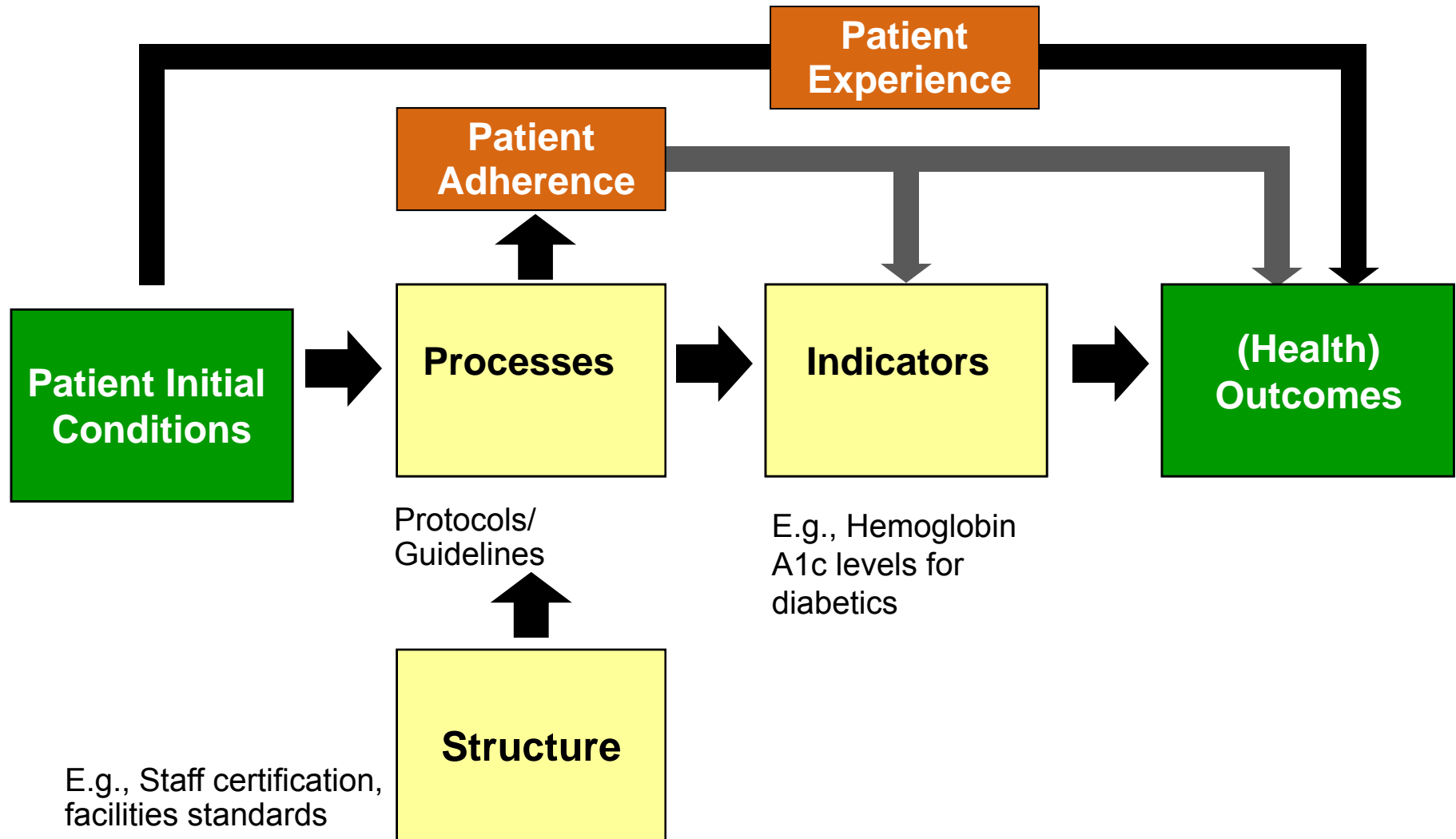
## Mortality of Low-birth Weight Infants in Baden-Württemberg, Germany



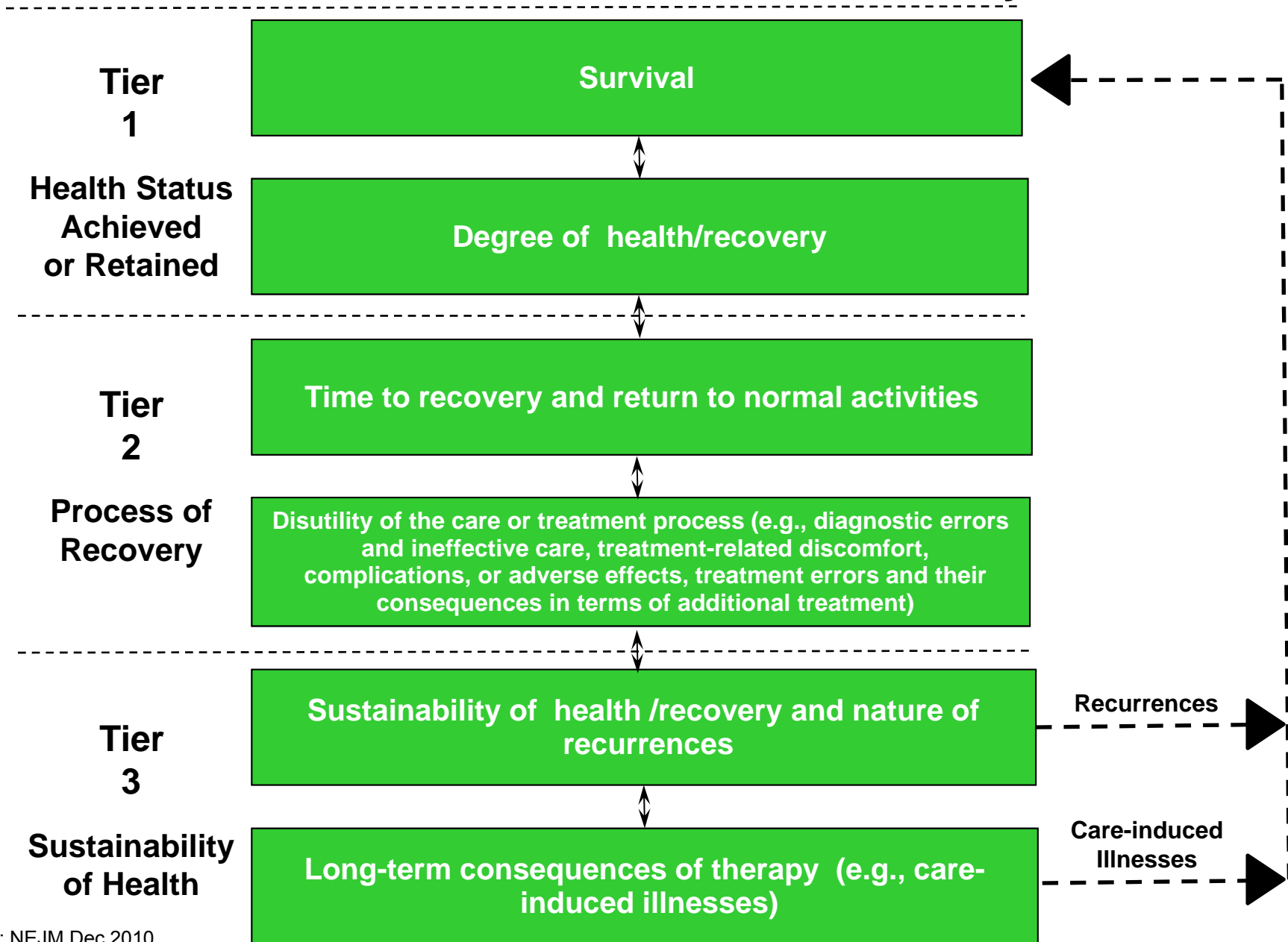
- **Minimum volume standards** are an interim step to drive value and service consolidation in the absence of rigorous outcome information

## 2. Measuring Outcomes and Cost for Every Patient

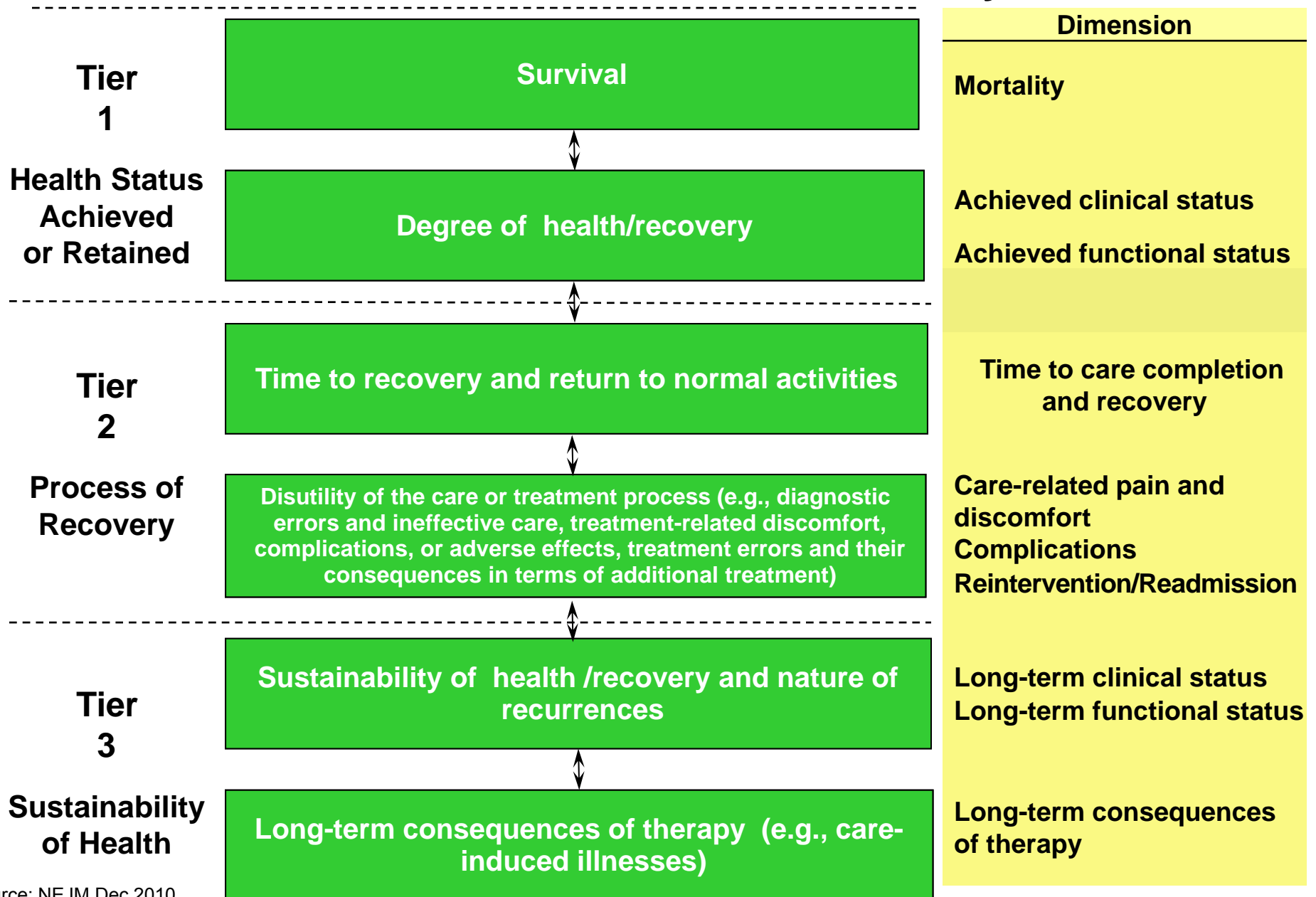
### The Measurement Landscape



# The Outcome Measures Hierarchy



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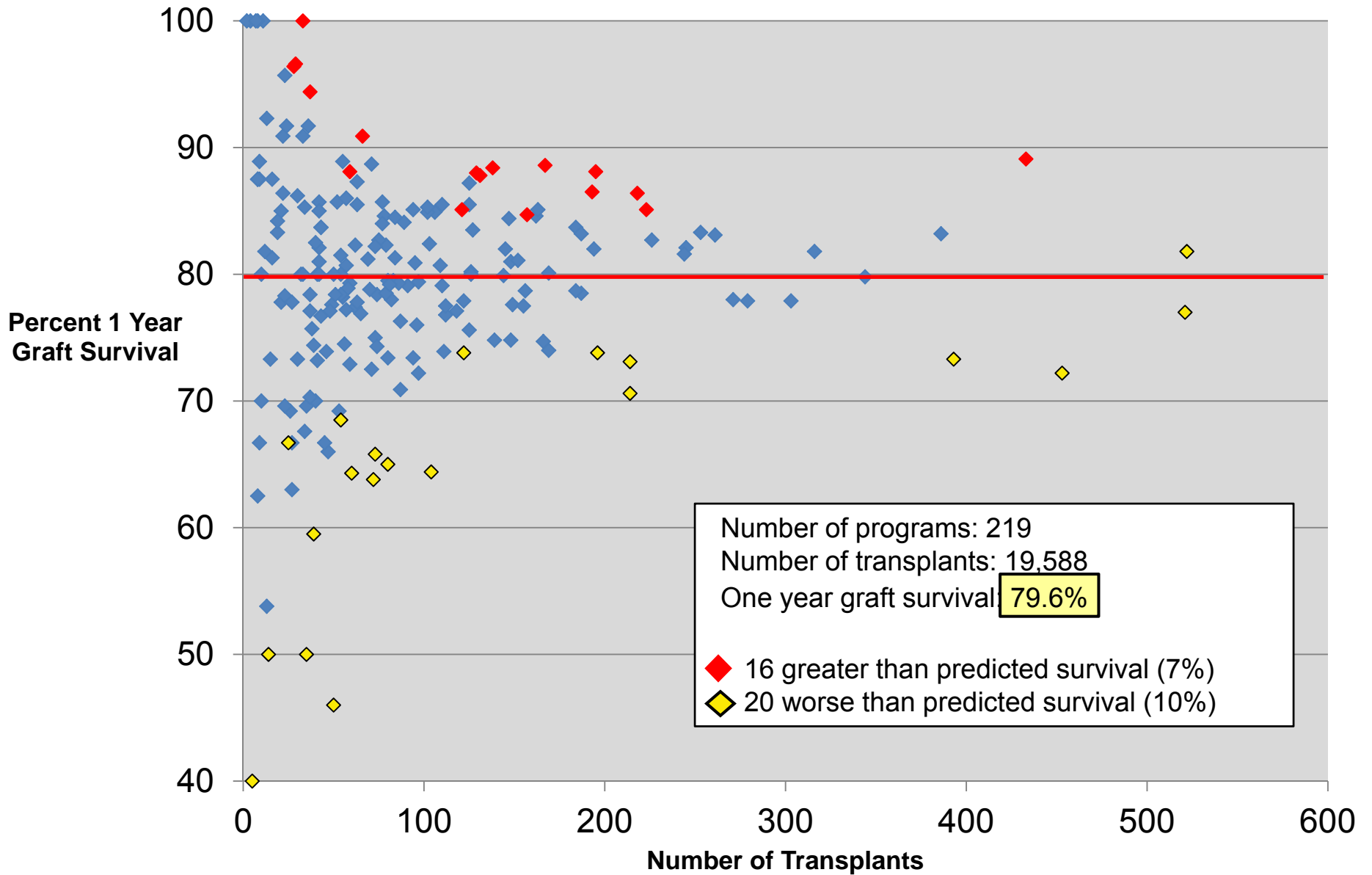


Source: NEJM Dec 2010



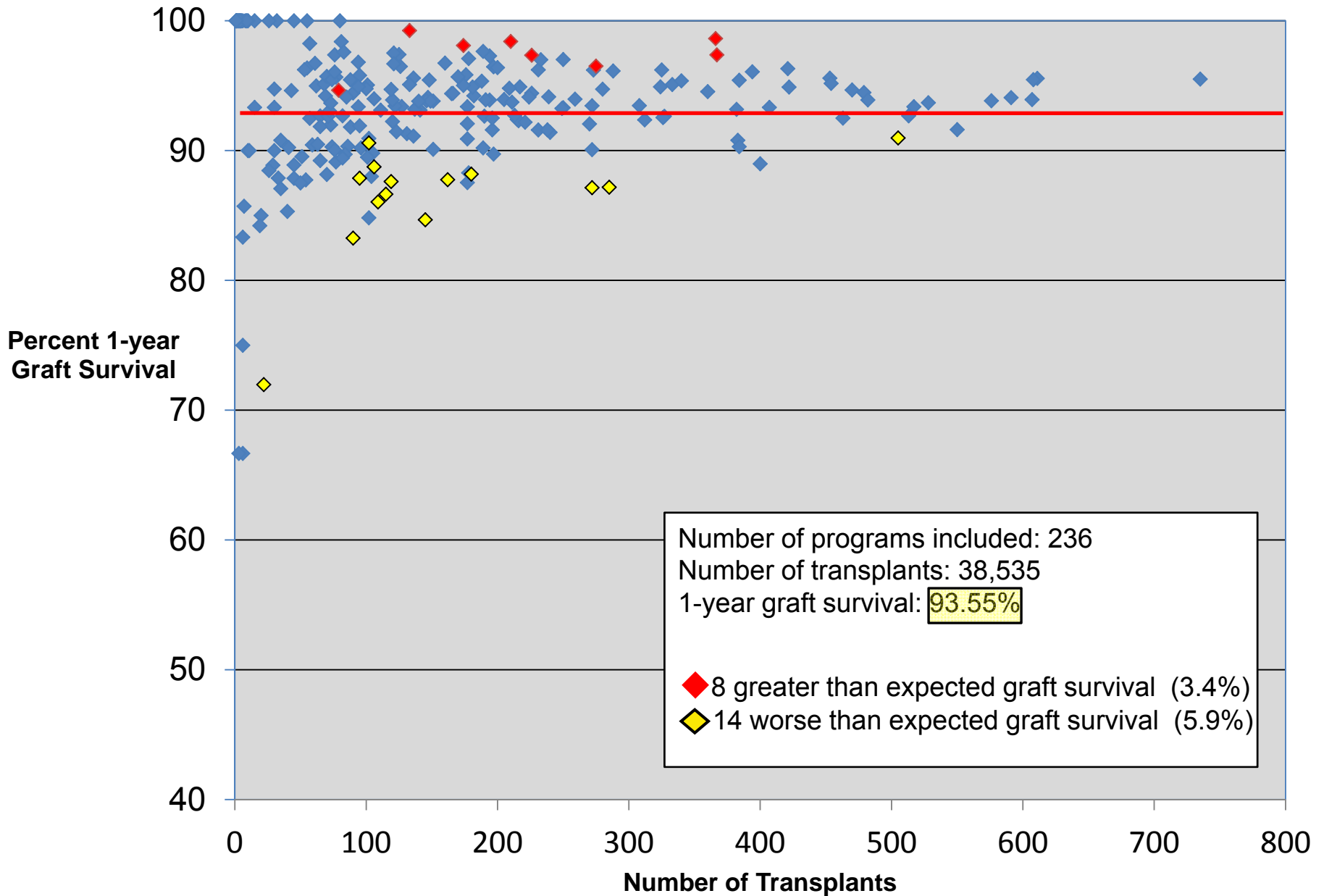
# Adult Kidney Transplant Outcomes

## U.S. Centers, 1987-1989



# Adult Kidney Transplant Outcomes

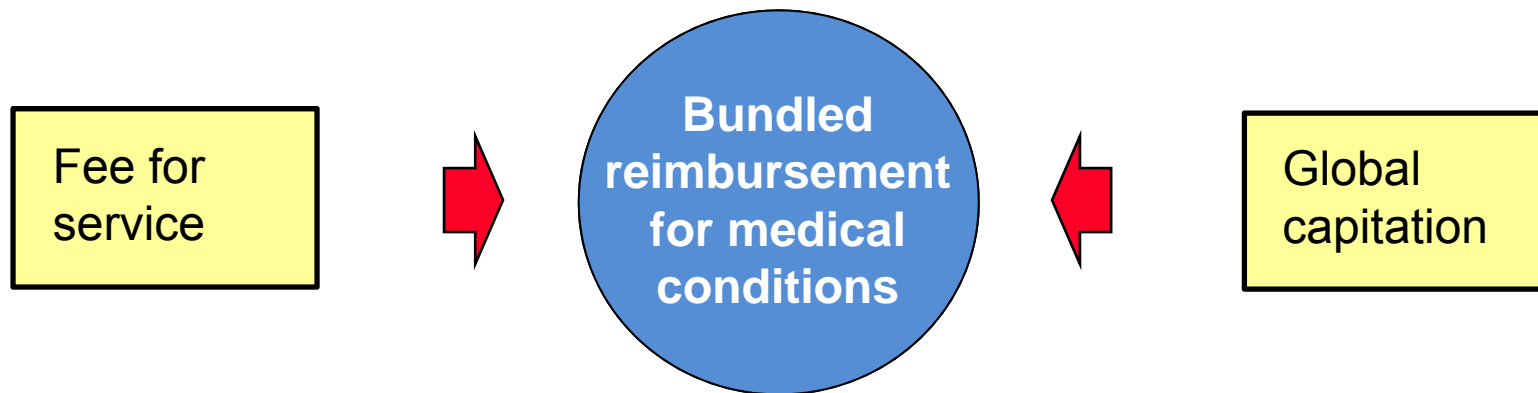
## U.S. Center Results, 2008-2010



# 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 resource

### 3. Reimbursing through Bundled Prices for Care Cycles



#### 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**

# Bundled Payment in Practice

## Hip and Knee Replacement in Stockholm, Sweden

- **Components** of the bundle

- Pre-op evaluation	- All physician and staff fees and 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	

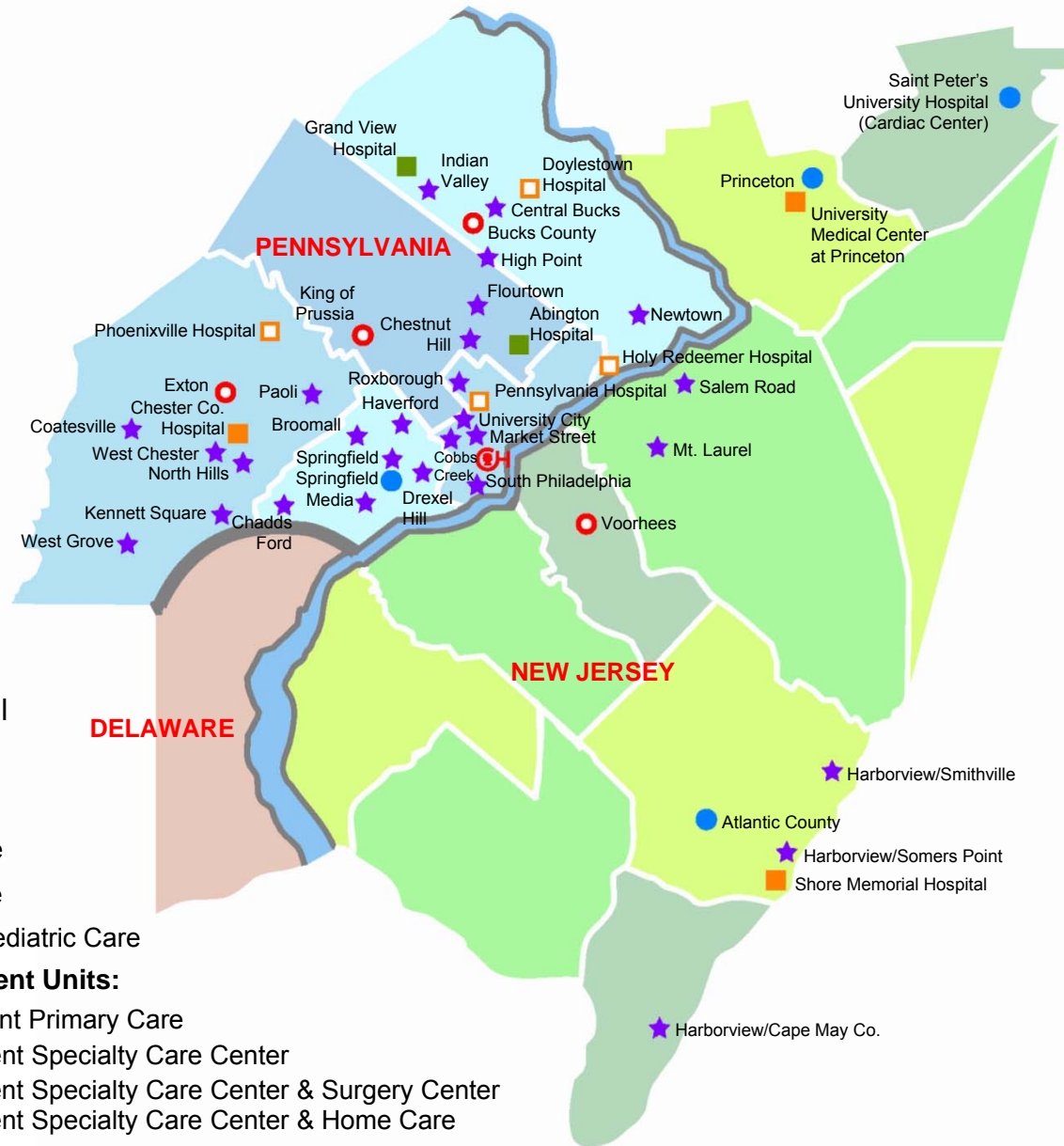
- Currently applies to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- The same **referral process** from PCPs is utilized as the traditional system
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- Applies to **all** qualifying patients. Provider 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







 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

## Four Levels of Provider System Integration

1. Choosing an **overall scope of services** where the provider can achieve excellence in value
2. **Rationalizing service lines / IPU across facilities** to improve volume, deepen dedicated teams and better utilize resources
3. Offering specific services at the **appropriate facility**
  - Based on medical condition, acuity level, resource intensity, cost level and need for convenience
  - E.g., shifting routine surgeries to smaller, more specialized facilities
4. Clinically integrating 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** secondary, tertiary and quaternary facilities

## 5. Expanding Geographic Coverage by Excellent or Affiliated Providers

### Leading Providers

- Grow **areas of excellence across geography**:
  - **Hub and spoke** expansion of satellite pre- and post-acute services
  - **Affiliations** with community providers to extend the reach of IPUs
- Increase the **volume of patients** in medical conditions or primary care segments vs. **widening** service lines locally, or adding new **broad line** units



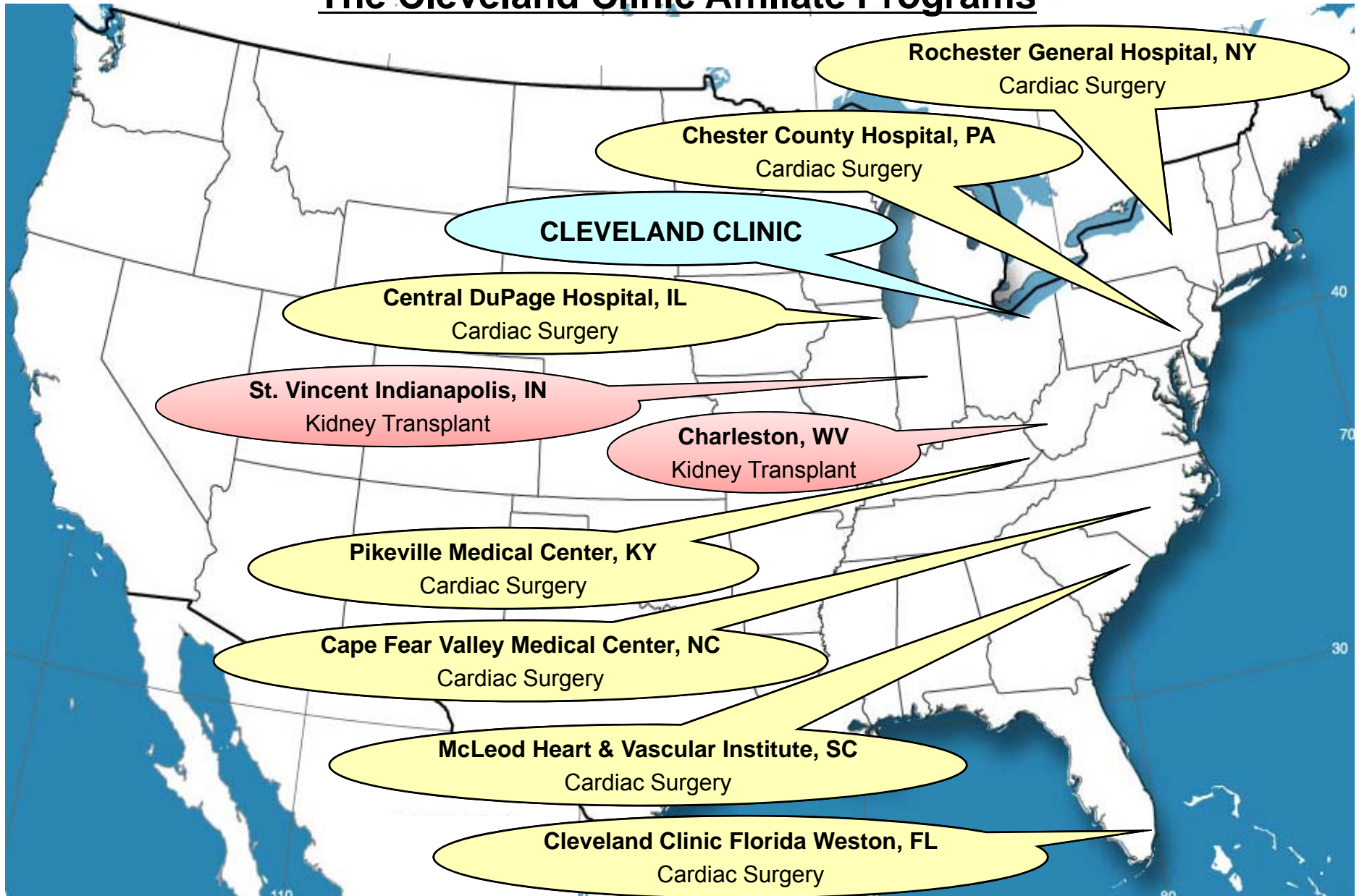
### Community Providers

- **Affiliate with excellent providers** in more complex medical conditions and patient segments in order to access expertise, facilities and services to enable high value care
  - New roles for **rural** and **community** hospitals



# Expanding Geographic Coverage by Excellent Providers

## The Cleveland Clinic Affiliate Programs

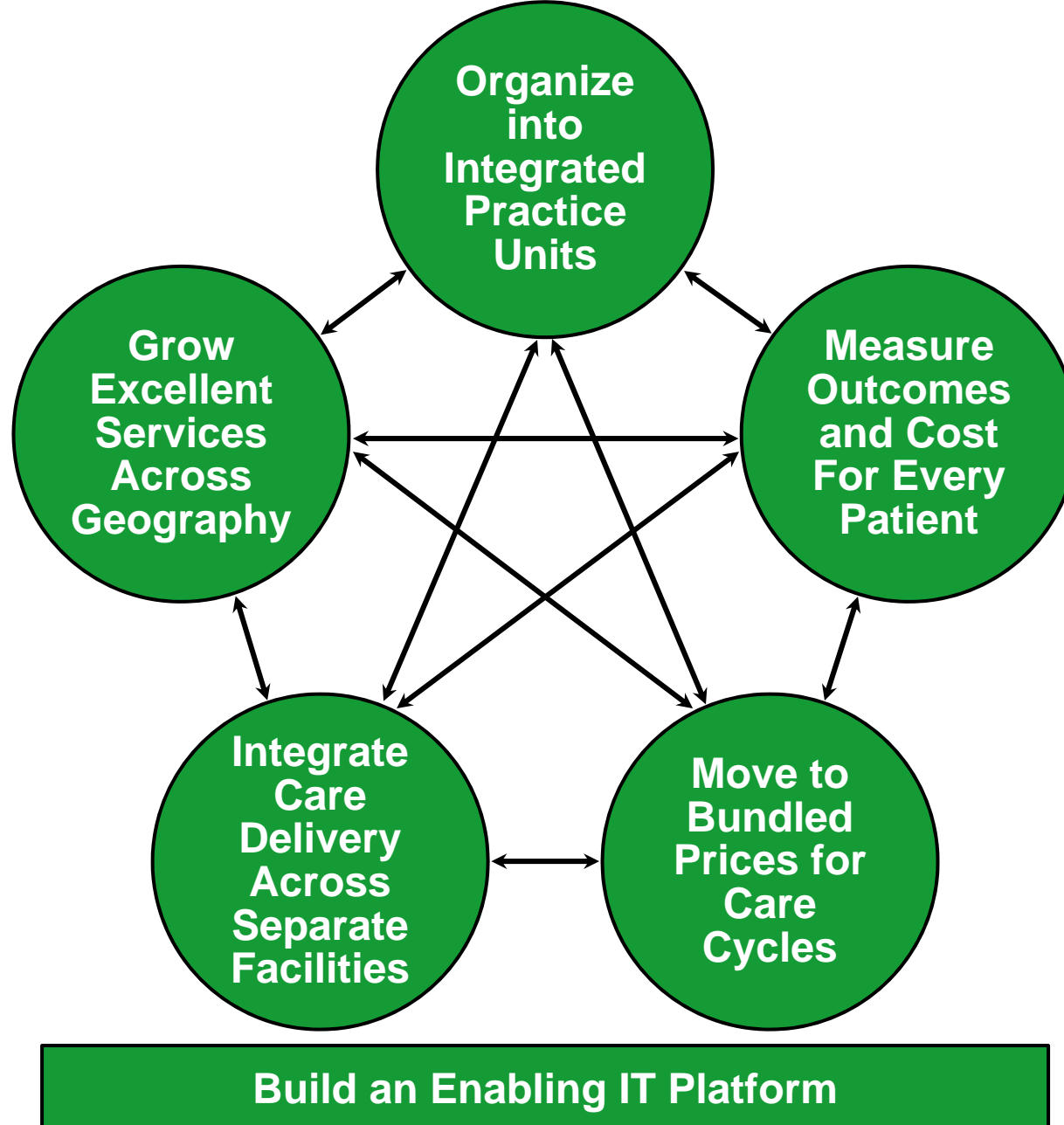


## 6. Building an Enabling Information Technology Platform

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



# Creating a Value-Based Health Care Delivery System

## Implications for Physician Leaders

1. Integrated Practice Units (IPUs)

- Lead **multidisciplinary teams**, not specialty silos

2. Measure Cost and Outcomes

- Become an expert in **measurement** and **process improvement**

3. Move to Bundled Prices

- Proactively develop new **bundled reimbursement options** and **care guarantees**

4. Integrate Across Separate Facilities

- Champion **value enhancing rationalization, relocation, and integration** with sister hospitals, as well as between inpatient and outpatient units, instead of protecting turf

5. Expand Excellence Across Geography

- Create networks and affiliations to expand high-value care **across geography**

6. Enabling IT Platform

- Become a **champion for the right EMR** systems, not an obstacle to their adoption and use

# Creating a Value-Based Health Care Delivery System

## Implications for Payors

1. Integrated Practice Units (IPUs)

- Encourage and reward **integrated practice unit** models by providers

2. Measure Cost and Outcomes

- Encourage or mandate **provider outcome reporting through registries** by medical condition
- Create standards for meaningful provider **cost measurement and reporting**

3. Move to Bundled Prices

- Design **new bundled reimbursement structures** for care cycles instead of fees for discrete services
- Share information with providers to enable **improved outcomes and cost measurement**

4. Integrate Across Separate Facilities

- Assist in coordinating patient care **across the care cycle** and across medical conditions
- Direct care to **appropriate facilities** within provider systems

5. Expand Excellence Across Geography

- Provide advice to patients (and referring physicians) in selecting **excellent providers**
- Create relationships to increase the volume of care delivered by or affiliated with **centers of excellence**

6. Enabling IT Platform

- Assemble, analyze, manage members' **total medical records**
- Require introduction of compatible **medical records systems**

# Creating a Value-Based Health Care Delivery System

## Implications for Government

### 1. Integrated Practice Units (IPUs)

- Reduce **regulatory obstacles** to care integration across the care cycle

### 2. Measure Cost and Outcomes

- Create a **national framework of medical condition outcome registries** and a path to universal measurement
- Tie reimbursement to **outcome reporting**
- Set **accounting standards** for meaningful cost reporting

### 3. Move to Bundled Prices

- Create a **bundled pricing framework** and rollout schedule

### 4. Integrate Across Separate Facilities

- Introduce **minimum volume standards** by medical condition

### 5. Expand Excellence Across Geography

- Encourage rural providers and providers who fall below minimum volume standards to **affiliate** with qualifying centers of excellence for more complex care

### 6. Enabling IT Platform

- Set **standards** for common data definitions, interoperability, and the ability to easily extract outcome, process, and costing measures for qualifying HIT systems