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.

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

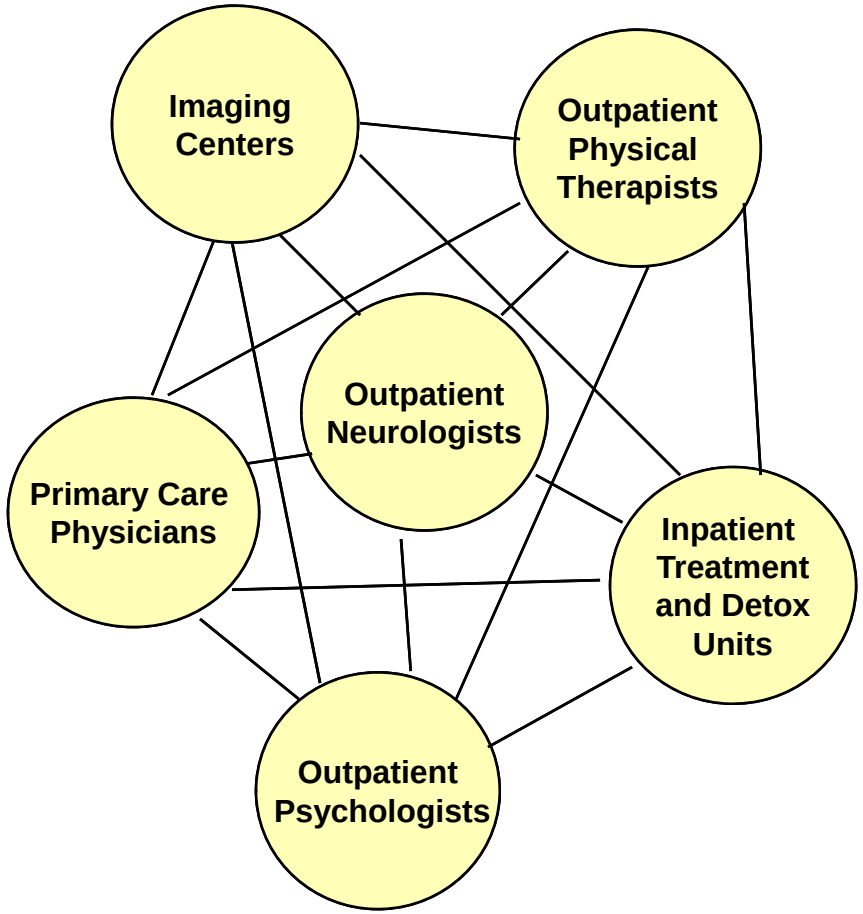
1. Organize Care into Integrated Practice Units (IPUs) around Patient Medical Conditions
   - Organize primary and preventive care to serve distinct patient segments
2. Measure Outcomes and Cost for Every Patient
3. Reimburse through Bundled Prices for Care Cycles
4. Integrate Care Delivery Across Separate 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

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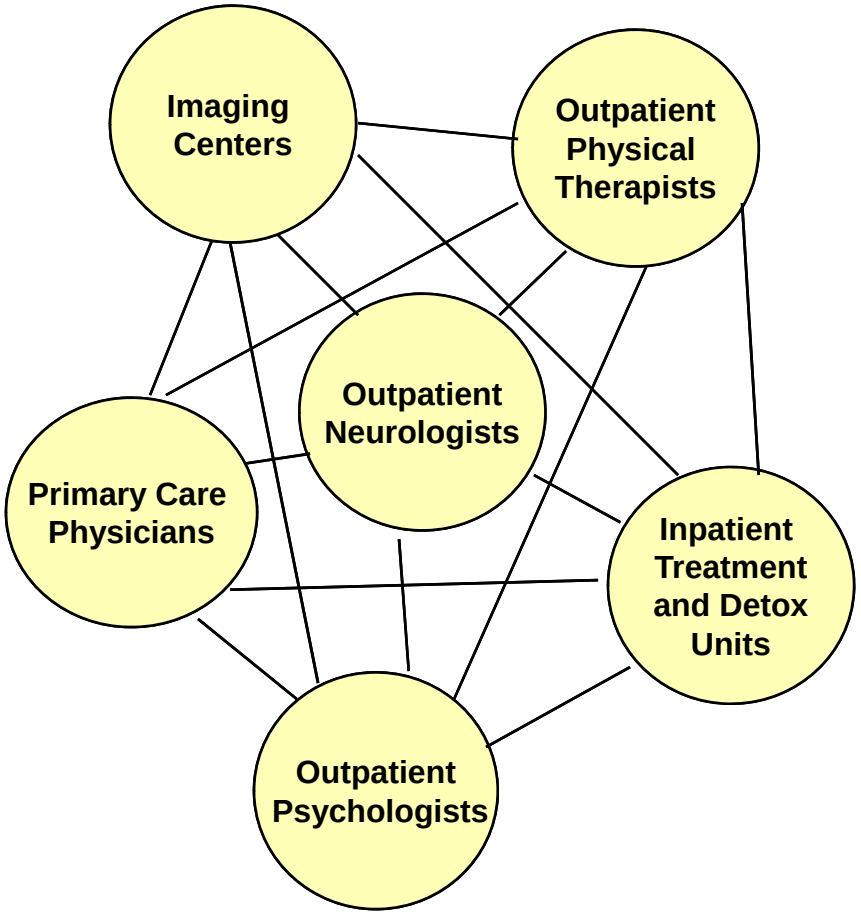
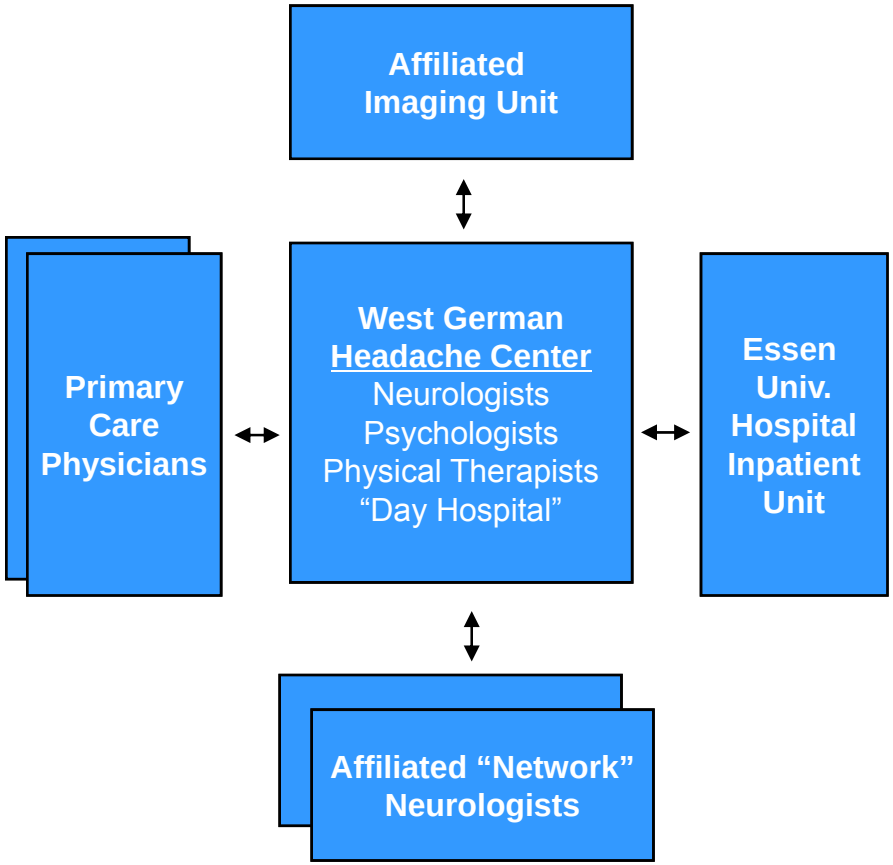


New Model:
Organize into Integrated Practice Units (IPUs)



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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:**

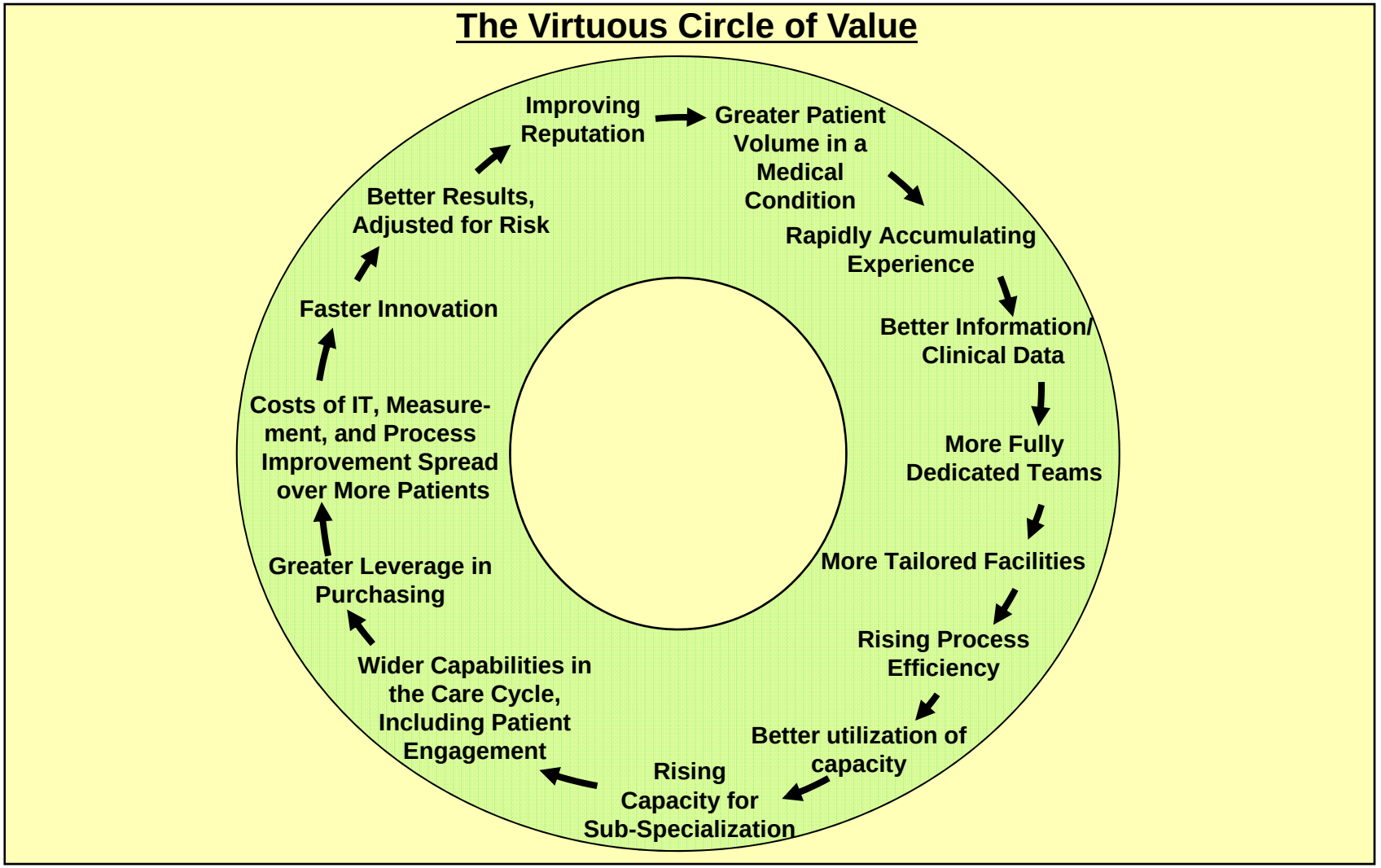
- **Care Delivery Team**: The set of physicians, nurses, educators, and other staff best equipped to meet the medical and non-medical needs of the segment
- **Facilities**: Care delivered in facilities and locations reflecting patient circumstances

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

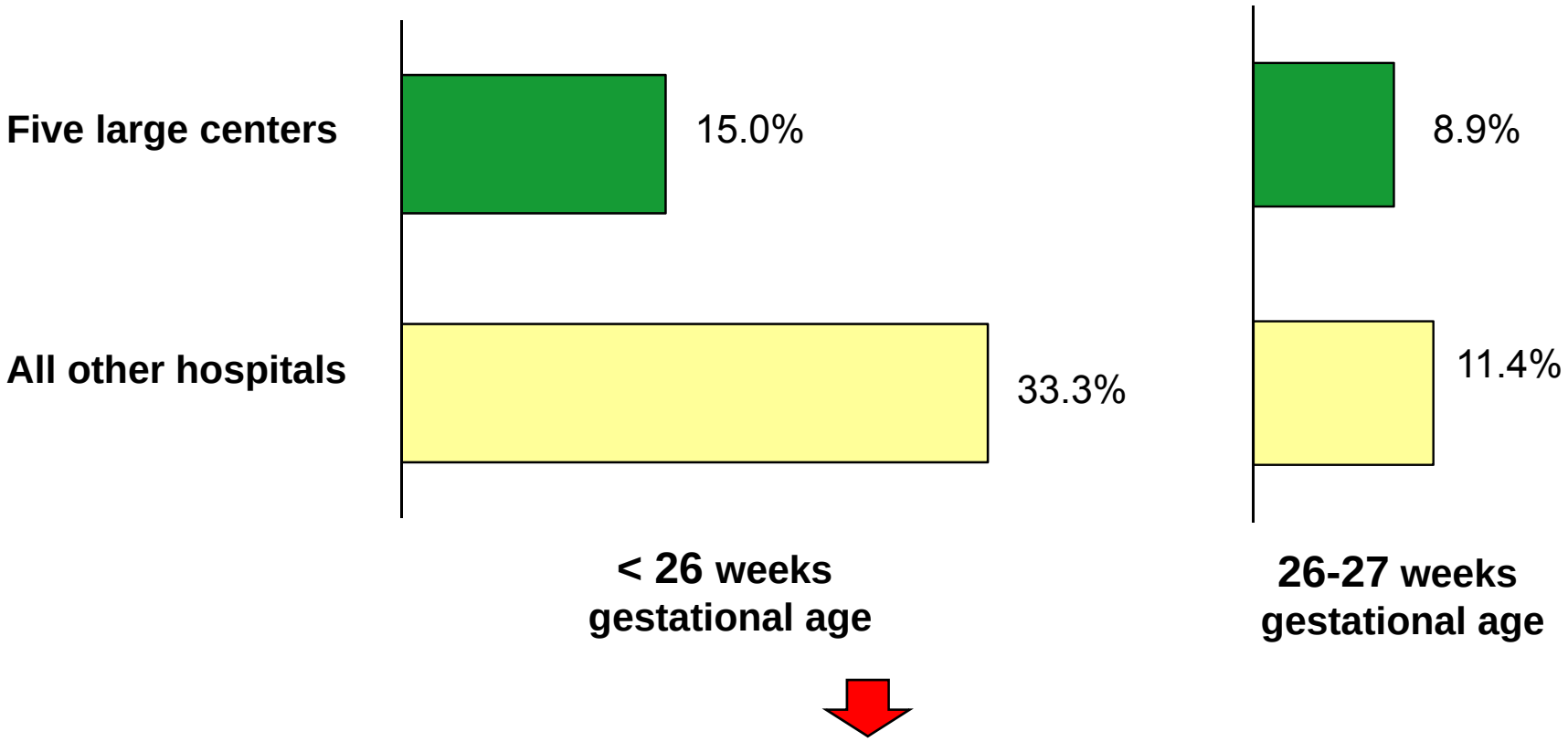
Fragmentation of Hospital Services in Sweden

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.

Low Volume Undermines Value

Mortality of Low-birth Weight Infants in Baden-Würtemberg, Germany

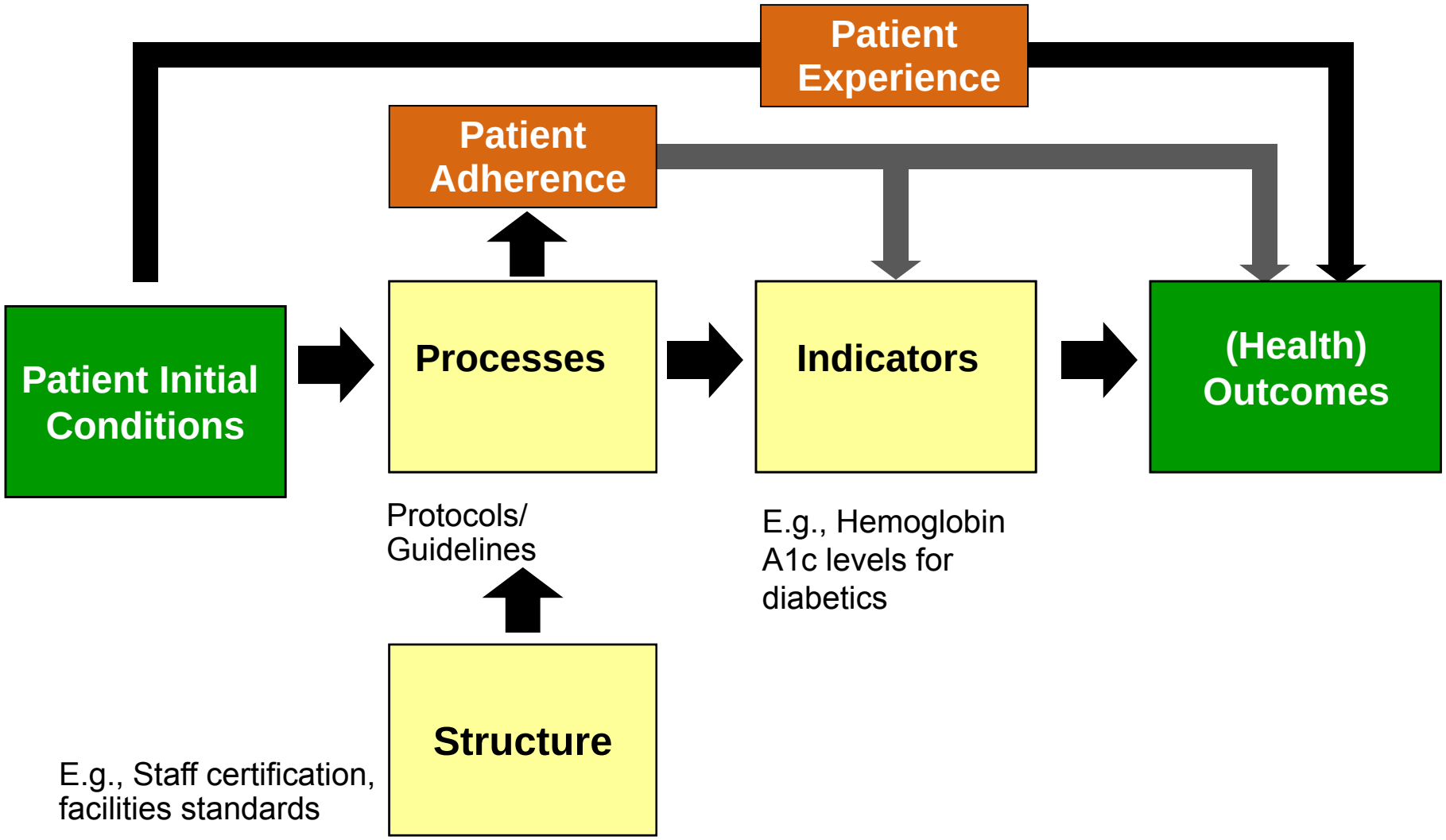


- **Minimum volume standards** are an interim step to drive value and service consolidation in the absence of rigorous outcome information

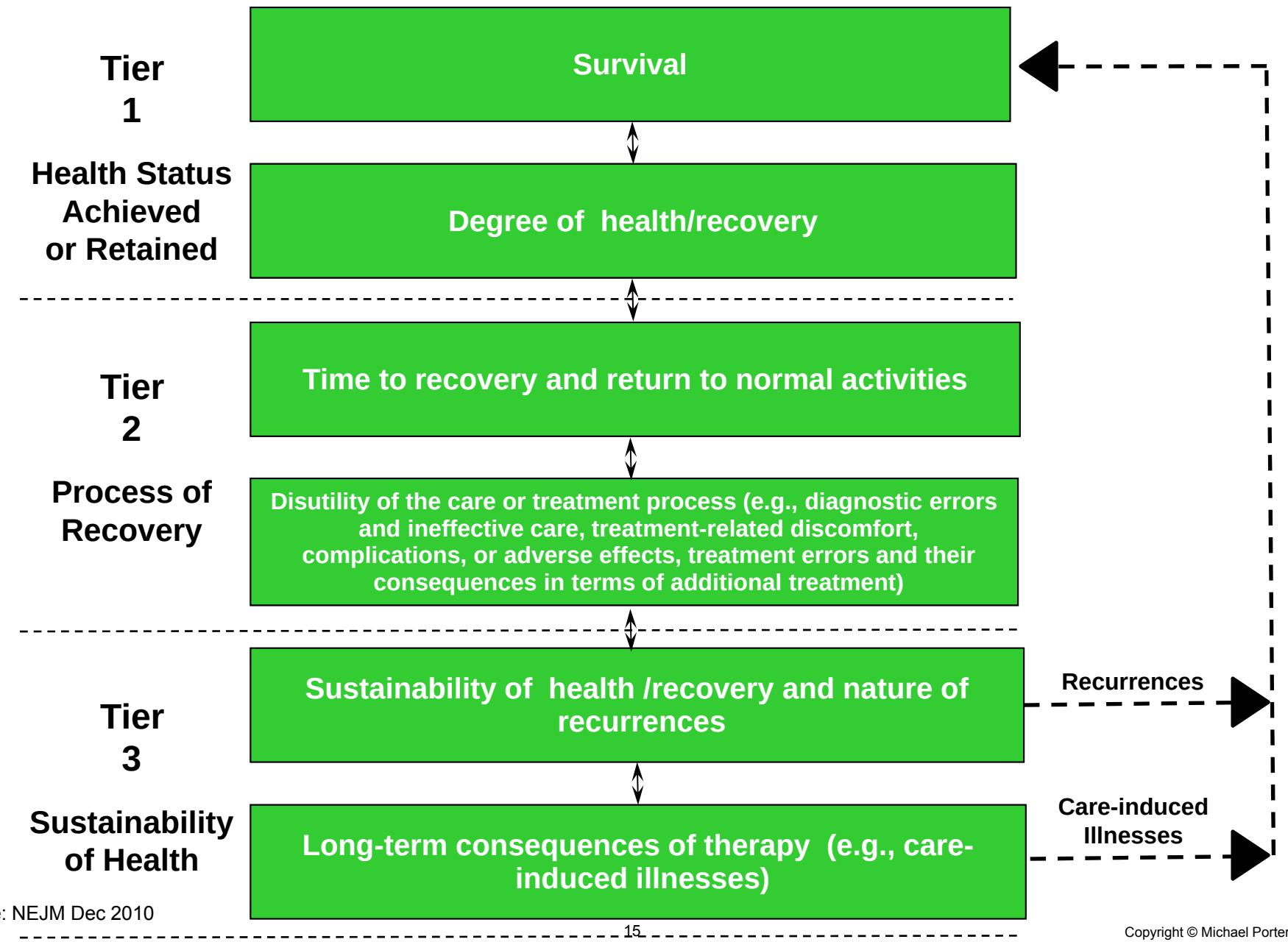
Source: Hummer et al, Zeitschrift für Geburtshilfe und Neonatologie, 2006; Results duplicated in AOK study: Heller G, Gibt et al.

2. Measuring Outcomes and Cost for Every Patient

The Measurement Landscape



The Outcome Measures Hierarchy



Source: NEJM Dec 2010

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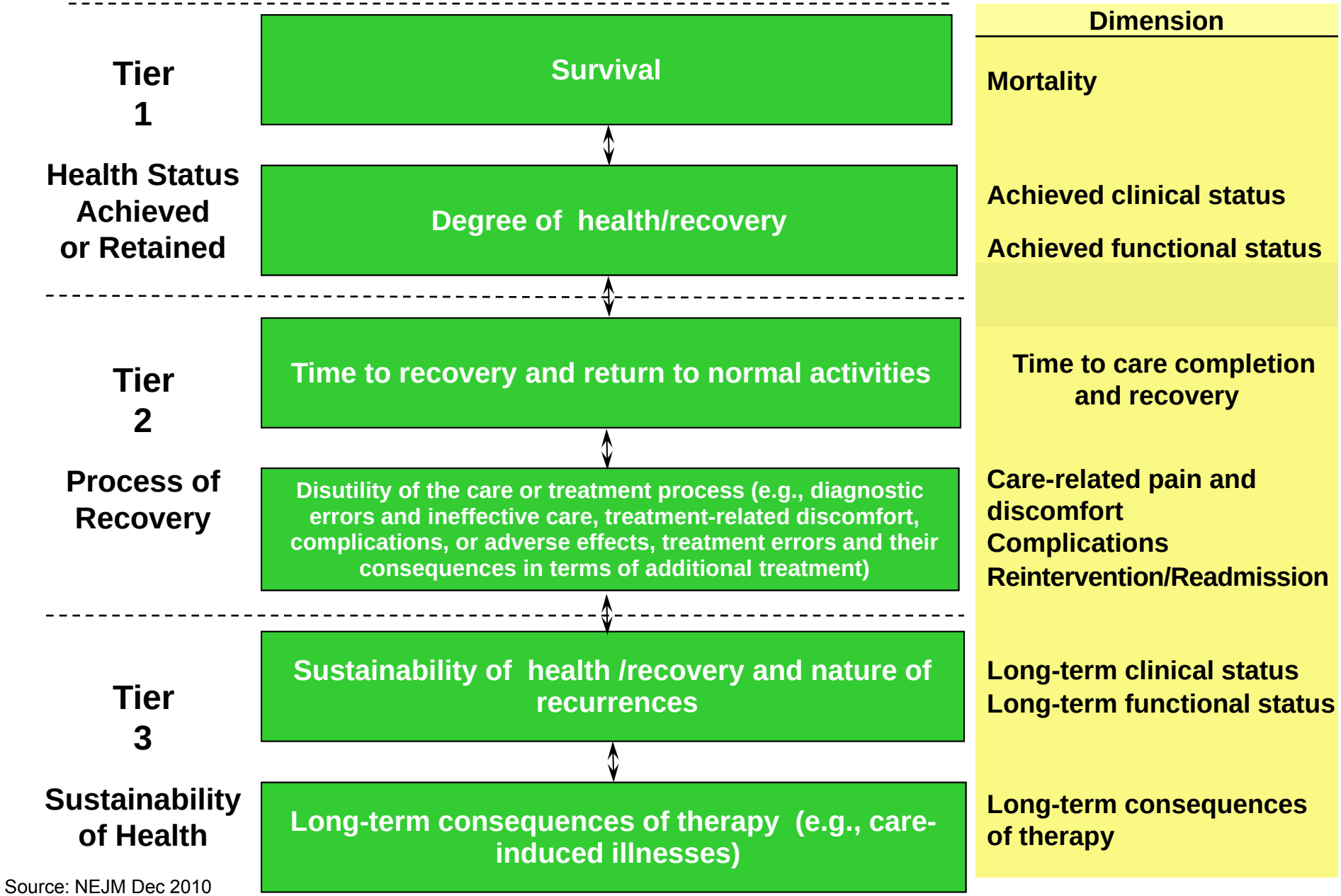
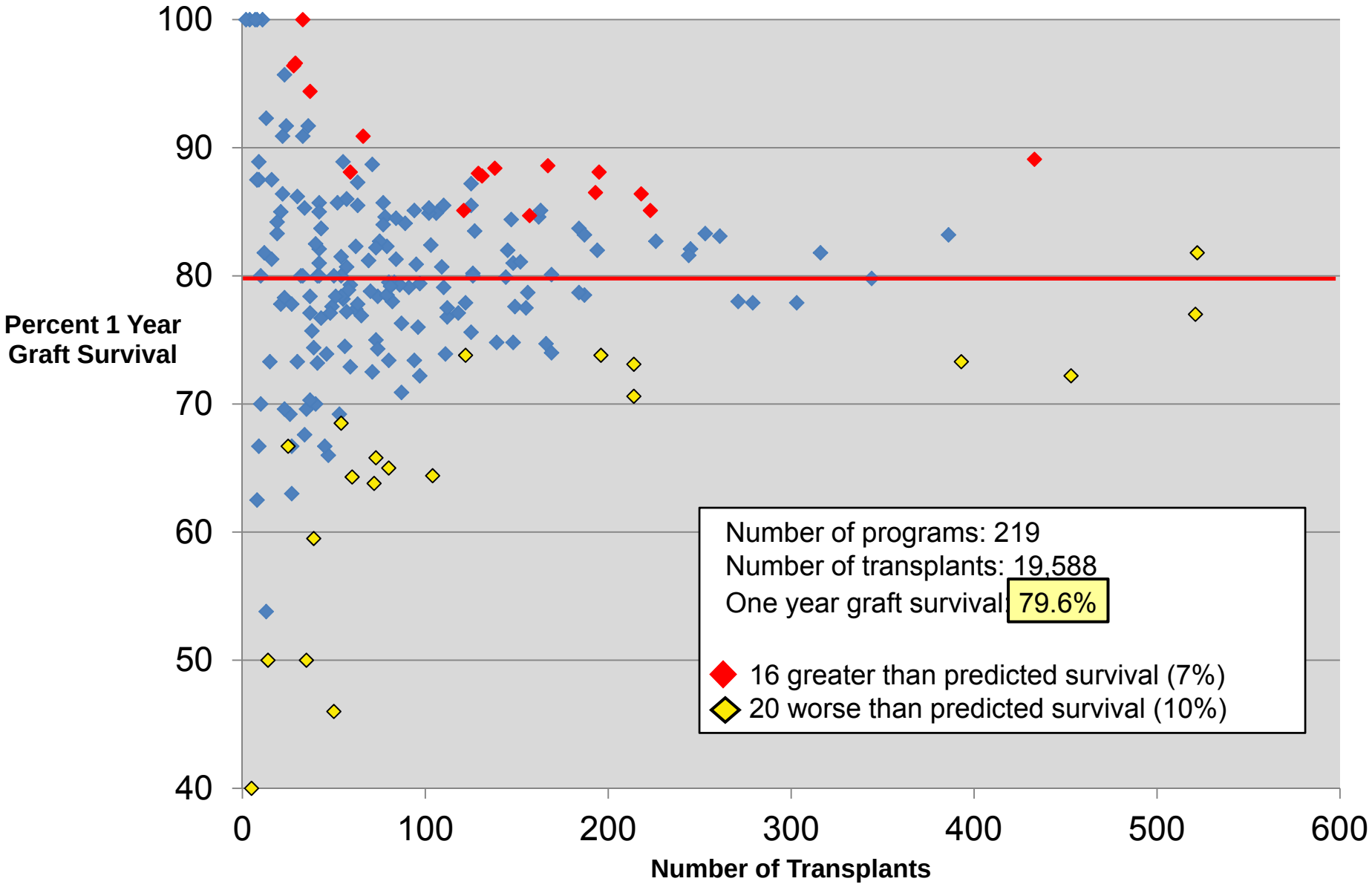


Source: NEJM Dec 2010

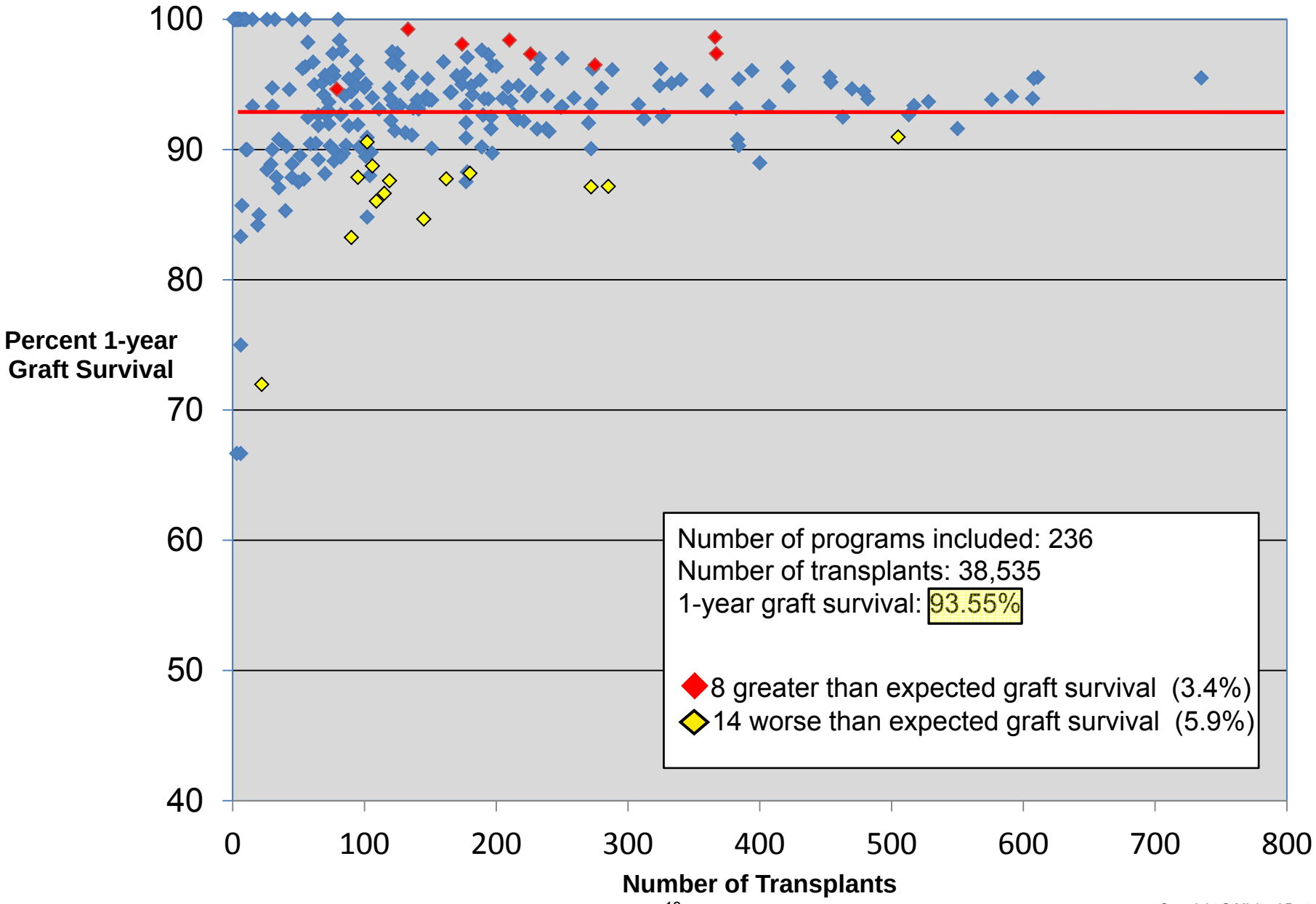
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

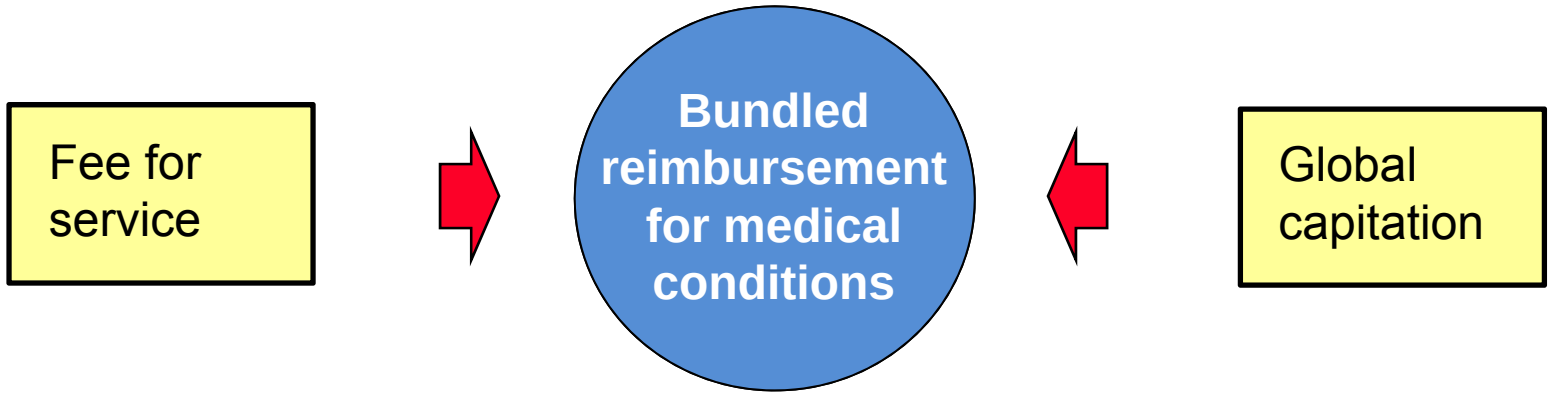
U.S. Center Results, 2008-2010



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

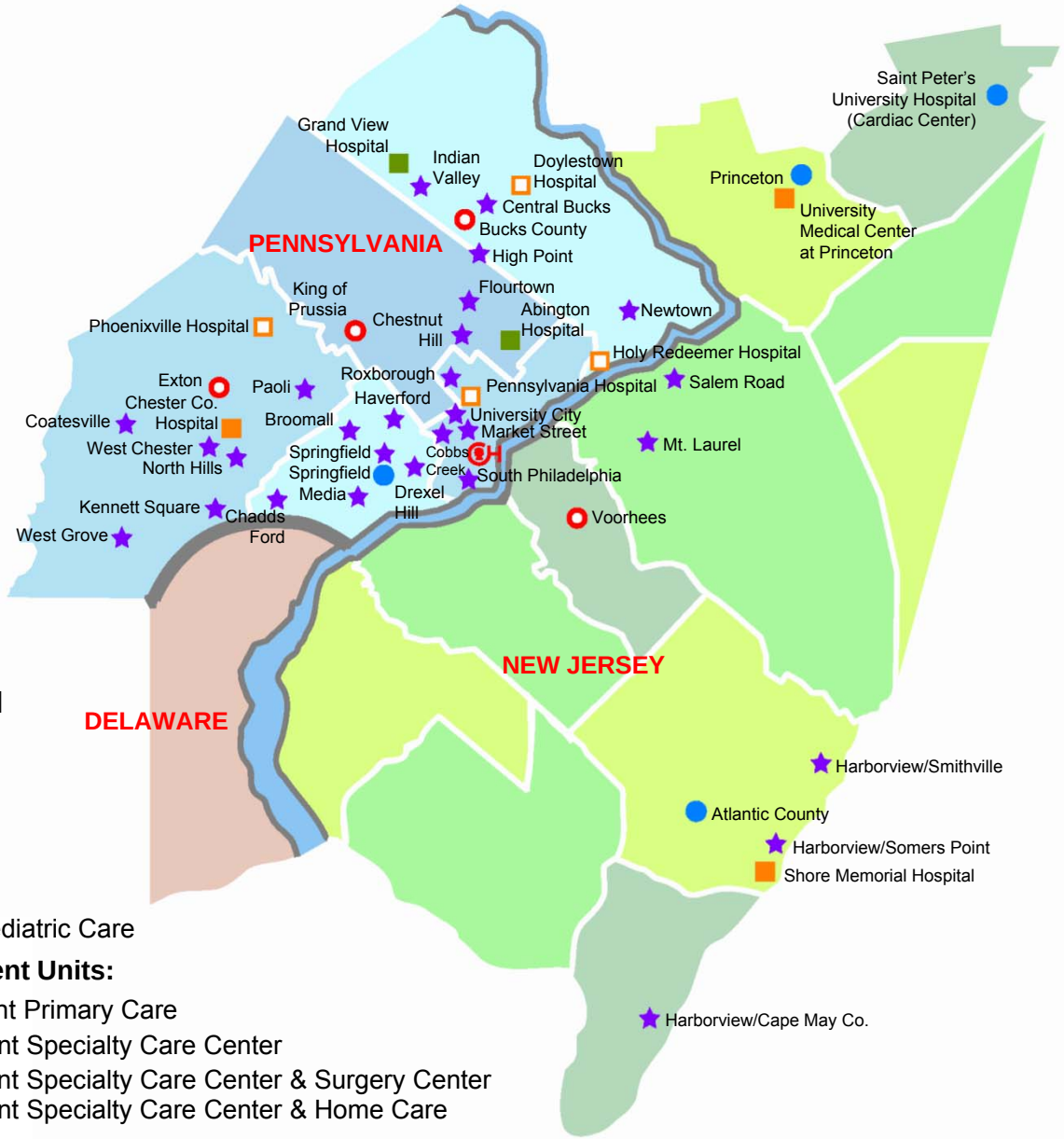
- Pre-op evaluation - Lab tests - Radiology - Surgery & related admissions - Prosthesis - Drugs - Inpatient rehab, up to 6 days	- All physician and staff fees and costs - 1 follow-up visit within 3 months - Any additional surgery to the joint within 2 years - If post-op infection requiring antibiotics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

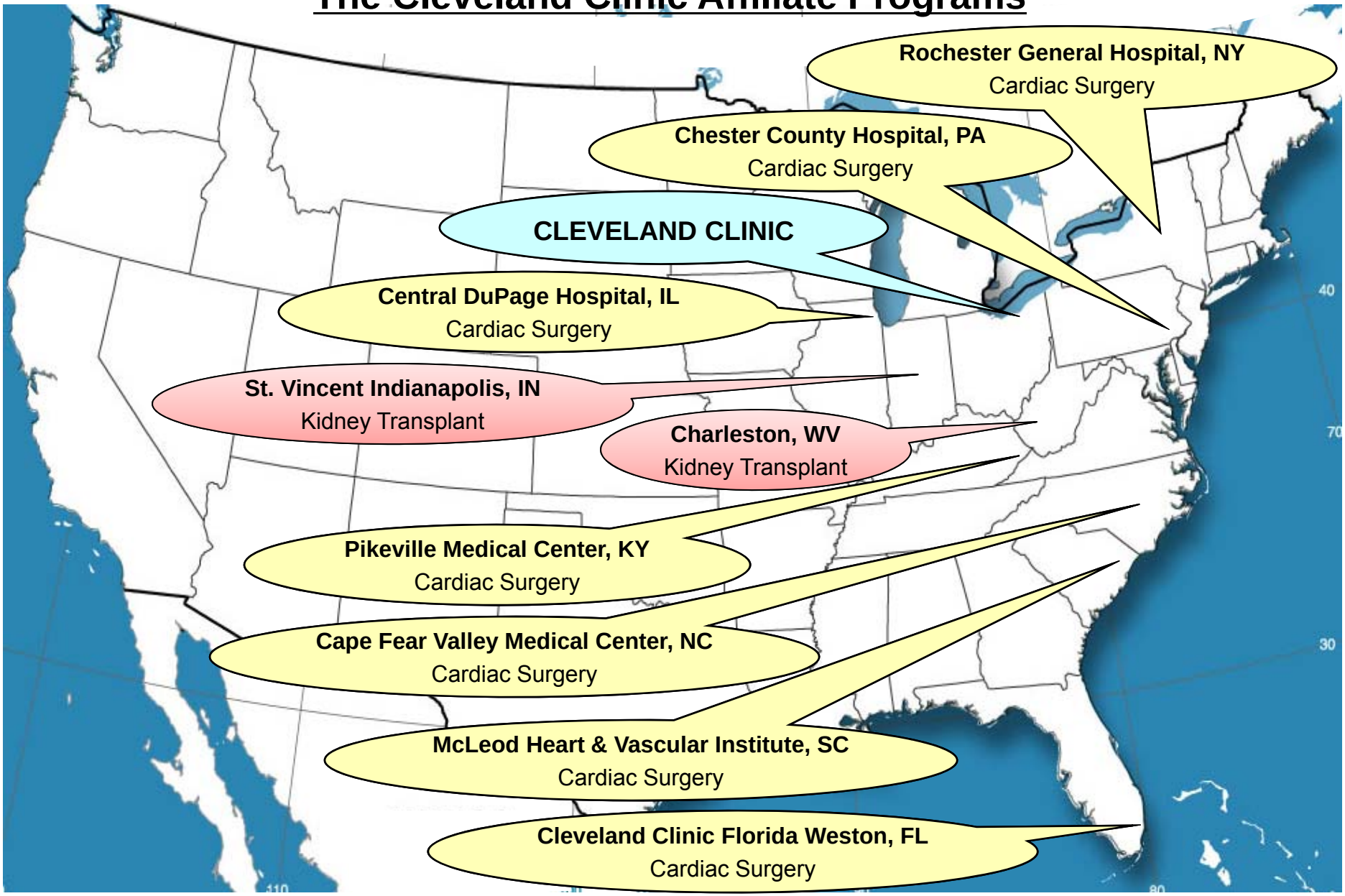
- Increase the **volume of patients** in medical conditions or primary care segments vs. **widening** service lines locally, or adding new **broad line** units

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

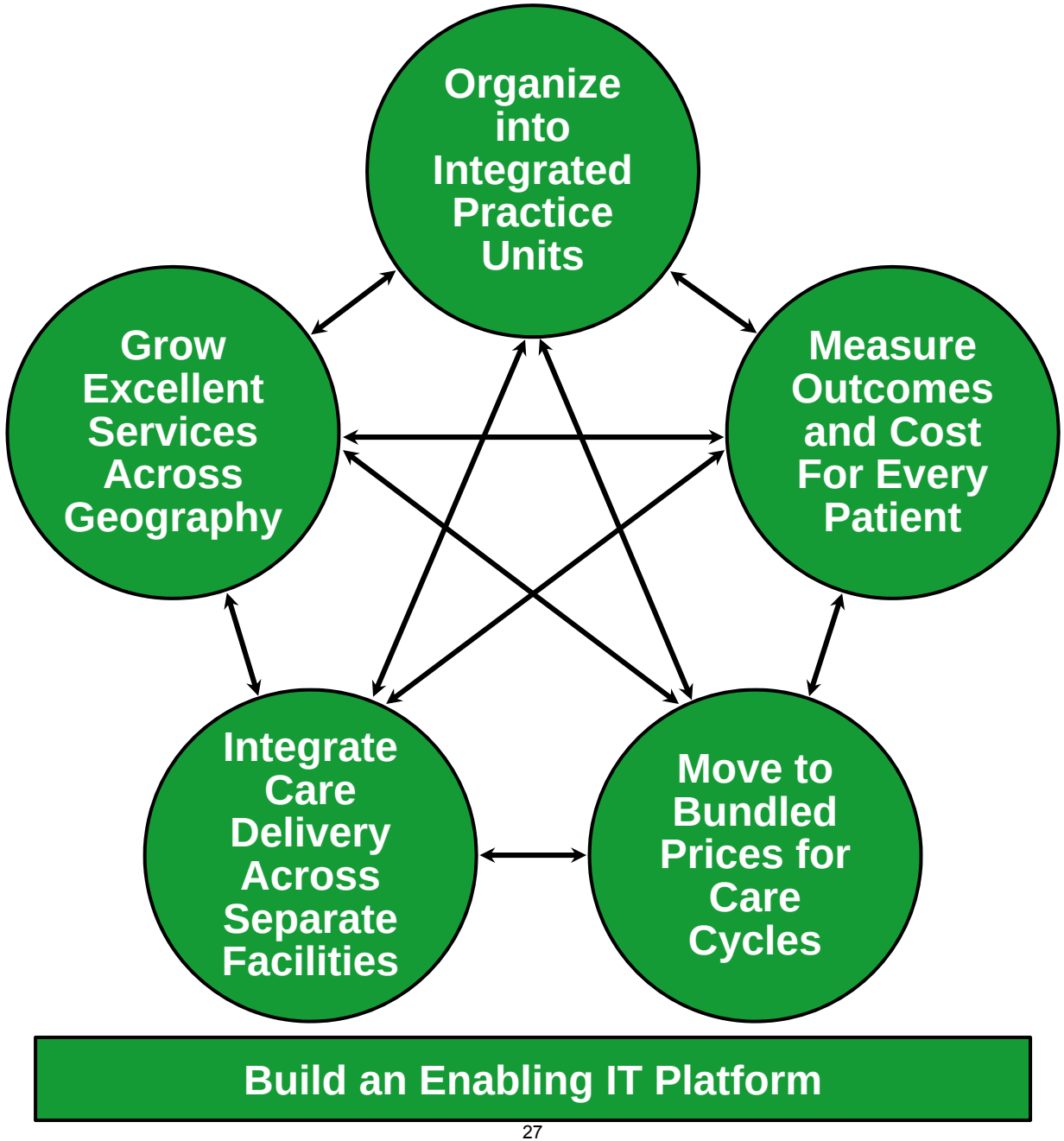


6. Building an Enabling Information Technology Platform

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