

# 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>. 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

- 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

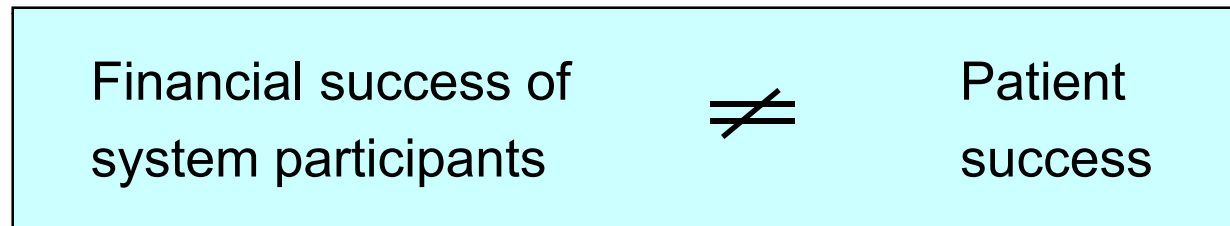
- Significant improvement in value will require **fundamental restructuring of health care delivery**, not incremental improvements

Today, 21<sup>st</sup> century medical technology is often delivered with 19<sup>th</sup> century organization structures, management practices, and pricing 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 for patients/subscribers** is a powerful force to encourage restructuring of care and continuous improvement in value
- Today's competition in health care **is not aligned with value**



- 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**

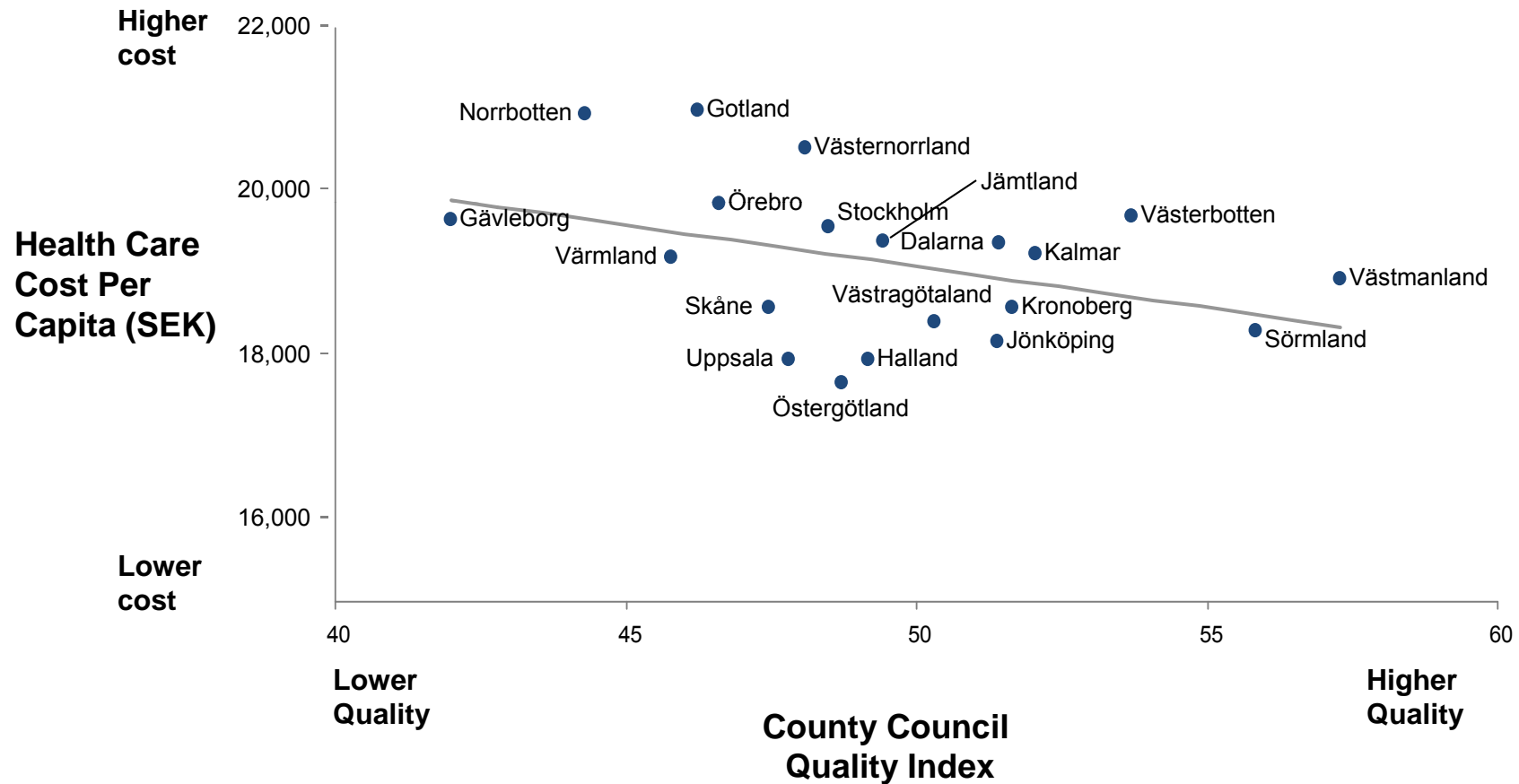
- Prevention of illness and recurrences
- Early detection
- Right diagnosis
- Right treatment to the right patient
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Rapid cycle time of diagnosis and treatment
- Less invasive treatment methods
- Fewer complications
- Fewer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

# 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: Öppna 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

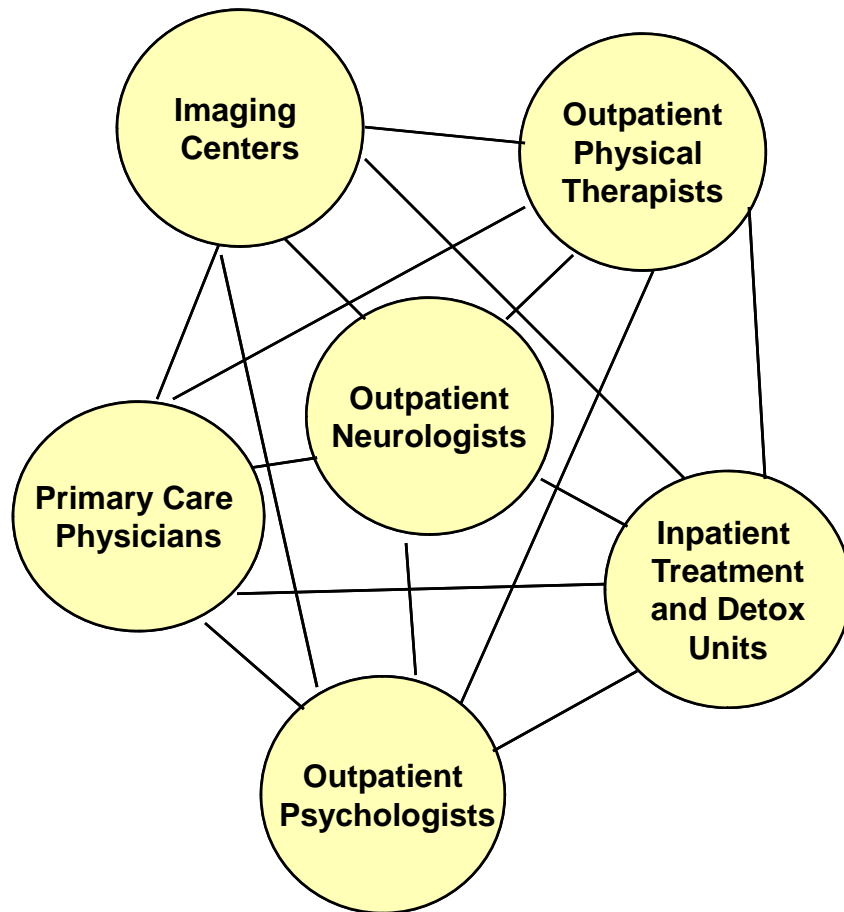


# 1. Organize Around Patient Medical Conditions

## Migraine Care in Germany

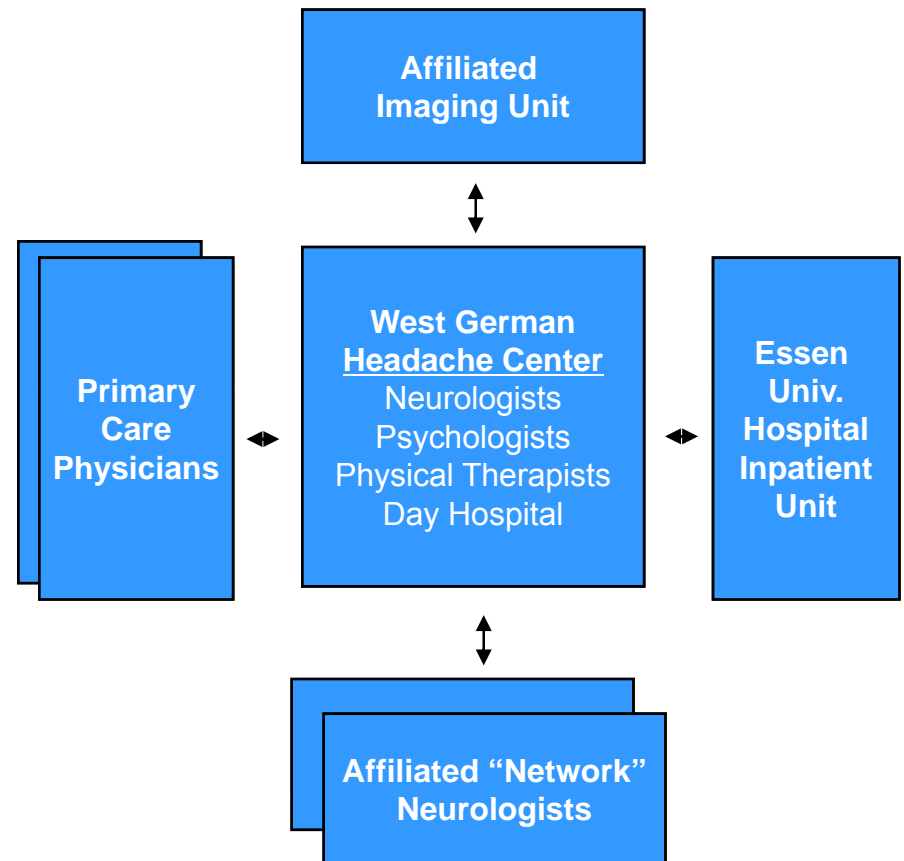
### Existing Model:

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

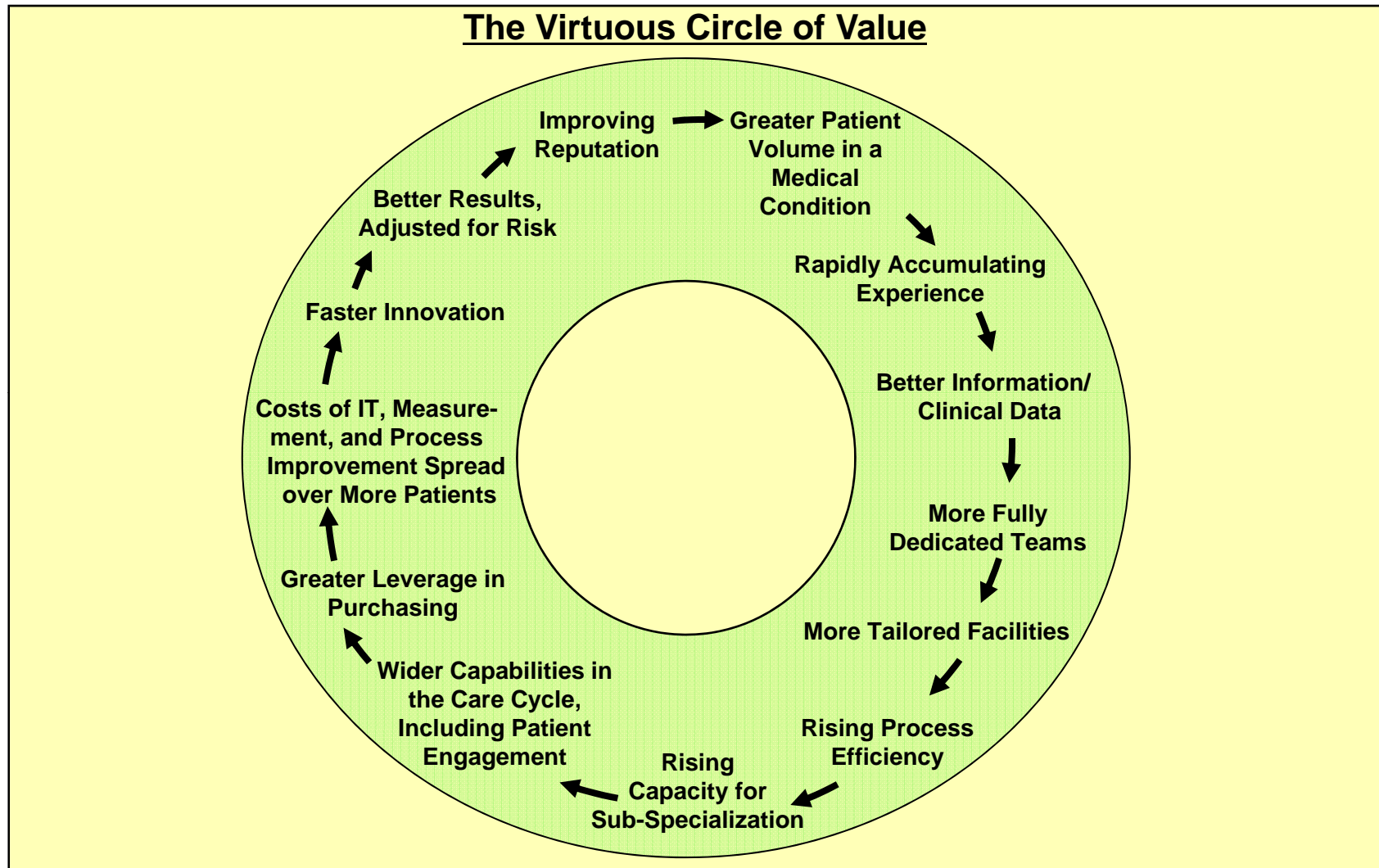
# Integrating Across the Cycle of Care

## Breast Cancer

<b>INFORMING AND ENGAGING</b>	<ul style="list-style-type: none"> <li>Advice on self screening</li> <li>Consultations on risk factors</li> </ul>	<ul style="list-style-type: none"> <li>Counseling patient and family on the diagnostic process and the diagnosis</li> </ul>	<ul style="list-style-type: none"> <li>Explaining patient treatment options/shared decision making</li> </ul>	<ul style="list-style-type: none"> <li>Counseling on the treatment process</li> <li>Education on managing side effects and avoiding complications of treatment</li> <li>Achieving compliance</li> </ul>	<ul style="list-style-type: none"> <li>Counseling on rehabilitation options, process</li> <li>Achieving compliance</li> <li>Psychological counseling</li> </ul>	<ul style="list-style-type: none"> <li>Counseling on long term risk management</li> <li>Achieving Compliance</li> </ul>
			<ul style="list-style-type: none"> <li>Patient and family psychological counseling</li> </ul>			
<b>MEASURING</b>	<ul style="list-style-type: none"> <li>Self exams</li> <li>Mammograms</li> </ul>	<ul style="list-style-type: none"> <li>Mammograms</li> <li>Ultrasound</li> <li>MRI</li> <li>Labs (CBC, Blood chems, etc.)</li> <li>Biopsy</li> <li>BRACA 1, 2...</li> <li>CT</li> <li>Bone Scans</li> </ul>	<ul style="list-style-type: none"> <li>Labs</li> </ul>	<ul style="list-style-type: none"> <li>Procedure-specific measurements</li> </ul>	<ul style="list-style-type: none"> <li>Range of movement</li> <li>Side effects measurement</li> </ul>	<ul style="list-style-type: none"> <li>MRI, CT</li> <li>Recurring mammograms (every six months for the first 3 years)</li> </ul>
<b>ACCESSING</b>	<ul style="list-style-type: none"> <li>Office visits</li> <li>Mammography lab visits</li> </ul>	<ul style="list-style-type: none"> <li>Office visits</li> </ul>	<ul style="list-style-type: none"> <li>Office visits</li> </ul>	<ul style="list-style-type: none"> <li>Hospital stays</li> </ul>	<ul style="list-style-type: none"> <li>Office visits</li> </ul>	<ul style="list-style-type: none"> <li>Office visits</li> </ul>
		<ul style="list-style-type: none"> <li>Lab visits</li> </ul>	<ul style="list-style-type: none"> <li>Hospital visits</li> <li>Lab visits</li> </ul>	<ul style="list-style-type: none"> <li>Visits to outpatient radiation or chemotherapy units</li> <li>Pharmacy</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation facility visits</li> <li>Pharmacy</li> </ul>	<ul style="list-style-type: none"> <li>Lab visits</li> <li>Mammographic labs and imaging center visits</li> </ul>
		<ul style="list-style-type: none"> <li>High risk clinic visits</li> </ul>				
	<b>MONITORING/ PREVENTING</b>	<b>DIAGNOSING</b>	<b>PREPARING</b>	<b>INTERVENING</b>	<b>RECOVERING/ REHABING</b>	<b>MONITORING/MANAGING</b>
	<ul style="list-style-type: none"> <li>Medical history</li> <li>Control of risk factors (obesity, high fat diet)</li> <li>Genetic screening</li> <li>Clinical exams</li> <li>Monitoring for lumps</li> </ul>	<ul style="list-style-type: none"> <li>Medical history</li> <li>Determining the specific nature of the disease (mammograms, pathology, biopsy results)</li> <li>Genetic evaluation</li> <li>Labs</li> </ul>	<ul style="list-style-type: none"> <li>Choosing a treatment plan</li> <li>Surgery prep (anesthetic risk assessment, EKG)</li> <li>Plastic or onco-plastic surgery evaluation</li> <li>Neo-adjuvant chemotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Surgery (breast preservation or mastectomy, oncoplastic alternative)</li> <li>Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)</li> </ul>	<ul style="list-style-type: none"> <li>In-hospital and outpatient wound healing</li> <li>Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema and chronic fatigue)</li> <li>Physical therapy</li> </ul>	<ul style="list-style-type: none"> <li>Periodic mammography</li> <li>Other imaging</li> <li>Follow-up clinical exams</li> <li>Treatment for any continued or later onset side effects or complications</li> </ul>

Breast Cancer Specialist  
 Other Provider Entities

# Volume in a Medical Condition Enables Value



- Volume and experience 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.

## Integrated Models of Primary Care

- Organize primary care around **specific patient populations** (e.g. healthy adults, frail elderly, type II diabetics) rather than attempting to be all things to all patients
  - Involving **defined service bundles** covering appropriate prevention, screening, diagnosis, wellness and health maintenance
  - Services are provided by **multidisciplinary teams**, including ancillary health professionals and support staff in **dedicated facilities**
  - **Alliances with specialty IPUs** covering the prevalent medical conditions represented in the patient population
  - Delivered not only in traditional settings but at the **workplace**, **community organizations**, and in **other locations** that offer regular patient contact and the ability to develop a group culture of wellness
- 
- Today's primary care is **fragmented** and attempts to address **overly broad needs** with limited resources

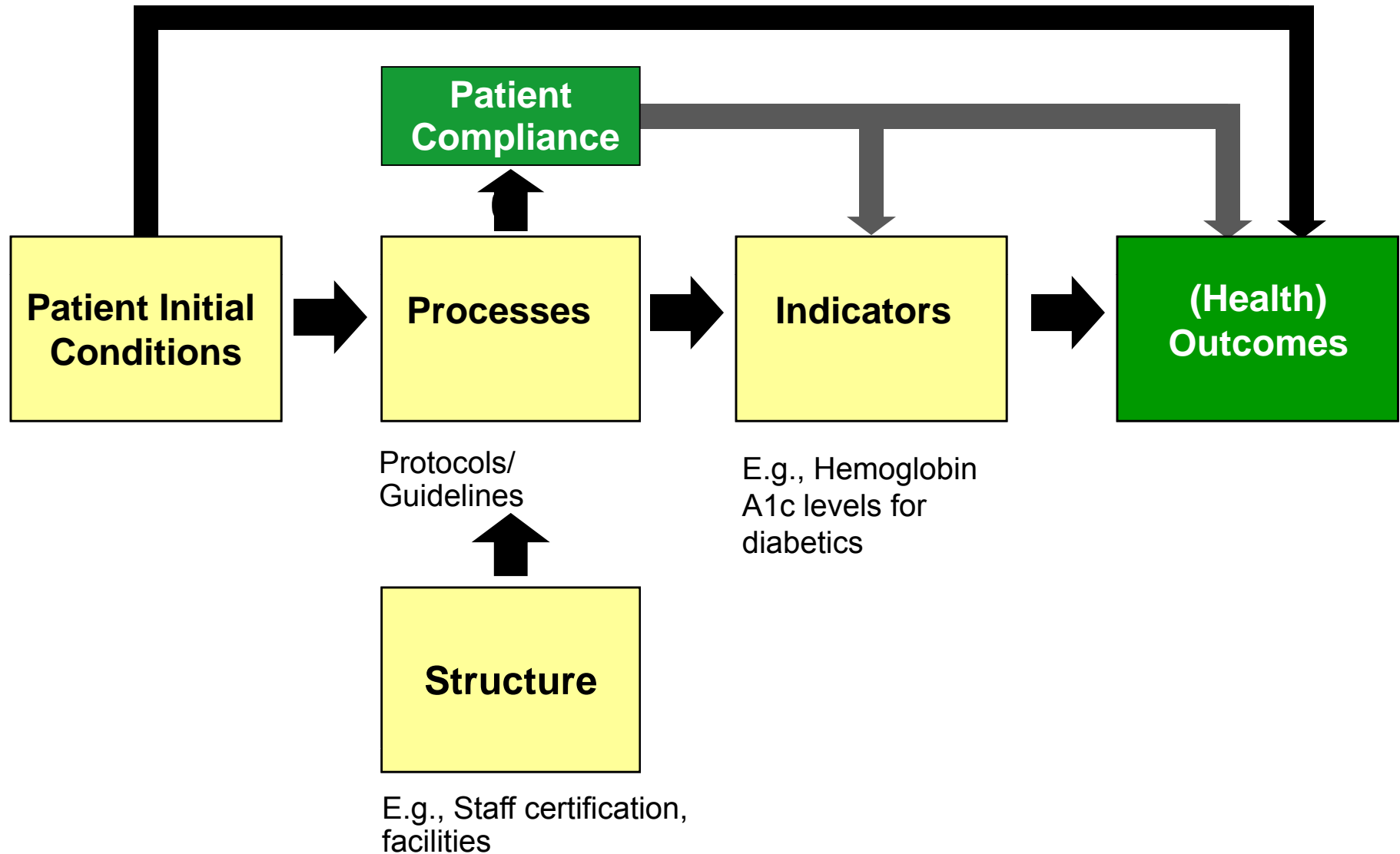
## 2. Measure Outcomes and Cost for Every Patient

- **For** medical conditions
- **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

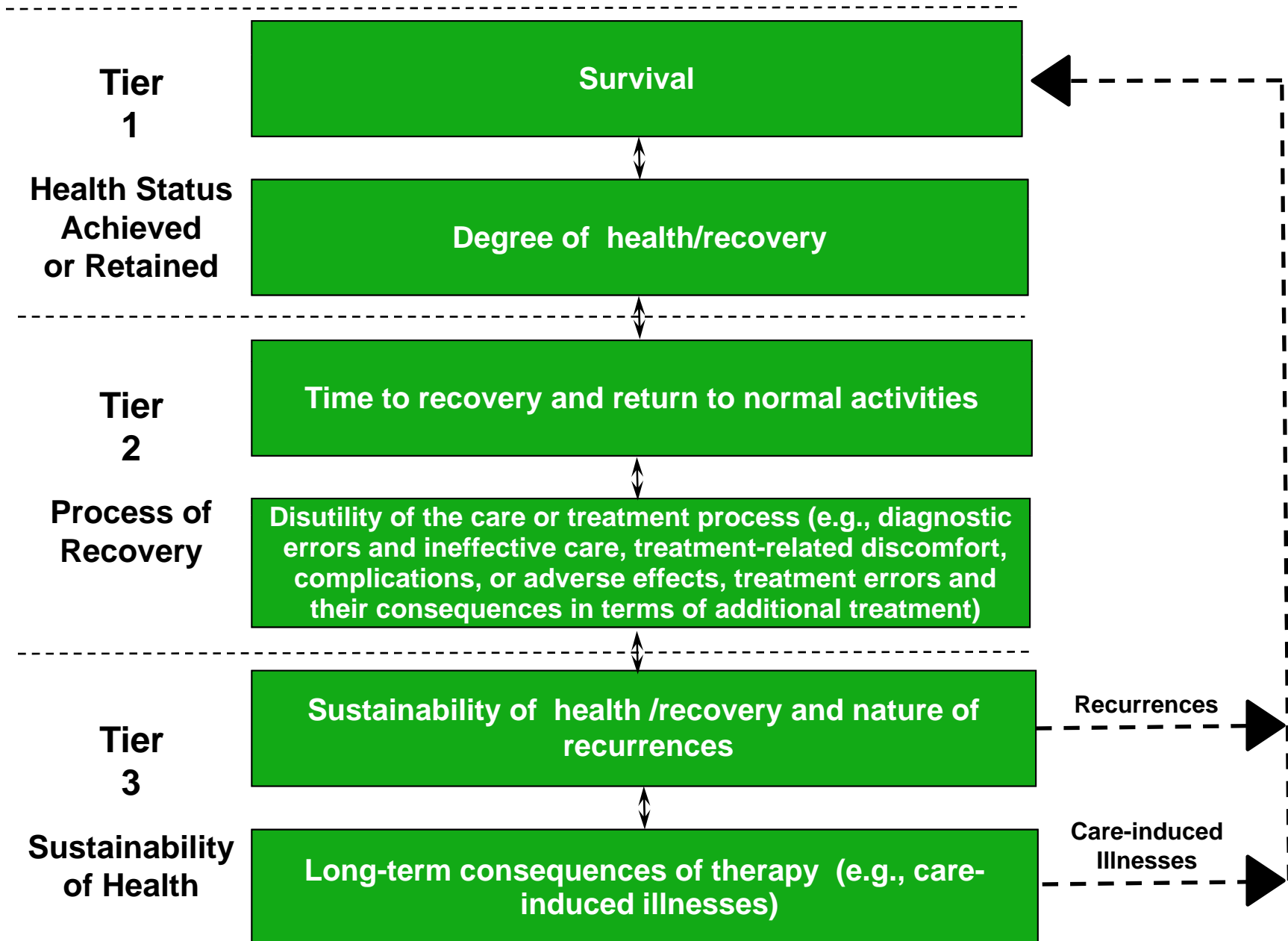


Measuring and reporting **volume** by medical condition

# Measuring Value



# The Outcome Measures Hierarchy









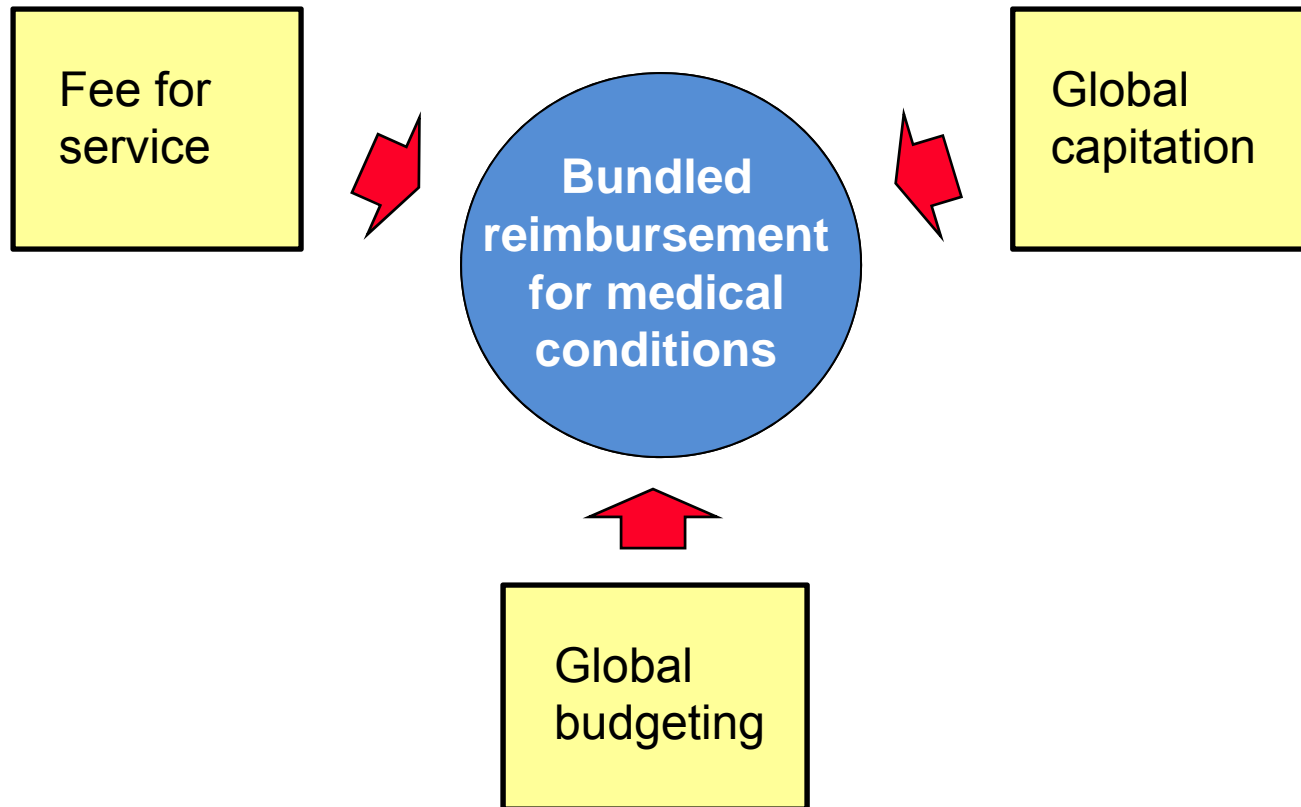
# Measuring Health Care Costs

- Current organization structure and cost accounting practices in health care obscure the measurement of costs, leaving major **opportunities for cost efficiencies**
  - Over-resourced facilities
    - E.g. routine care delivered in expensive hospital settings
  - Under-utilization of expensive 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
  - Lengthy cycle and wait times
  - Missed opportunities for volume procurement
  - Excess inventory and weak inventory management



- These cost drivers **do not require outcome tradeoffs**, but may actually improve them

### 3. Move to Bundled Prices for Care Cycles



## What is a Bundled Payment?

- A **total package price** for the care cycle for a medical condition
  - Including time-based bundled reimbursement for **managing chronic conditions** and for **primary/preventive** service bundles
  - Including responsibility for **avoidable complications**
- The bundled price should be **severity adjusted**

### What is Not a Bundled Payment

- Price for a **short** episode (e.g. inpatient only, procedure only)
- **Separate** payments for physicians and facilities
- “**Medical Home**” payment for care coordination
- **Pay-for-performance** bonuses



- DRGs can be a **starting point** for bundled payment models

# Bundled Payment in Practice

## Hip and Knee Replacement in Stockholm, Sweden

- **Components** of the bundle

- |                                 |   |
|---------------------------------|---|
| - Pre-op evaluation             | - 1 follow-up visit within 3 months   |
| - Lab tests                     | - Any additional surgery to the joint within 2 years                              |
| - Radiology                     | - If post-op infection requiring antibiotics occurs, guarantee extends to 5 years |
| - Surgery & related admission   |   |
| - 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**



# Levels of System Integration

- Select a **scope of service lines** where the organization can achieve excellence
- **Rationalize service lines/ IPU**s across facilities to improve volume, avoid duplication, and deepen the team
- **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, tertiary and quaternary facilities

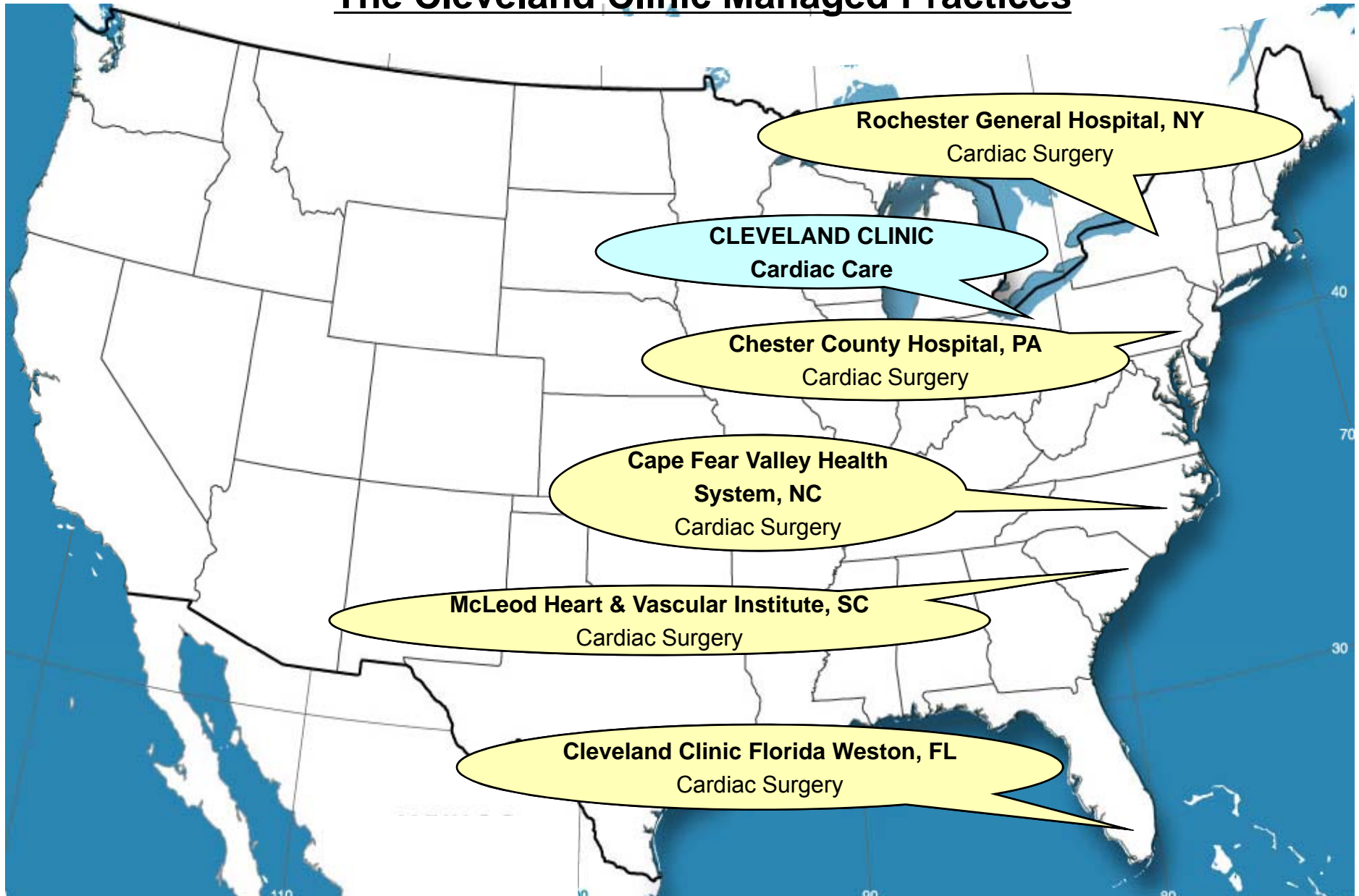


## 5. Expand Excellent IPUs Across Geography

- Grow **areas of excellence** and **leverage across locations**, rather than adding broad line, stand-alone units
- **Affiliations 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

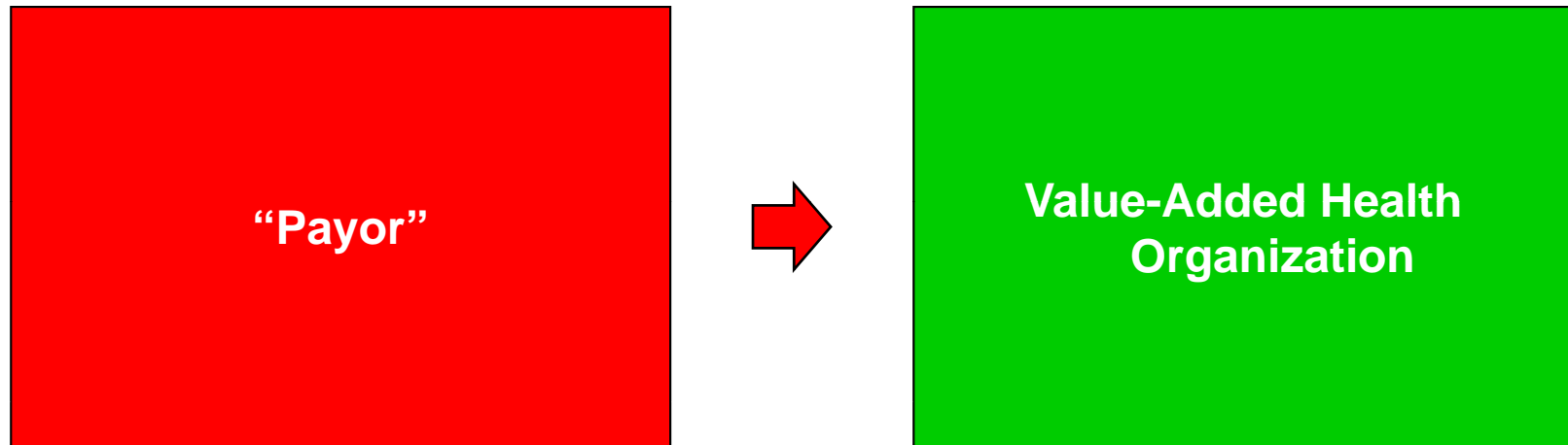
- Common **data definitions**
- Combine **all types of data** (e.g. notes, images) for each patient over time
- Data encompasses the **full care cycle**, including referring entities
- Allowing access and communication among **all involved parties**, including patients
- **“Structured”** data vs. free text
- **Templates** for medical conditions to enhance the user interface
- Architecture that allows **easy extraction of outcome, process, and cost measures**
- 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**

# Value-Based Health Care Delivery: Implications for Government

- Establish **universal measurement** and **reporting** of provider **health outcomes**
  - Also require universal reporting by **health plans**
- Remove obstacles to the **restructuring of health care delivery** around the integrated care of medical conditions
- Shift reimbursement systems to **bundled prices for cycles of care** instead of payments for discrete treatments or services
- **Open up competition** among providers and across geography
- Mandate **EMR adoption** that enables integrated care and supports outcome measurement
  - National **standards** for data definitions, communication, and aggregation
  - **Software as a service** model for smaller providers
- Set policies that encourage greater **responsibility of individuals** for their health and their health care

# 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
  - Providers can establish **direct relationships with employers** to enable value based approaches