

Redefining Health Care in Latin America

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This presentation draws on [Redefining German Health Care](#) (with Clemens Guth), Springer Press, February 2012; [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, Elizabeth O. Teisberg, and Clemens Guth.

The Health Care Problem is Universal

- **Increasing demand**
 - Aging populations and increasing burden of disease
- More diseases are **treatable**
- **Rising costs**
 - Health spending has risen faster than economic growth in most OECD countries since 1970
 - Significant challenge to government budgets
- Inconsistent **quality** and low **efficiency**
- Limited or non-existent **measurement** of costs or outcomes
- **Lack of competition** to continually deliver better outcomes at lower cost over time

Redefining Health Care Delivery

- The overarching goal in health care must be **value for patients**

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

- Outcomes are **health results that matter 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



- Value is the only goal that can **unite the interests** of all stakeholders
- The central challenge for Portugal is to design a health care delivery system that **dramatically improves patient value**

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
- Early detection
- Right diagnosis
- Right treatment to the right patient
- Rapid cycle time of diagnosis and treatment
- Treatment earlier in the causal chain of disease
- Less invasive treatment methods
- Fewer complications
- Fewer mistakes and repeats in treatment
- Faster recovery
- More complete recovery
- Greater functionality and less need for long term care
- Fewer recurrences, relapses, flare ups, or acute episodes
- 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

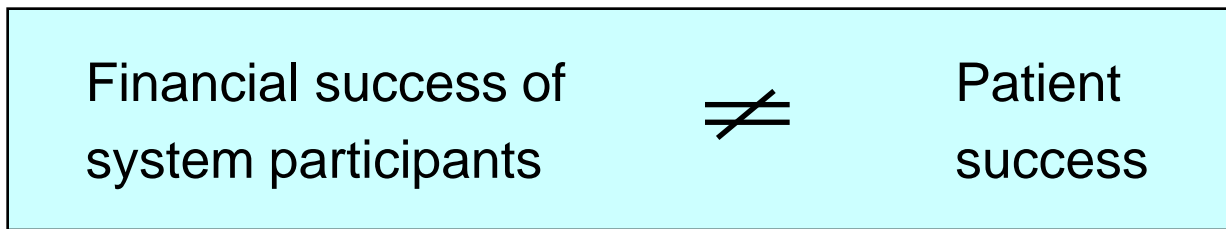
Creating a Value-Based Health Care System

- Significant improvement in value will require **fundamental restructuring of health care delivery**, not incremental improvements
- Today's delivery approaches reflect 19th century organizational structures, management practices, measurement methods, and payment models

Care pathways, process improvements, safety initiatives, case managers, disease management and other **overlays** to the current structure are beneficial, but not sufficient

Creating The Right Kind of Competition

- Patient **choice** and **competition** for patients are powerful forces to encourage continuous improvement in value and restructuring of care
- Today's competition in health care **is not aligned with value**



- Creating positive-sum **competition on value** is fundamental to health care reform in every country

Creating a Value-Based Health Care Delivery System

The Strategic Agenda

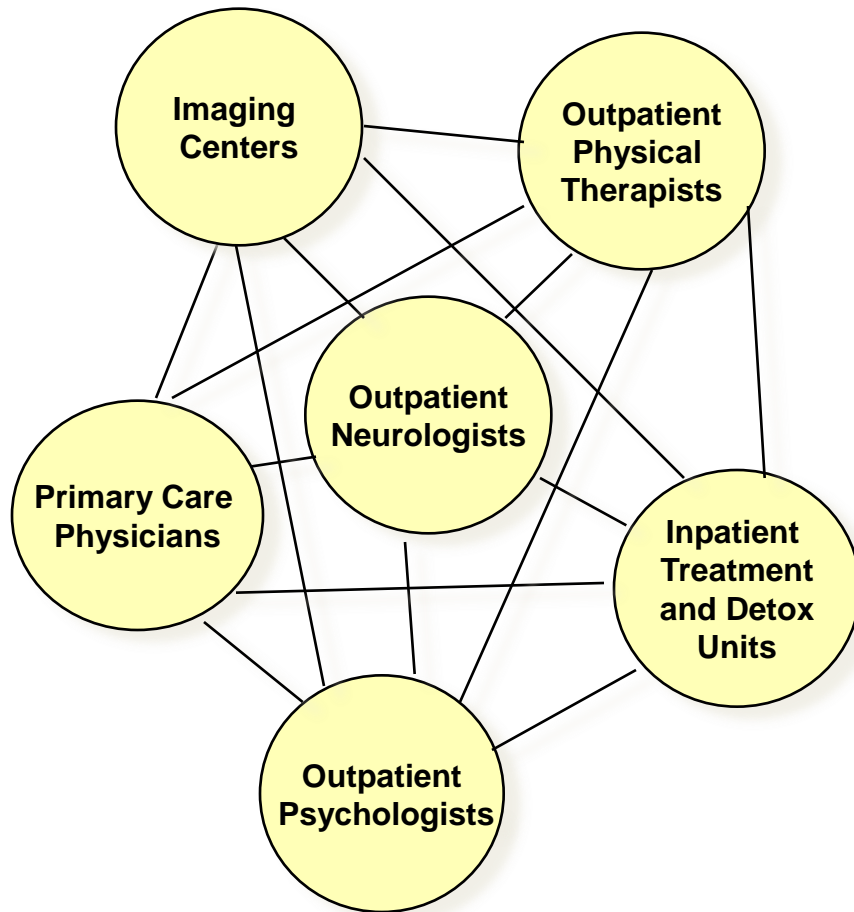
1. Organize Care into **Integrated Practice Units (IPUs)** around Patient Medical Conditions
 - Organize primary and preventive care to serve **distinct patient segments**
2. Measure **Outcomes** and **Cost** for Every Patient
3. Reimburse through **Bundled Prices** for Care Cycles
4. Integrate Care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

Organizing Around Patient Medical Conditions

Migraine Care in Germany

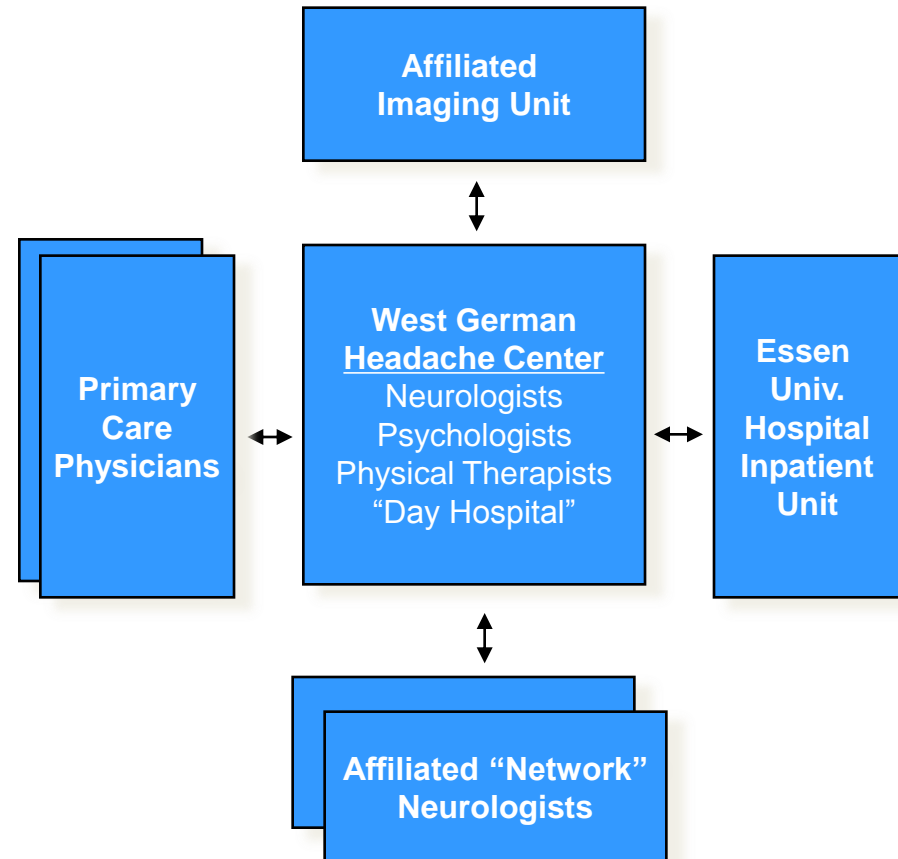
Existing Model:

Organize by Specialty and Discrete Services



New Model:

Organize into Integrated Practice Units (IPUs)



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
- 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

The Care Delivery Value Chain

Acute Knee-Osteoarthritis Requiring Replacement

INFORMING AND ENGAGING	<ul style="list-style-type: none"> Importance of exercise, weight reduction, proper nutrition 	<ul style="list-style-type: none"> Meaning of diagnosis Prognosis (short- and long-term outcomes) Drawbacks and benefits of surgery 	<ul style="list-style-type: none"> Setting expectations Importance of nutrition, weight loss, vaccinations Home preparation 	<ul style="list-style-type: none"> Expectations for recovery Importance of rehab Post-surgery risk factors 	<ul style="list-style-type: none"> Importance of rehab adherence Longitudinal care plan 	<ul style="list-style-type: none"> Importance of exercise, maintaining healthy weight
	<ul style="list-style-type: none"> Joint-specific symptoms and function (e.g., WOMAC scale) Overall health (e.g., SF-12 scale) 	<ul style="list-style-type: none"> Loss of cartilage Change in subchondral bone Joint-specific symptoms and function Overall health 	<ul style="list-style-type: none"> Baseline health status Fitness for surgery (e.g., ASA score) 	<ul style="list-style-type: none"> Blood loss Operative time Complications 	<ul style="list-style-type: none"> Infections Joint-specific symptoms and function Inpatient length of stay Ability to return to normal activities 	<ul style="list-style-type: none"> Joint-specific symptoms and function Weight gain or loss Missed work Overall health
MEASURING	<ul style="list-style-type: none"> PCP office Health club Physical therapy clinic 	<ul style="list-style-type: none"> Specialty office Imaging facility 	<ul style="list-style-type: none"> Specialty office Pre-op evaluation center 	<ul style="list-style-type: none"> Operating room Recovery room Orthopedic floor at hospital or specialty surgery center 	<ul style="list-style-type: none"> Nursing facility Rehab facility Physical therapy clinic Home 	<ul style="list-style-type: none"> Specialty office Primary care office Health club
	ACCESSING					
	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABBING	MONITORING/ MANAGING
CARE DELIVERY	MONITOR <ul style="list-style-type: none"> Conduct PCP exam Refer to specialists, if necessary 	IMAGING <ul style="list-style-type: none"> Perform and evaluate MRI and x-ray -Assess cartilage loss -Assess bone alterations 	OVERALL PREP <ul style="list-style-type: none"> Conduct home assessment Monitor weight loss 	ANESTHESIA <ul style="list-style-type: none"> Administer anesthesia (general, epidural, or regional) 	SURGICAL <ul style="list-style-type: none"> Immediate return to OR for manipulation, if necessary 	MONITOR <ul style="list-style-type: none"> Consult regularly with patient
	PREVENT <ul style="list-style-type: none"> Prescribe anti-inflammatory medicines Recommend exercise regimen Set weight loss targets 	CLINICAL EVALUATION <ul style="list-style-type: none"> Review history and imaging Perform physical exam Recommend treatment plan (surgery or other options) 	SURGICAL PREP <ul style="list-style-type: none"> Perform cardiology, pulmonary evaluations Run blood labs Conduct pre-op physical exam 	SURGICAL PROCEDURE <ul style="list-style-type: none"> Determine approach (e.g., minimally invasive) Insert device Cement joint 	MEDICAL <ul style="list-style-type: none"> Monitor coagulation 	MANAGE <ul style="list-style-type: none"> Prescribe prophylactic antibiotics when needed Set long-term exercise plan
				PAIN MANAGEMENT <ul style="list-style-type: none"> Prescribe preemptive multimodal pain meds 	LIVING <ul style="list-style-type: none"> Provide daily living support (showering, dressing) Track risk indicators (fever, swelling, other) 	<ul style="list-style-type: none"> Revise joint, if necessary
				PHYSICAL THERAPY <ul style="list-style-type: none"> Daily or twice daily PT sessions 		

Orthopedic Specialist
 Other Provider Entities

Integrated Care Delivery Includes the Patient and Family

- Value in health care is **co-produced** by clinicians, patients, and their families
- Unless patients **comply** with care and take steps to improve their health, even the best delivery team will fail
- For chronic care, patients and their families **are often the best experts** on the patient's health and personal barriers to compliance
- Today's fragmented system creates **obstacles** to patient education, involvement, and adherence to care



- **IPIs** dramatically improve patient engagement
 - Focus, resources, sustained patient contact and accountability
 - Education and support services
 - Group education and therapy
- Simply forcing consumers to pay more is a **false solution**

Value-Based Primary Care

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

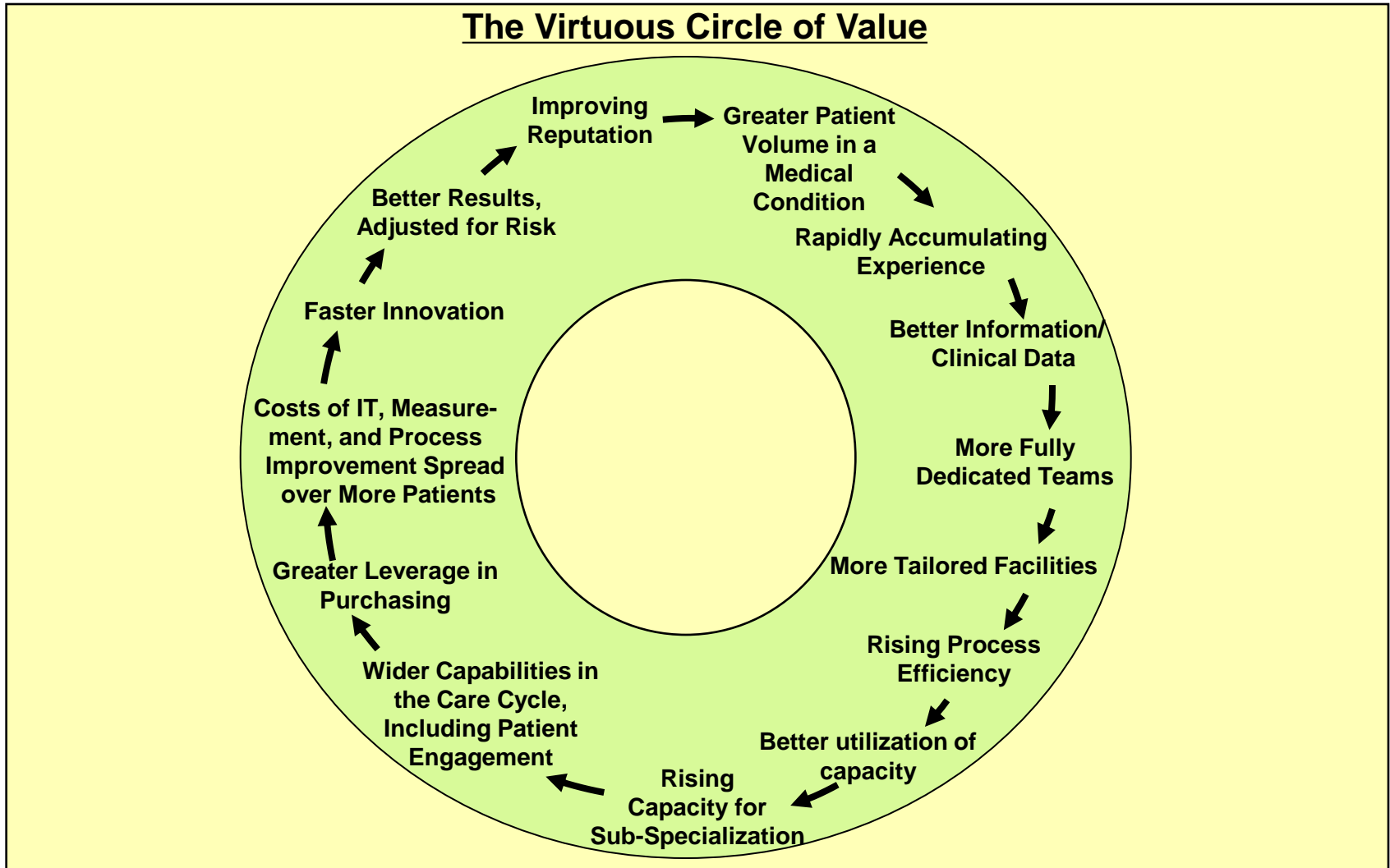
Tailor the Care Delivery Team and Facilities to Each Segment

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

Attributes of an Integrated Practice Unit (IPU)

1. Organized around the **patient medical condition** or set of closely related conditions (or patient segment in primary care)
2. Involves a **dedicated, multidisciplinary team** who devotes a significant portion of their time to the condition
3. Providers involved are members of or affiliated with a **common organizational unit**
4. Provides 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. Includes **patient education, engagement, and follow-up**
6. Utilizes a **single administrative and scheduling structure**
7. **Co-located** in **dedicated facilities**
8. Care is led by a **physician team captain** and a **care manager** who oversee each patient's care process
9. **Measures** outcomes, costs, and processes for each patient using a common **information platform**
10. **Meets formally and informally** on a regular basis to discuss patients, processes and results
11. Accepts **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

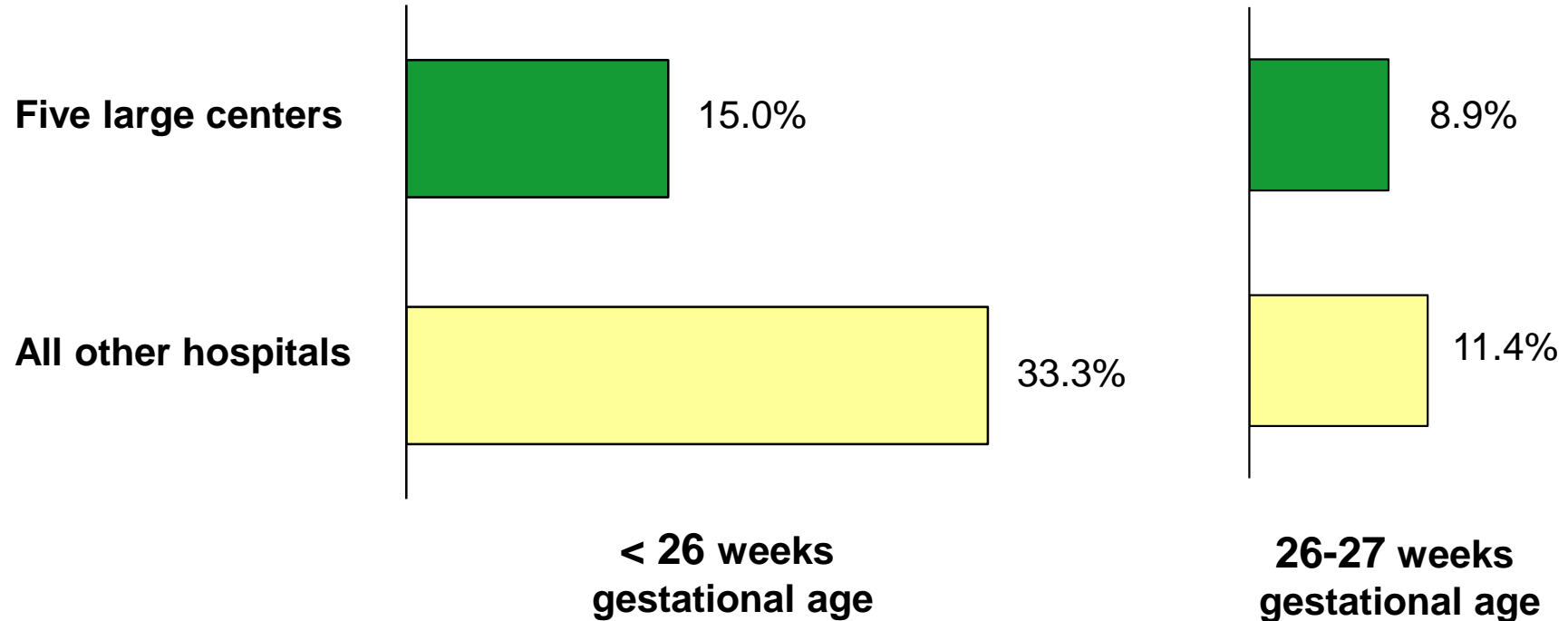
Fragmentation of Hospital Services in Sweden

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

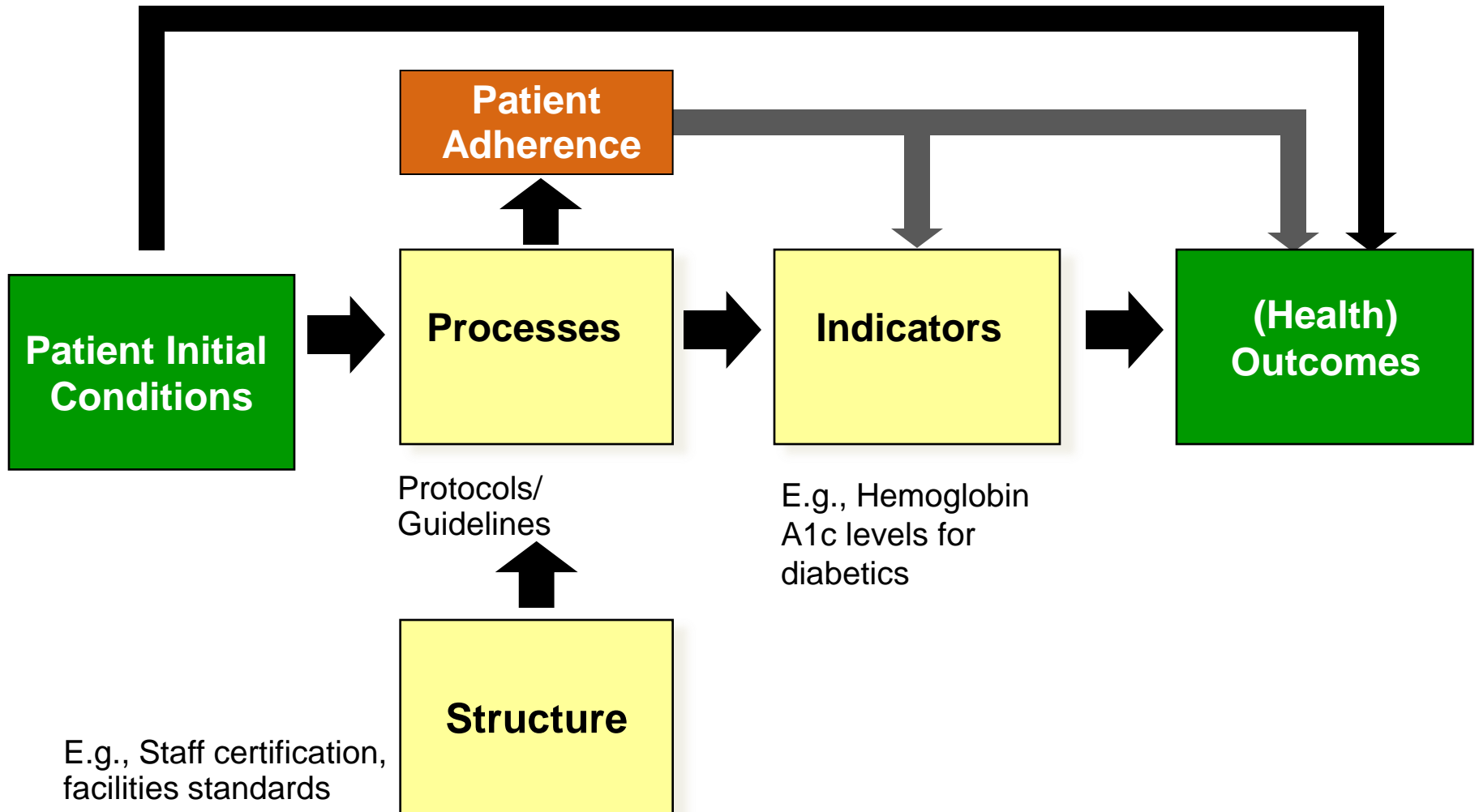
Mortality of Low-birth Weight Infants in Baden-Württemberg, Germany



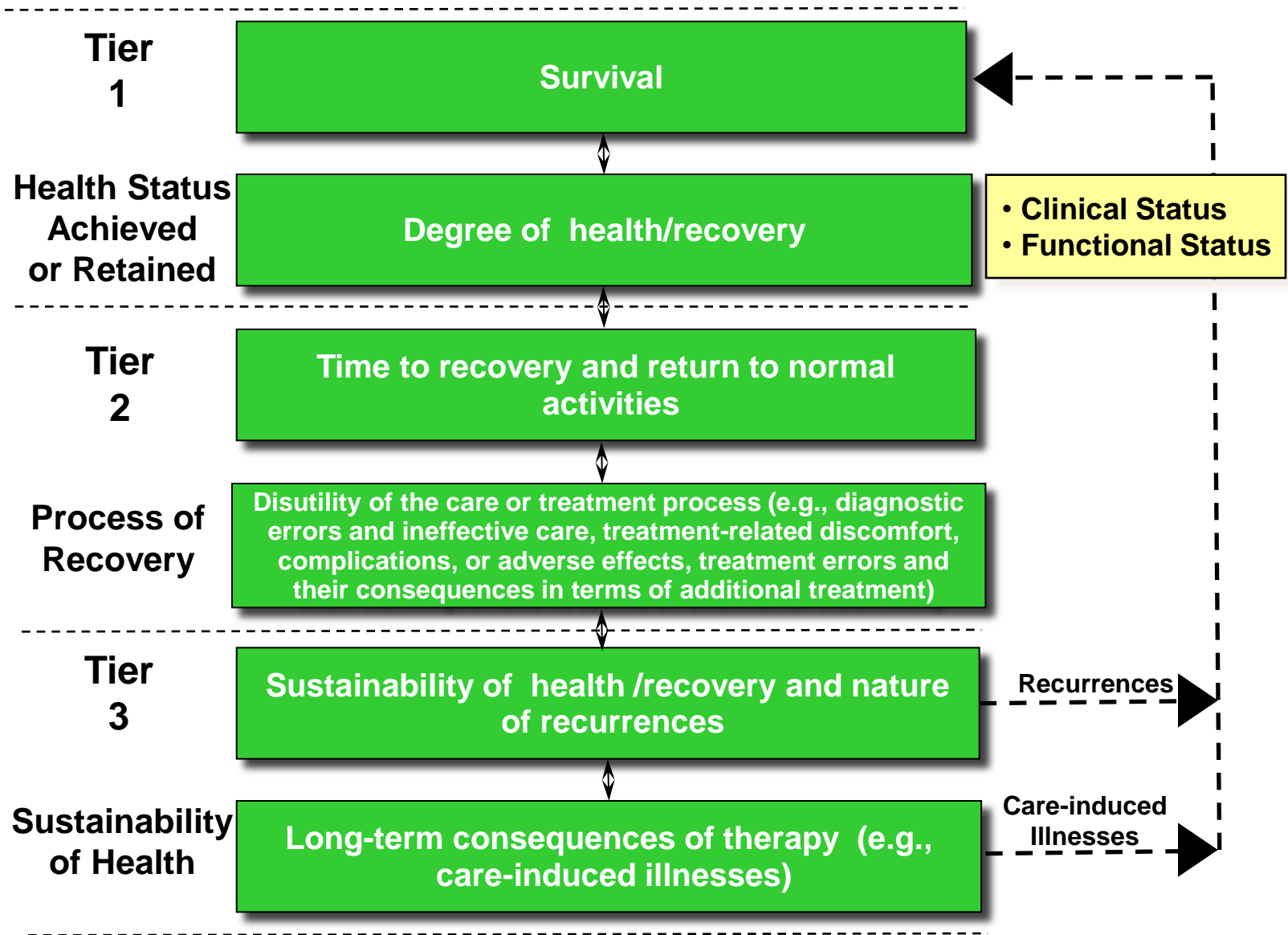
- **Minimum volume standards** are an interim step to drive value and service consolidation in the absence of rigorous outcome information

2. Measuring Outcomes and Cost for Every Patient

The Measurement Landscape



The Outcome Measures Hierarchy



The Outcome Measures Hierarchy

Breast Cancer

Survival

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

Degree of recovery / health

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

Time to recovery or return to normal activities

- Time to remission
- Time to functional status

Disutility of care or treatment process (e.g., treatment-related discomfort, complications, adverse effects, diagnostic errors, treatment errors)

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

Sustainability of recovery or health over time

- Cancer recurrence
- Sustainability of functional status

Long-term consequences of therapy (e.g., care-induced illnesses)

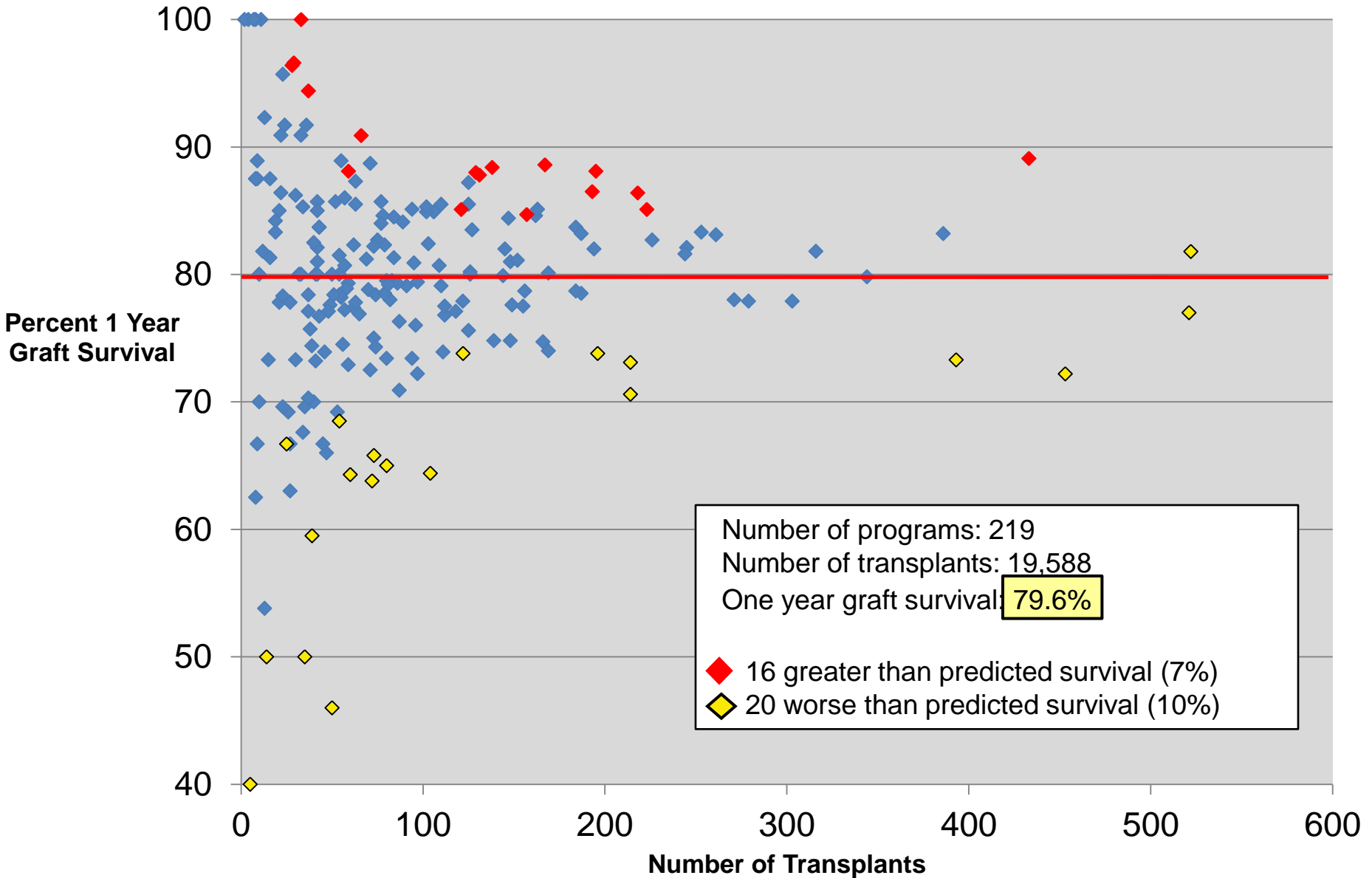
- Incidence of secondary cancers
- Brachial plexopathy
- Fertility/pregnancy complications
- Premature osteoporosis

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

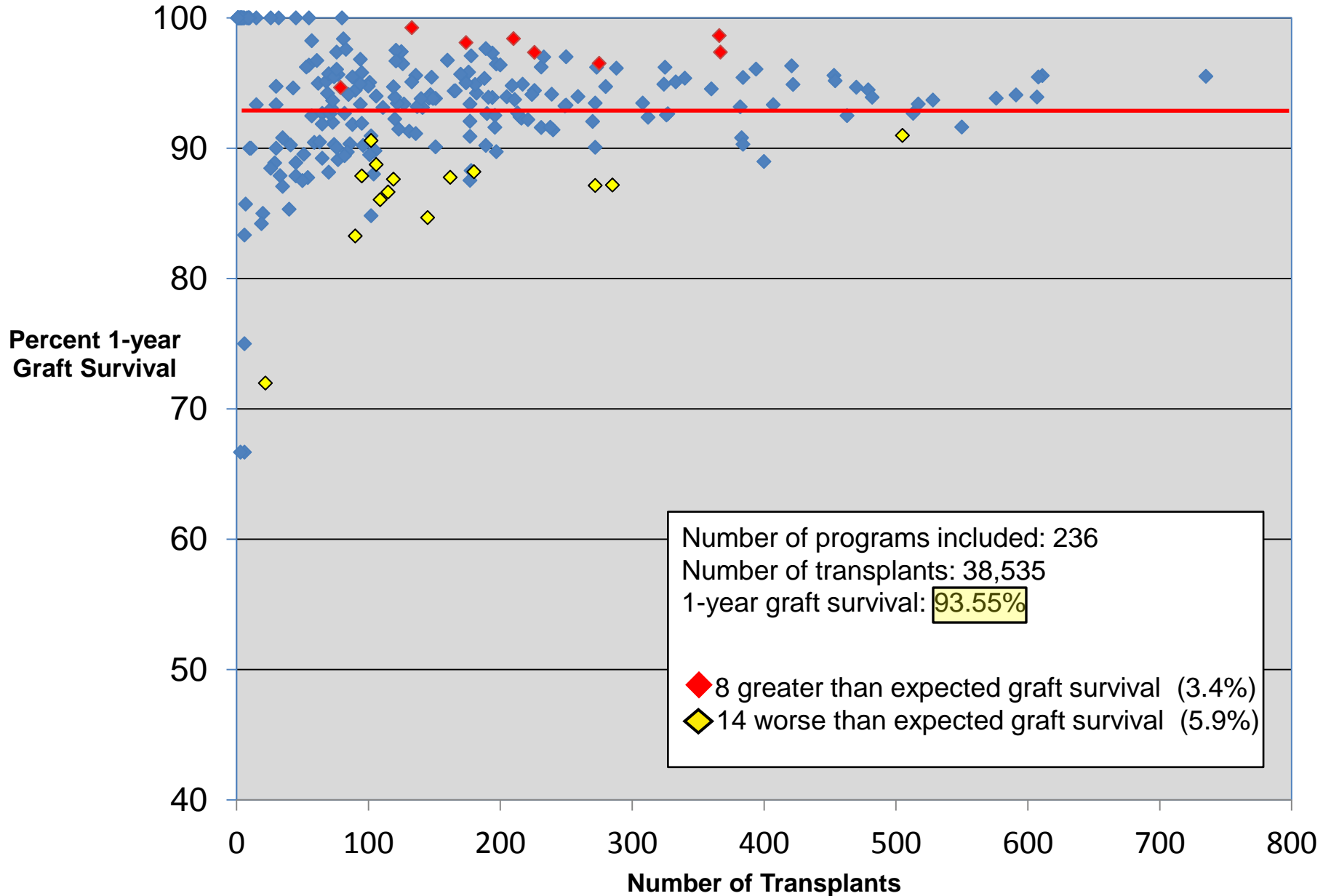
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

U.S. Center Results, 2008-2010

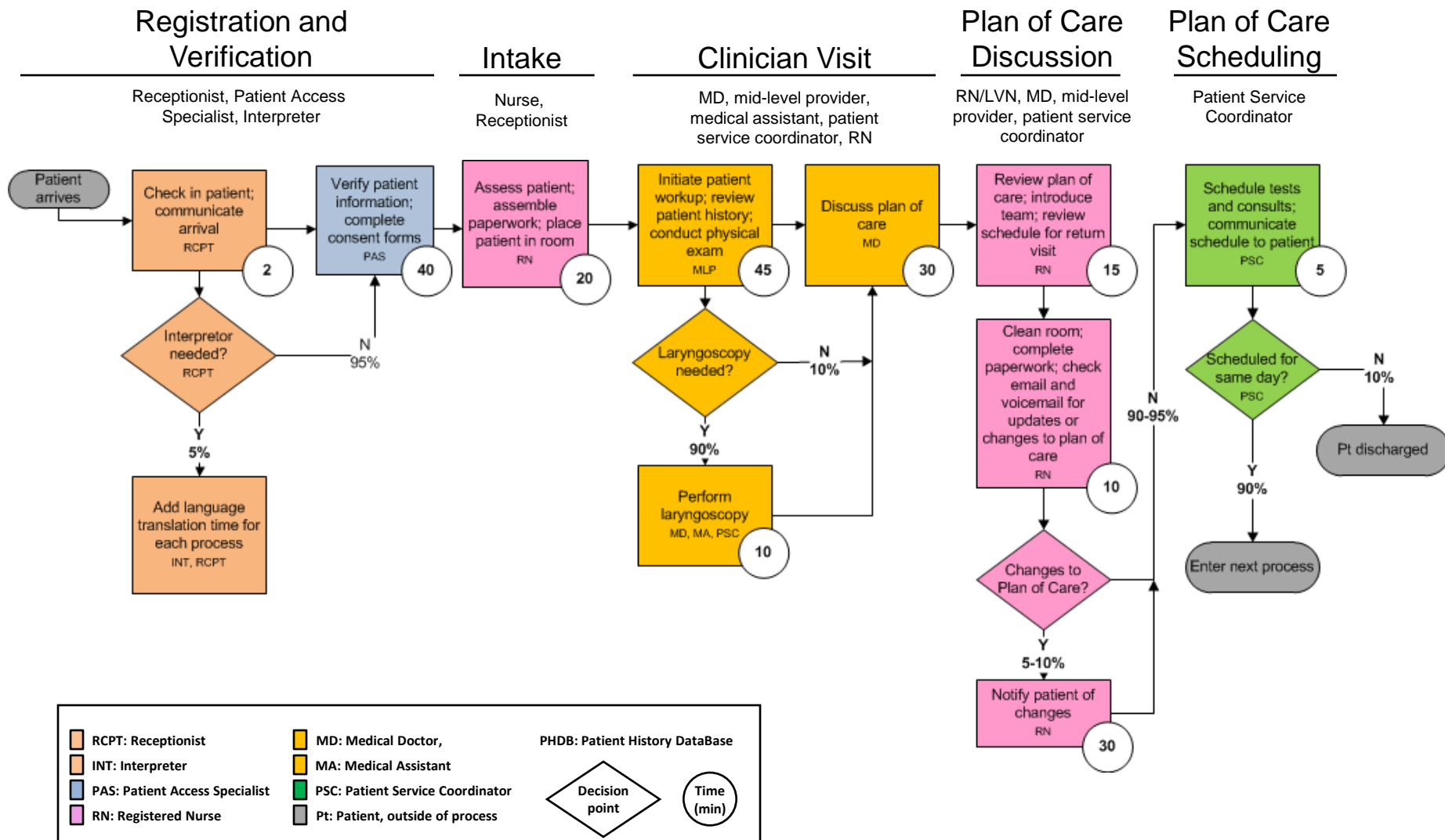


Measuring the Cost of Care Delivery: Principles


- 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

Mapping Resource Utilization

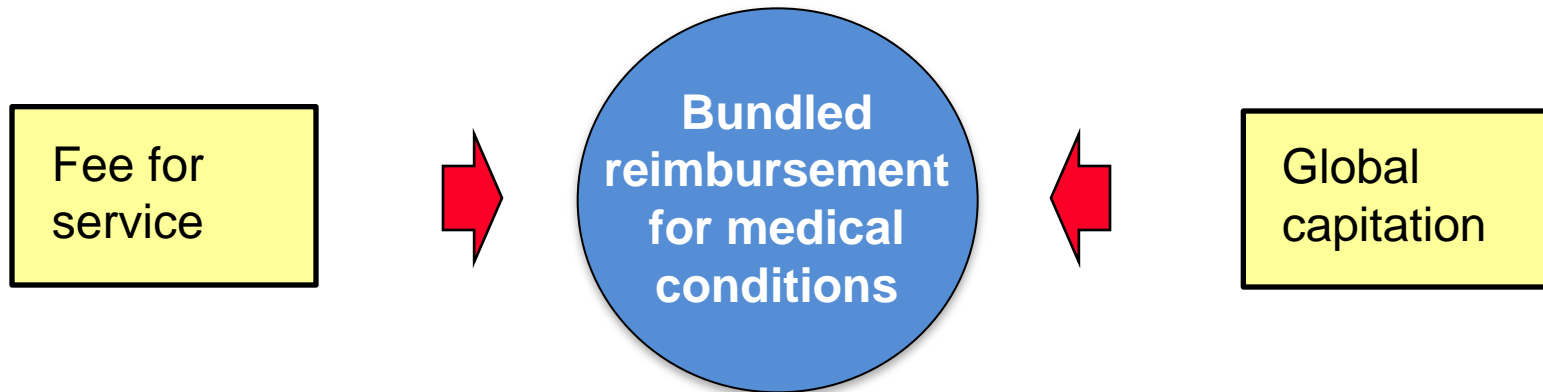
MD Anderson Cancer Center – New Patient Visit



Major Cost Reduction Opportunities in Health Care

- **Process variation** that reduces efficiency without improving outcomes
 - Over-provision of **low-** or **non-value adding** services or tests
 - Sometimes to follow rigid protocols or justify billing
 - Redundant **administrative** and **scheduling** units
 - **Low utilization** of expensive physicians, staff, clinical space and equipment, partly due to duplication and service fragmentation
 - Use of **physicians and skilled staff** for less skilled activities
 - Delivering care in **over-resourced** facilities
 - E.g. routine care delivered in expensive hospital settings
 - **Long cycle times** and unnecessary delays
 - Excess **inventory** and weak inventory management
 - Focus on minimizing the costs of discrete services rather than **optimizing the total cost** of the care cycle
 - Lack of **cost awareness** in clinical teams
- 
- There are numerous cost reduction opportunities that do not require outcome **tradeoffs**, but will actually **improve outcomes**

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 | |

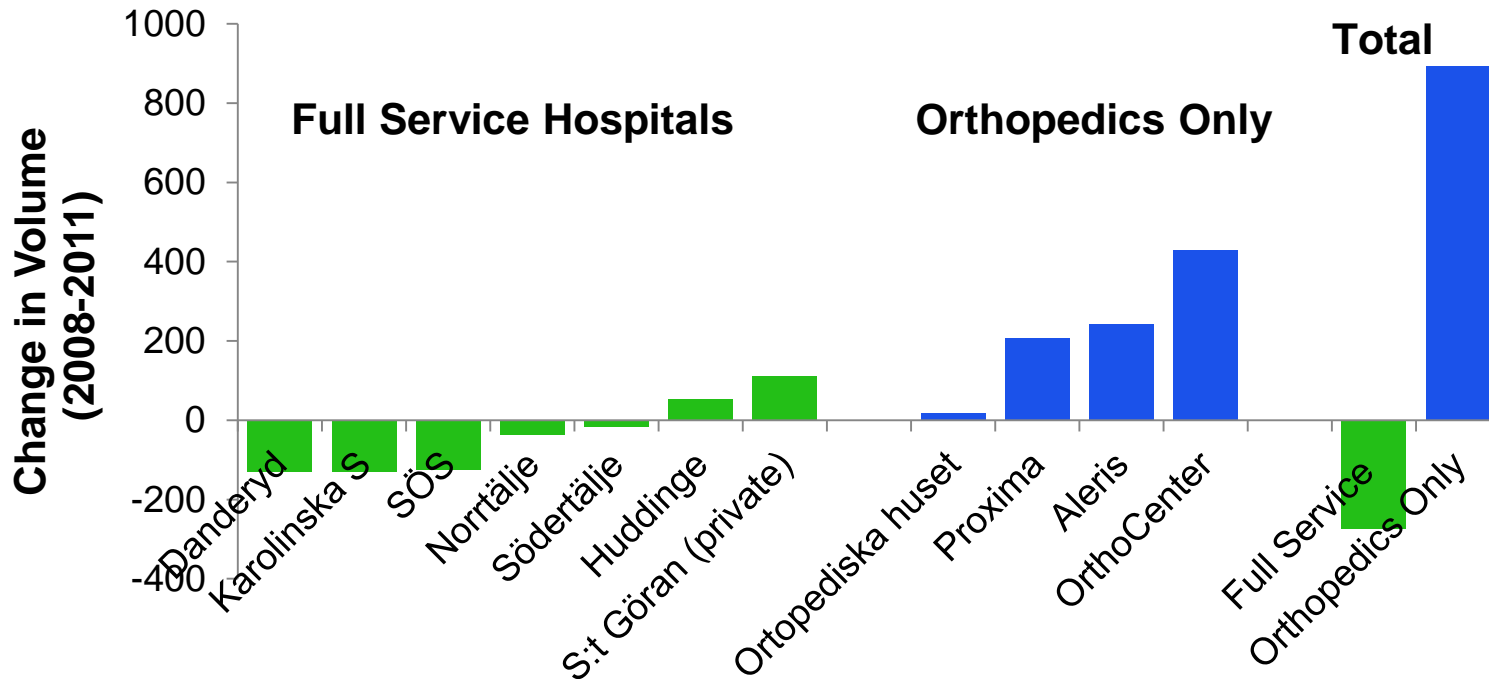
- Currently applies to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- The same **referral process** from PCPs is utilized as the traditional system
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- Applies to **all** qualifying patients. Provider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

Hip and Knee Replacement in Stockholm, Sweden

Provider Response

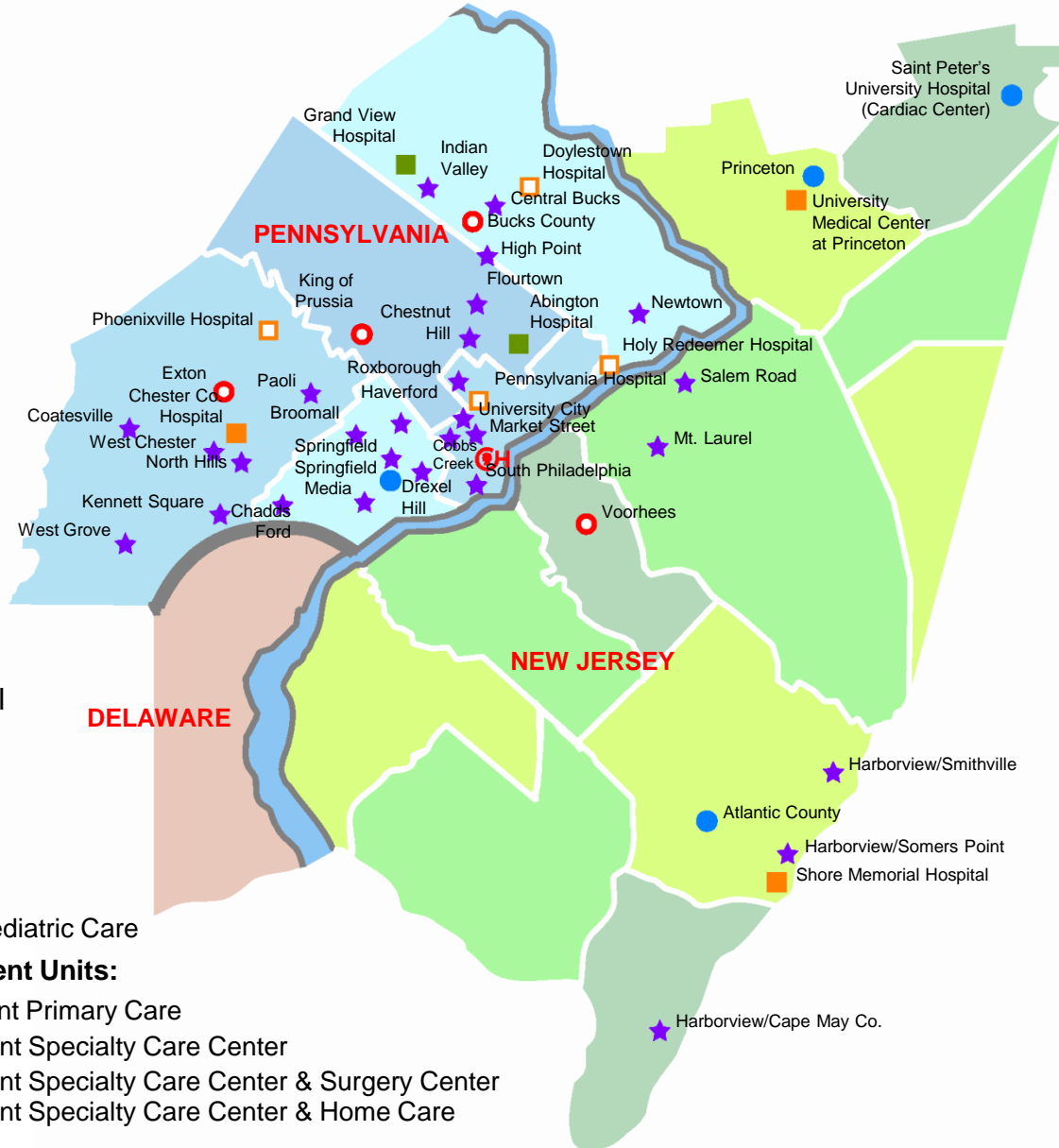


- Under bundled payment, volumes shifted from full-service hospitals to **specialized orthopedic hospitals**
- Interviews with specialized providers revealed the following **delivery innovations**:

– Care pathways	– More patient education
– Standardized treatment processes	– More training and specialization of staff
– Checklists	– Increased procedures per day
– New post-discharge visit to check wound healing	– Decreased length of stay

4. Integrating Care Delivery Across Separate Facilities

Children's Hospital of Philadelphia Care Network



Four Levels of Provider System Integration

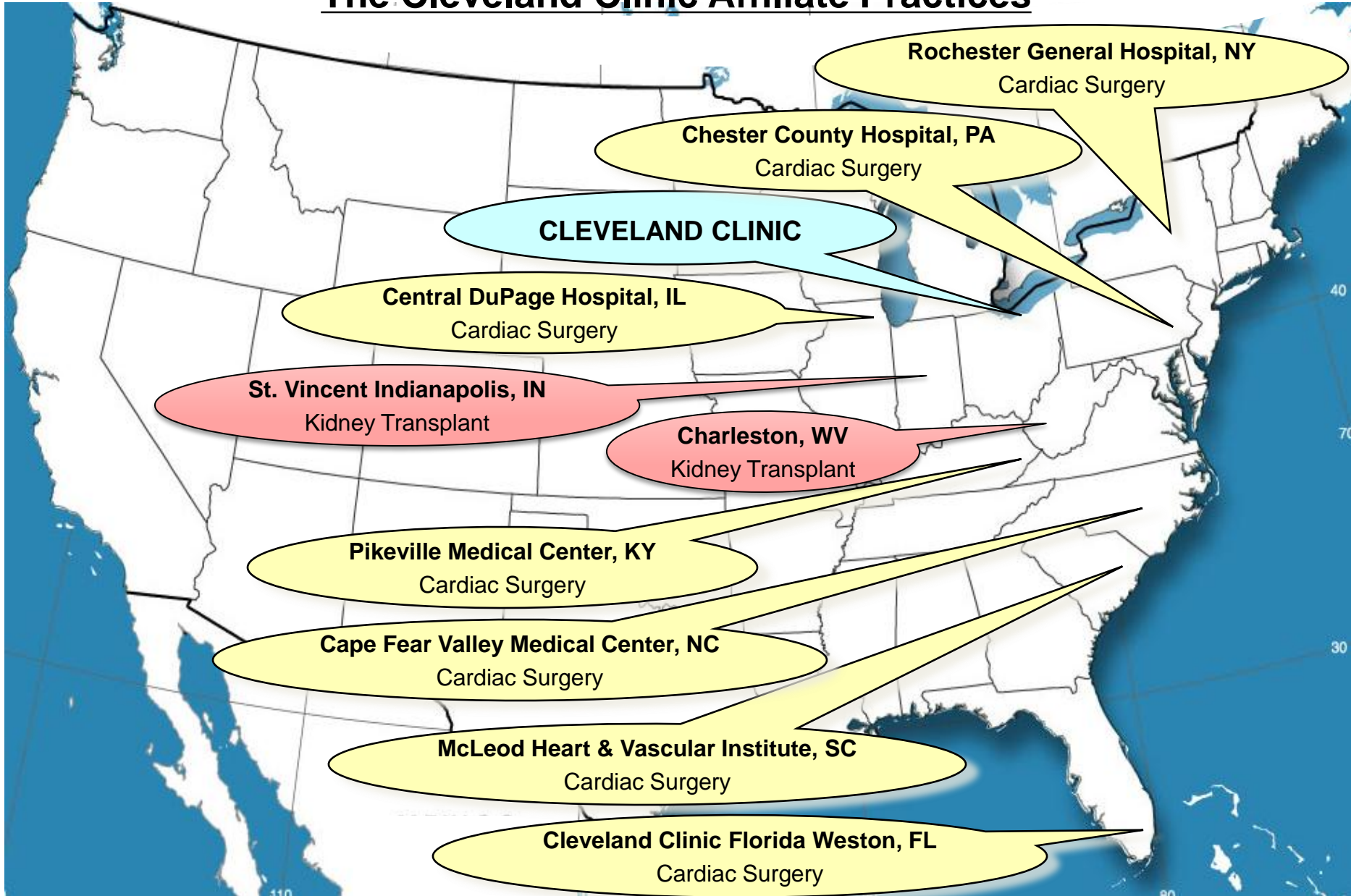
1. Choose an **overall scope of services** where the provider organization can achieve excellence in value
2. **Rationalize service lines / IPUs across facilities** to improve volume, better utilize resources, and deepen teams
3. Offer specific services at the **appropriate facility**
 - Based on acuity level, resource intensity, cost level, need for convenience
 - E.g., shifting routine surgeries to smaller, more specialized facilities
4. Clinically integrate 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** hospital, tertiary and quaternary facilities

5. Expanding Geographic Coverage by Excellent Providers

The Cleveland Clinic Affiliate Practices

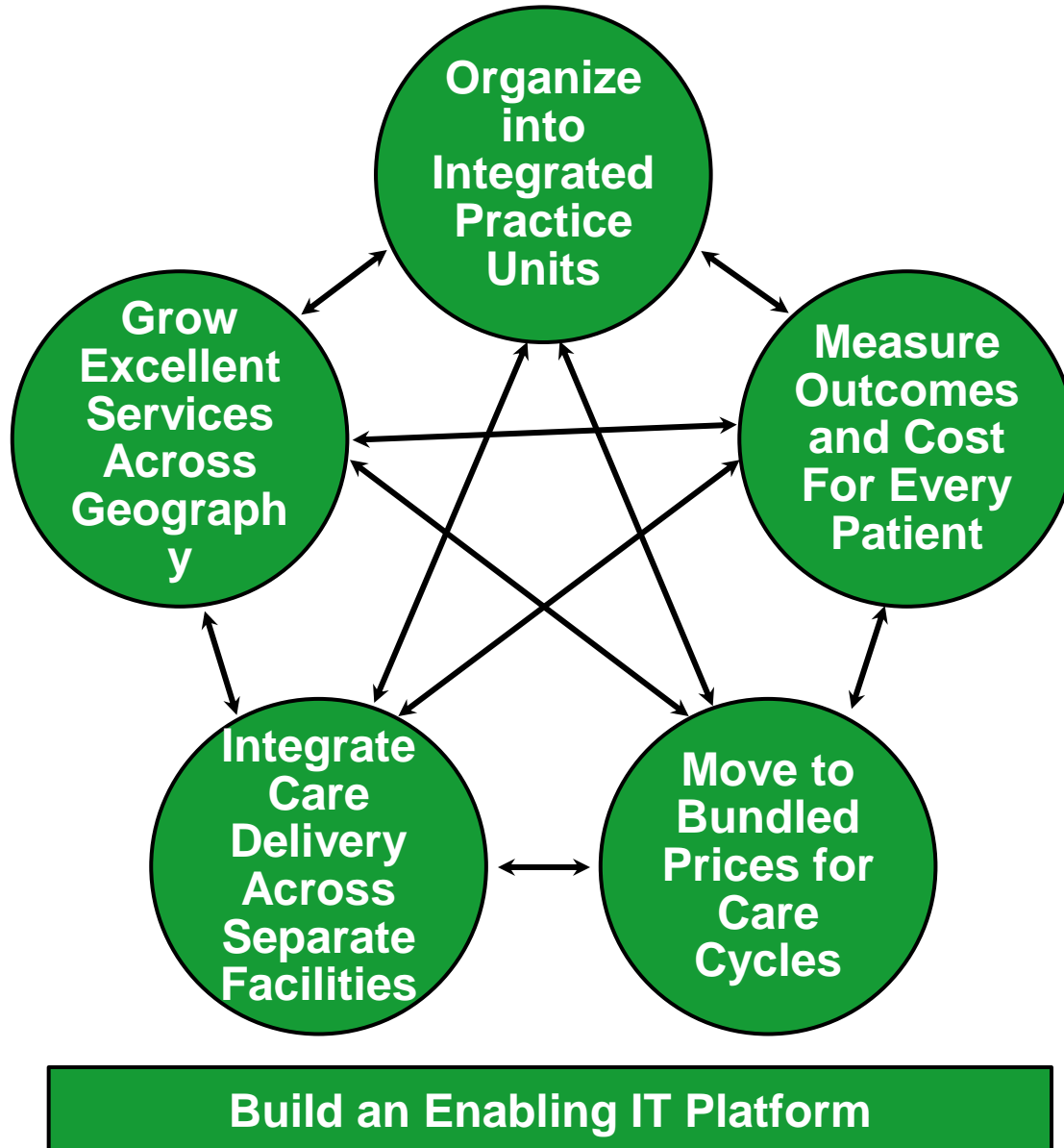


6. Building an Enabling Information Technology Platform

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



Moving to a High-Value Health Care System

1. Make **patient value** the central goal of all reforms
2. Move towards reorganizing care into **Integrated Practice Units** around patient medical conditions
 - Certification standards should require **multidisciplinary teams**, integrated scheduling, and coordinated case management
 - Primary and preventive care should be tailored to serving **distinct patient segments**
3. Eliminate the **separation** between inpatient, outpatient, and rehabilitation care
 - Integrate care across the care cycle, with more care shifting to the **outpatient setting**
 - Reduce **cost-shifting** between care settings by eliminating the different models of reimbursement for inpatient and outpatient care
 - Harness the **power of IT** to enable integrated care delivery

Moving to a High-Value Health Care System

4. Mandate a path to measurement and reporting of **outcomes** for every patient condition
 - Create a **national body** to oversee the development of outcome measures
 - Mandate **publication** of risk-adjusted outcomes
 - Until outcome data is widely available, expand **minimum volume standards**
5. Introduce new cost-accounting standards to measure **costs** at the level of patients and their medical conditions
 - Establish a **national body** to develop common costing standards that provide accurate cost data across providers and allows costs to be measured around the patient
 - Pilot patient-level costing **across care settings** to inform bundled payment design

Moving to a High-Value Health Care System

6. Shift reimbursement to **bundled payments** for the full care cycle
 - Introduce a universal **reimbursement catalog** based on accurate patient-level costing
7. Encourage consolidation of **providers** and provider **service lines**
 - Expand **minimum volume standards** to support excellent outcomes and efficient capacity utilization
8. Develop a strategic plan **by medical condition** and **primary care segment** to foster care integration, introduce outcome measures, pilot patient-level costing, and shift to bundled payments
9. Engage **clinicians** in the value agenda and accept joint responsibility for its success

Creating a Value-Based Health Care Delivery Organization

Implications for Government

1. Integrated Practice Units (IPUs)

- Reduce **regulatory obstacles** to care integration

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**

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 **affiliations** between providers who fall below minimum volume standards and 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

Creating a Value-Based Health Care Delivery Organization

Implications for Suppliers

1. Integrated Practice Units (IPUs)

- Work to embed drugs/devices in the **right care delivery processes**

2. Measure Cost and Outcomes

- **Demonstrate value** based on careful study of long term outcomes and costs versus alternative approaches
- Ensure that the products are **used by the right patients**

3. Move to Bundled Prices

- Move to **value-based pricing** approaches (e.g. price for success, guarantees)

5. Expand Excellence Across Geography

- Support providers with **knowledge of best practices** and possible innovations in organization and delivery of care

6. Enabling IT Platform

- Develop informatics systems that **facilitate real-time outcome measurement** and **activity-based cost measures** for each patient and medical condition

Creating a Value-Based Health Care Delivery Organization

Implications for Payors

1. Integrated Practice Units (IPUs)

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

2. Measure Cost and Outcomes

- Monitor and compare **provider results** by medical condition

3. Move to Bundled Prices

- Design **new bundled reimbursement structures** for care cycles instead of fees for discrete services

4. Integrate Across Separate Facilities

- Assist in coordinating patient care **across the care cycle** and across medical conditions

5. Expand Excellence Across Geography

- Provide advice to patients (and referring physicians) in selecting **excellent providers**

6. Enabling IT Platform

- Assemble, analyze and manage the **total medical records** of members to their adoption and use

Creating a Value-Based Health Care Delivery Organization

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

- Lead the development of new **bundled reimbursement options** and **care guarantees**

4. Integrate Across Separate Facilities

- Champion **value enhancing rationalization, relocation and integration** with sister hospitals and outpatient units, instead of turf protection

5. Expand Excellence Across Geography

- Aspire to influence patient care **outside the local area**

6. Enabling IT Platform

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