

Value-Based Health Care Delivery

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Managing 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.

Redefining Health Care Delivery

- The core issue in health care is the **value of health care delivered**

Value: Patient health outcomes per dollar spent

- Value is the only goal that can **unite the interests** of all system participants



- How to design a health care delivery system that **dramatically improves patient value**
- How to construct a **dynamic system** that keeps rapidly improving

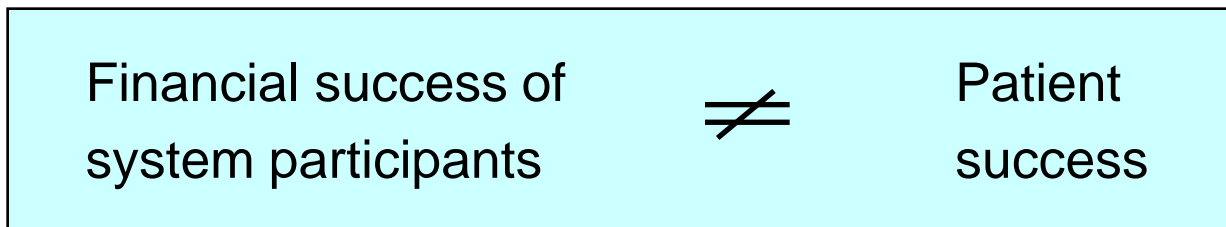
Creating a Value-Based Health Care System

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

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 **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

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

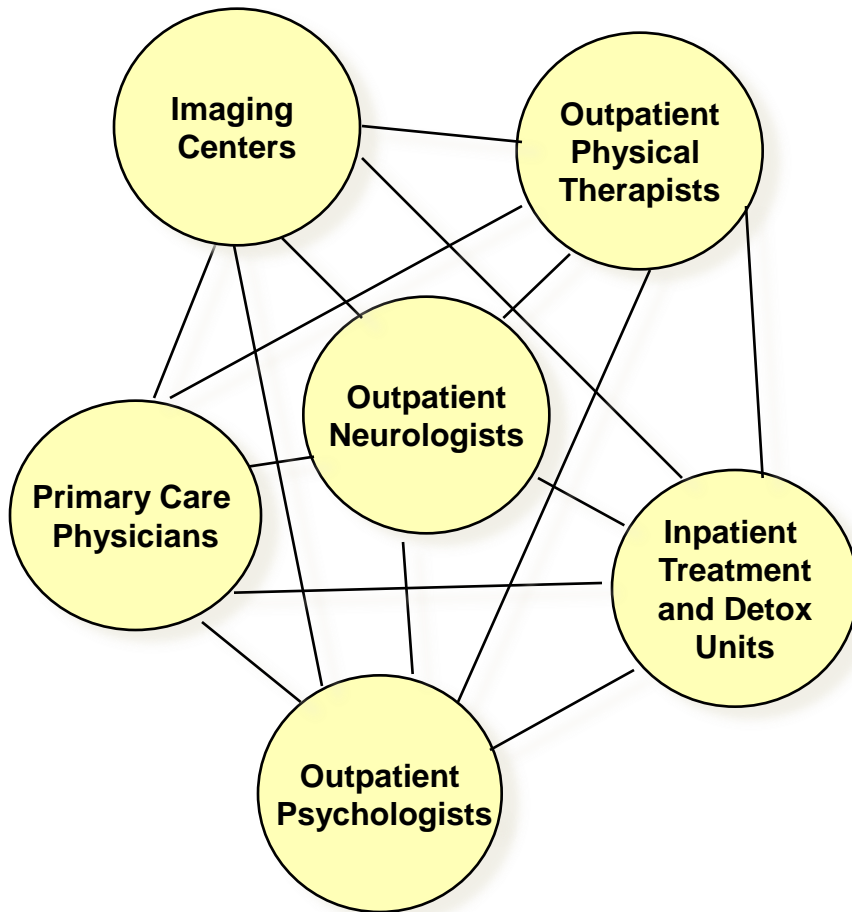
1. Organize Care into **Integrated Practice Units (IPUs)** around Patient Medical Conditions
 - Organize primary and preventive care to serve **distinct patient segments**
2. Measure **Outcomes** and **Cost** for Every Patient
3. Reimburse through **Bundled Prices** for Care Cycles
4. Integrate Care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

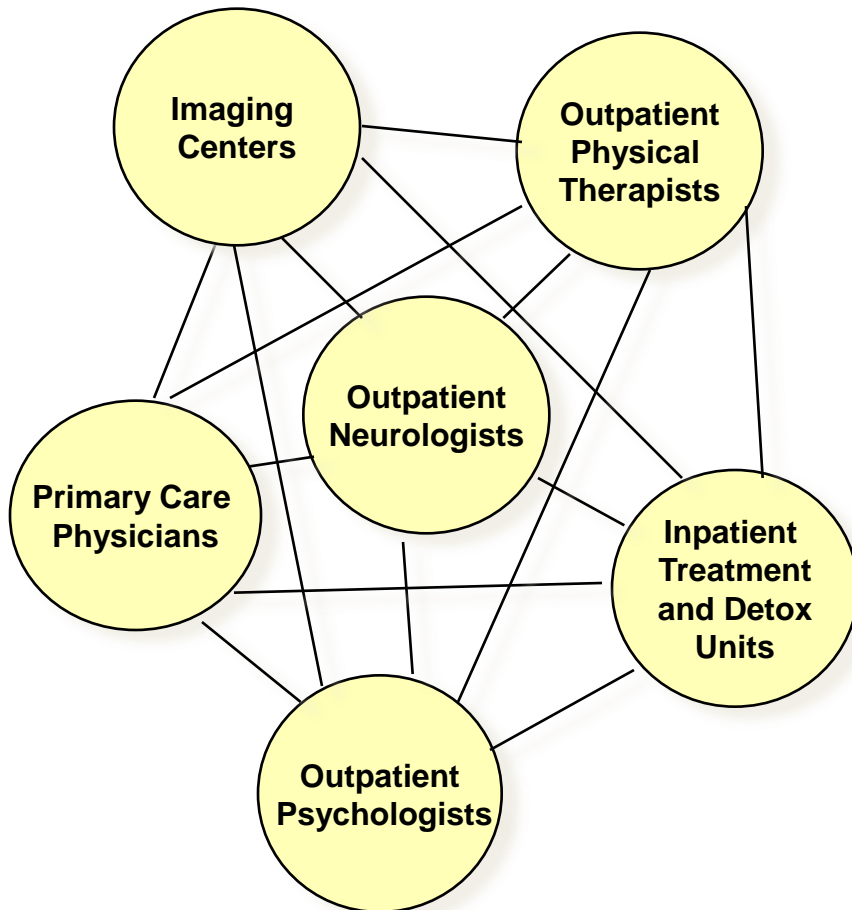


1. Organizing Care Around Patient Medical Conditions

Migraine Care in Germany

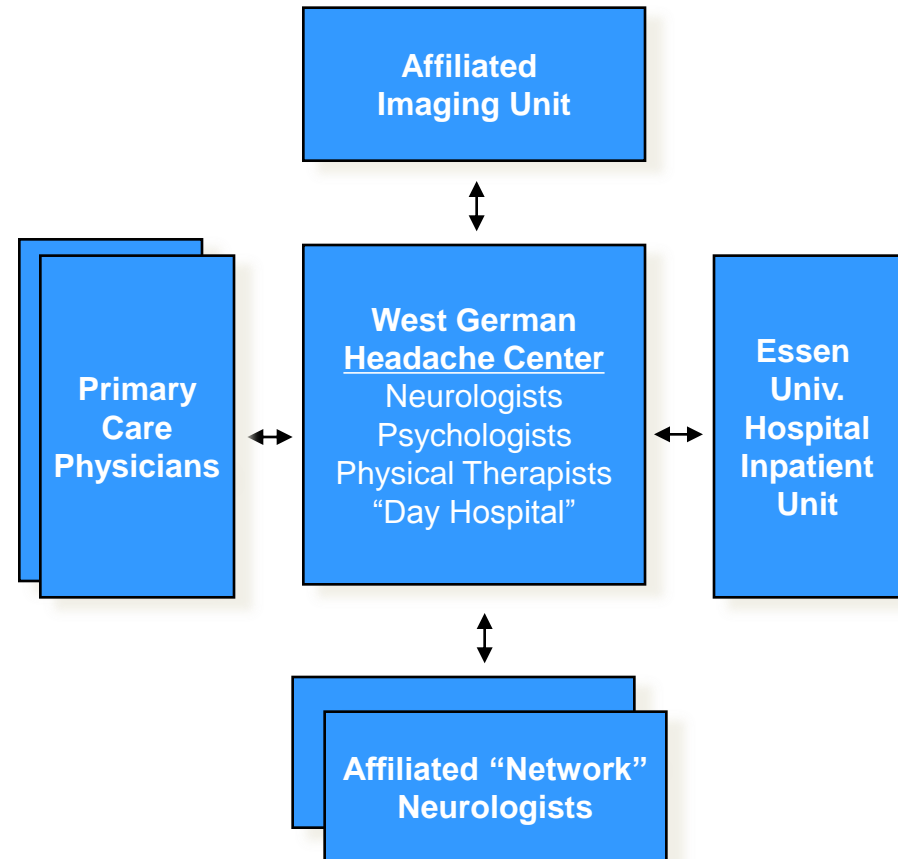
Existing Model:

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

Integrating Across the Cycle of Care

Breast Cancer

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

Value-Based Primary Care

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

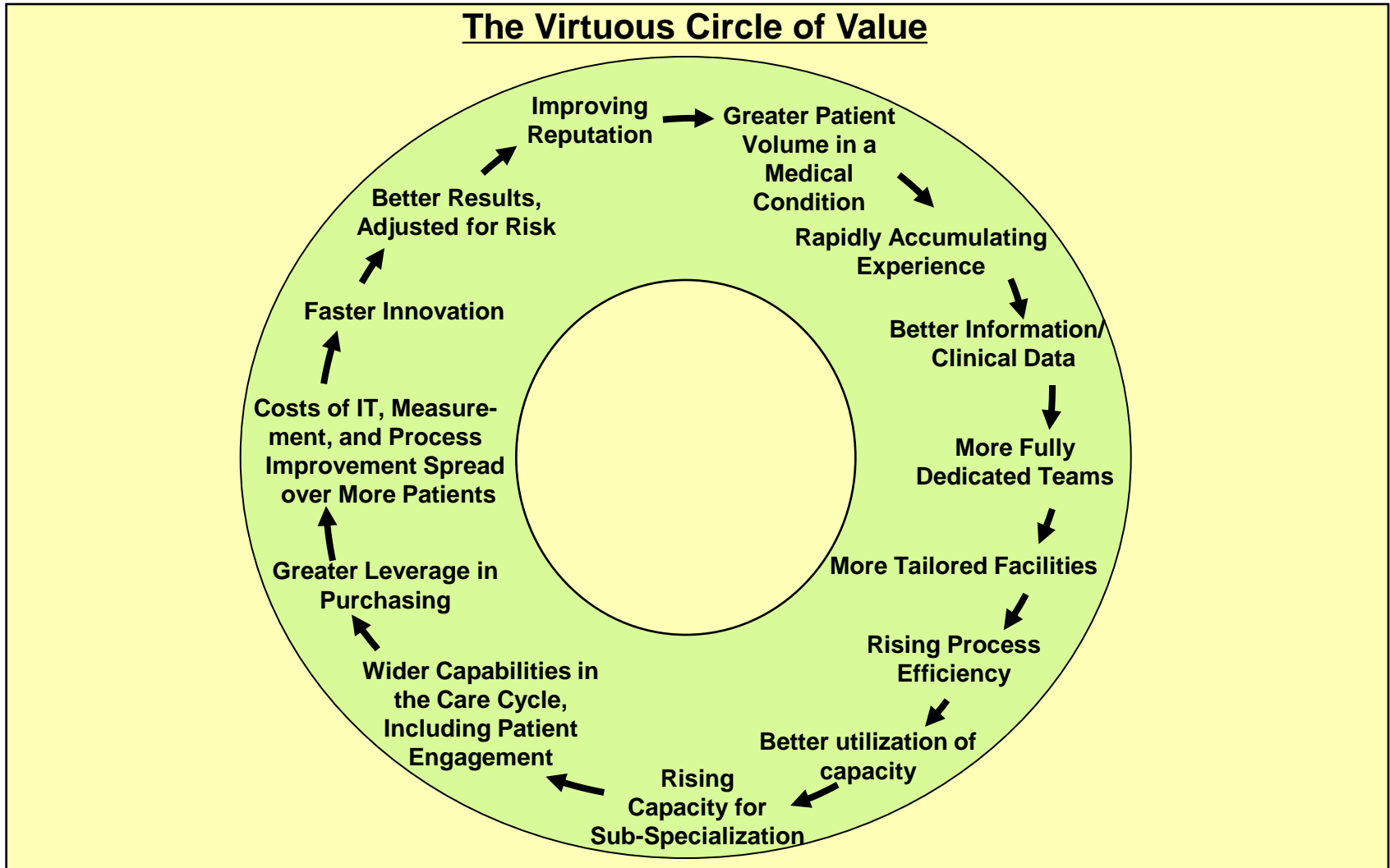
Illustrative Segments

- 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

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

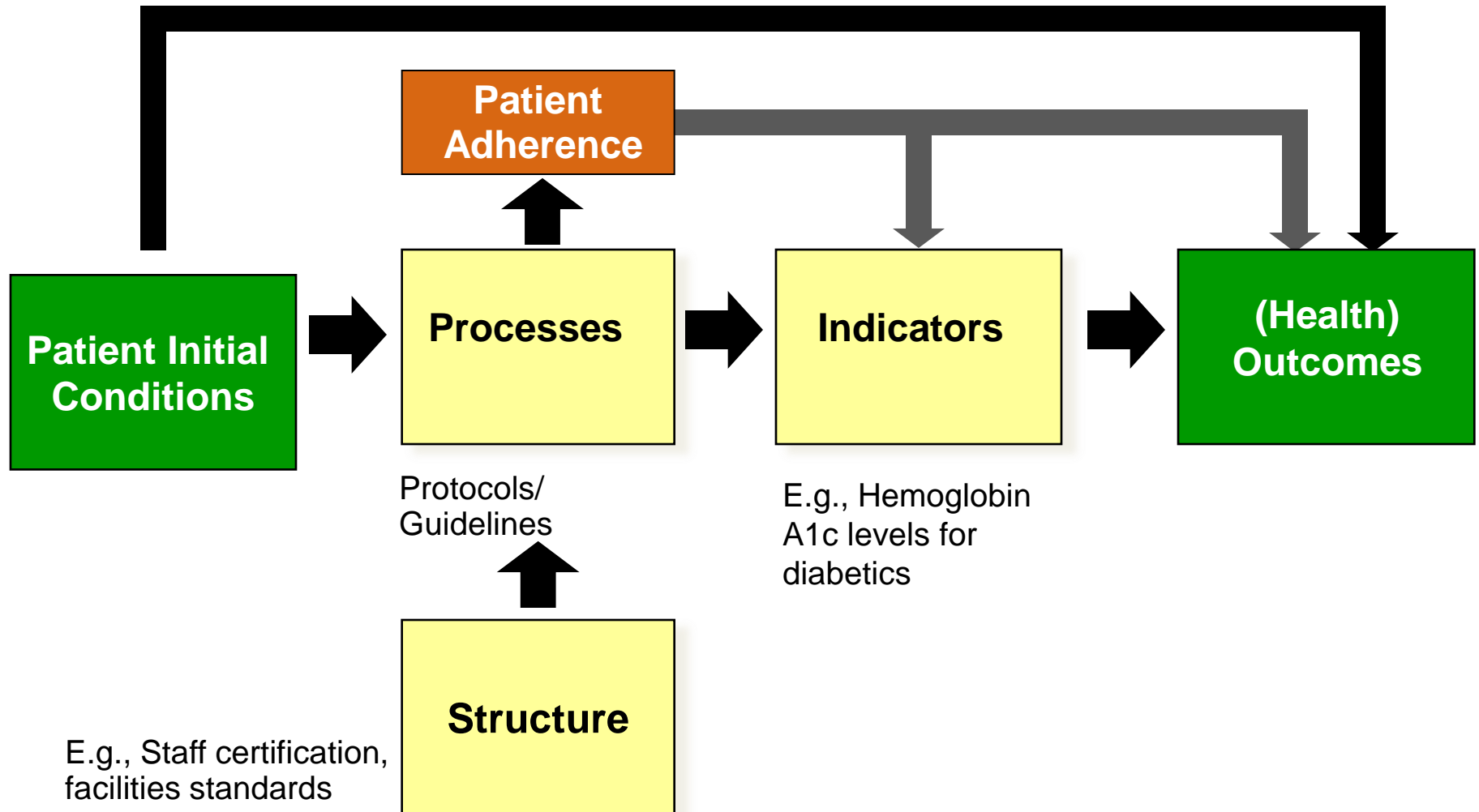
Fragmentation of Hospital Services in Sweden

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

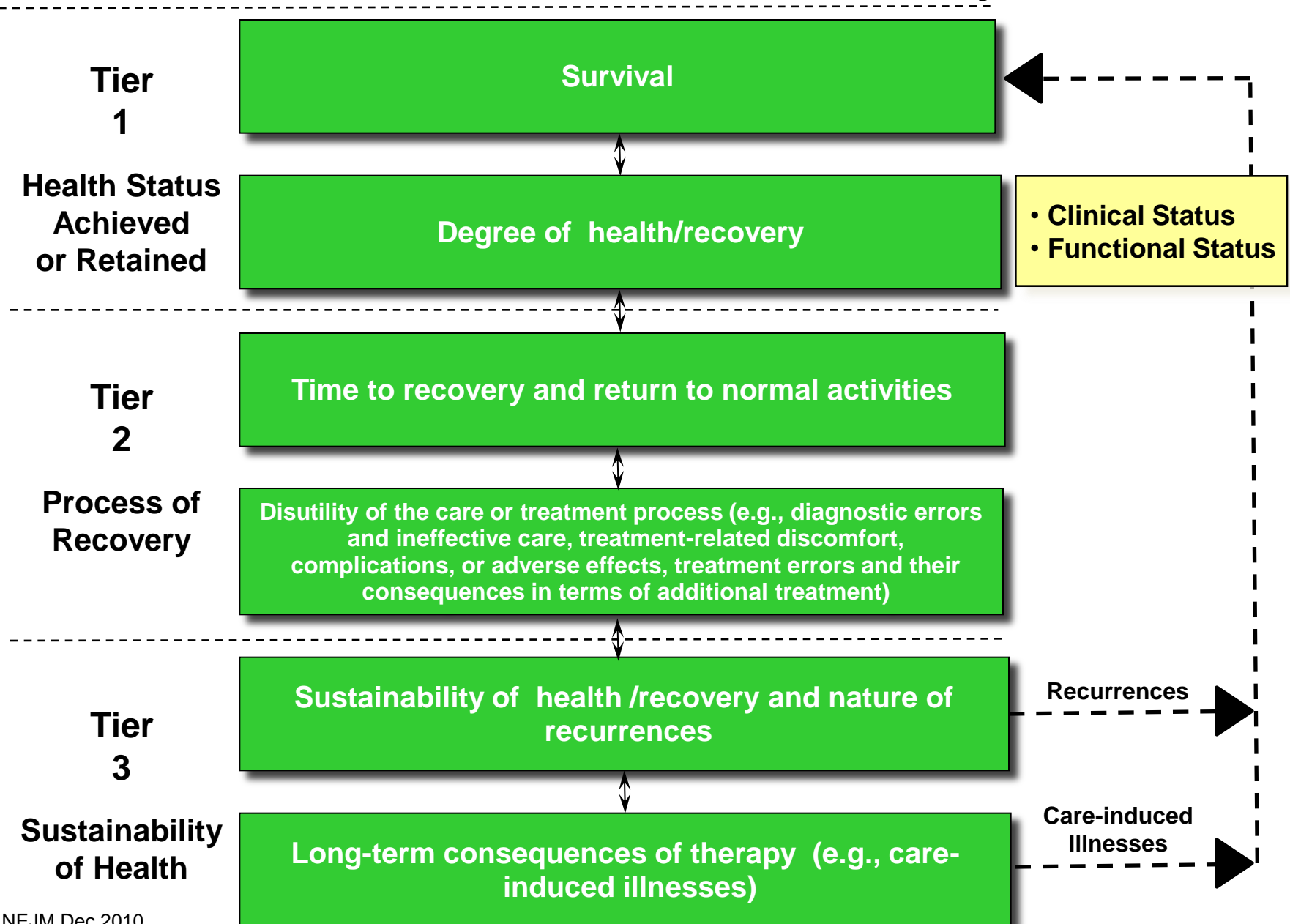
Source: Compiled from The National Board of Health and Welfare Statistical Databases – DRG Statistics, Accessed April 2, 2009.

2. Measuring Outcomes and Cost for Every Patient

The Measurement Landscape

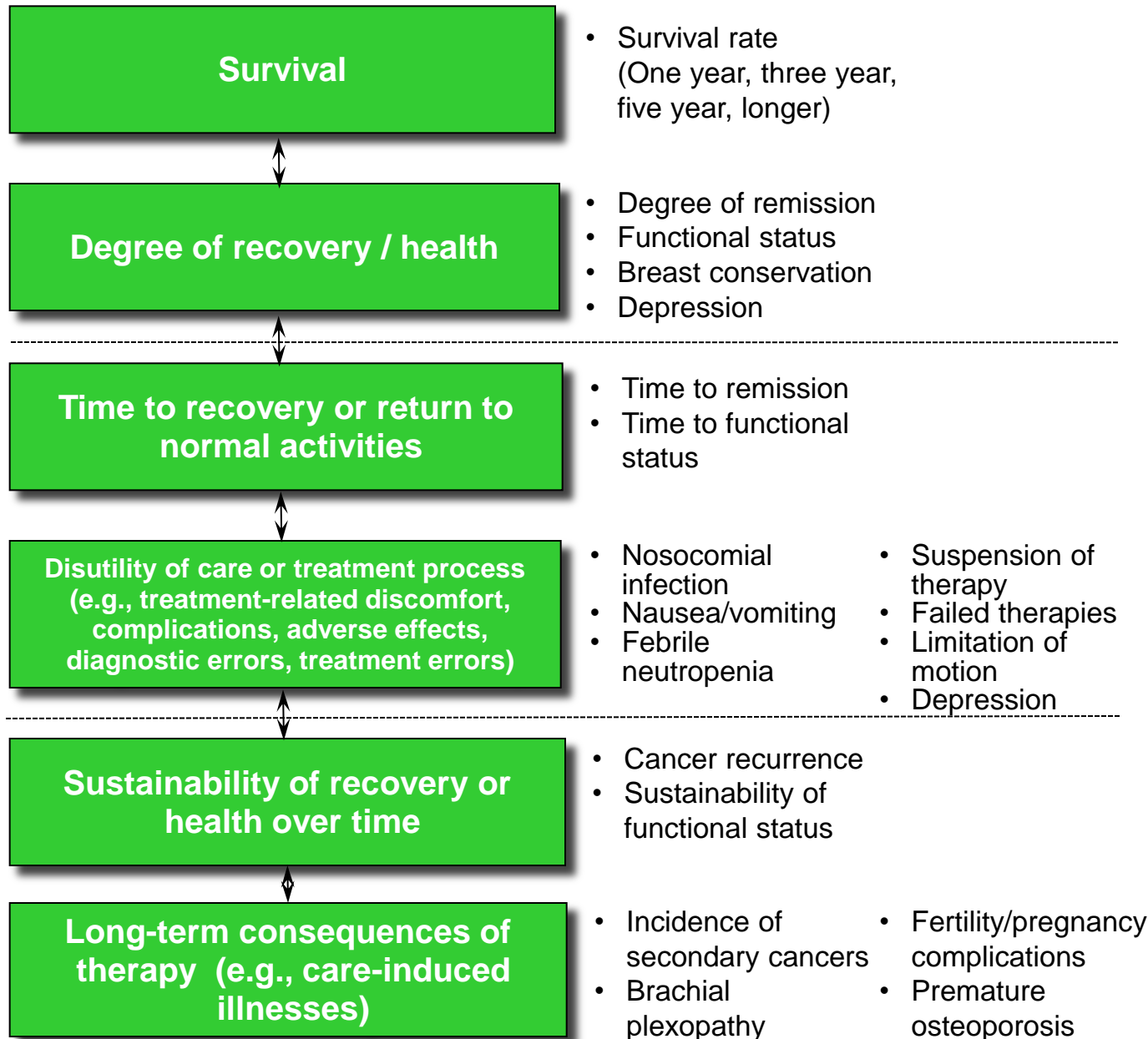


The Outcome Measures Hierarchy



The Outcome Measures Hierarchy

Breast Cancer

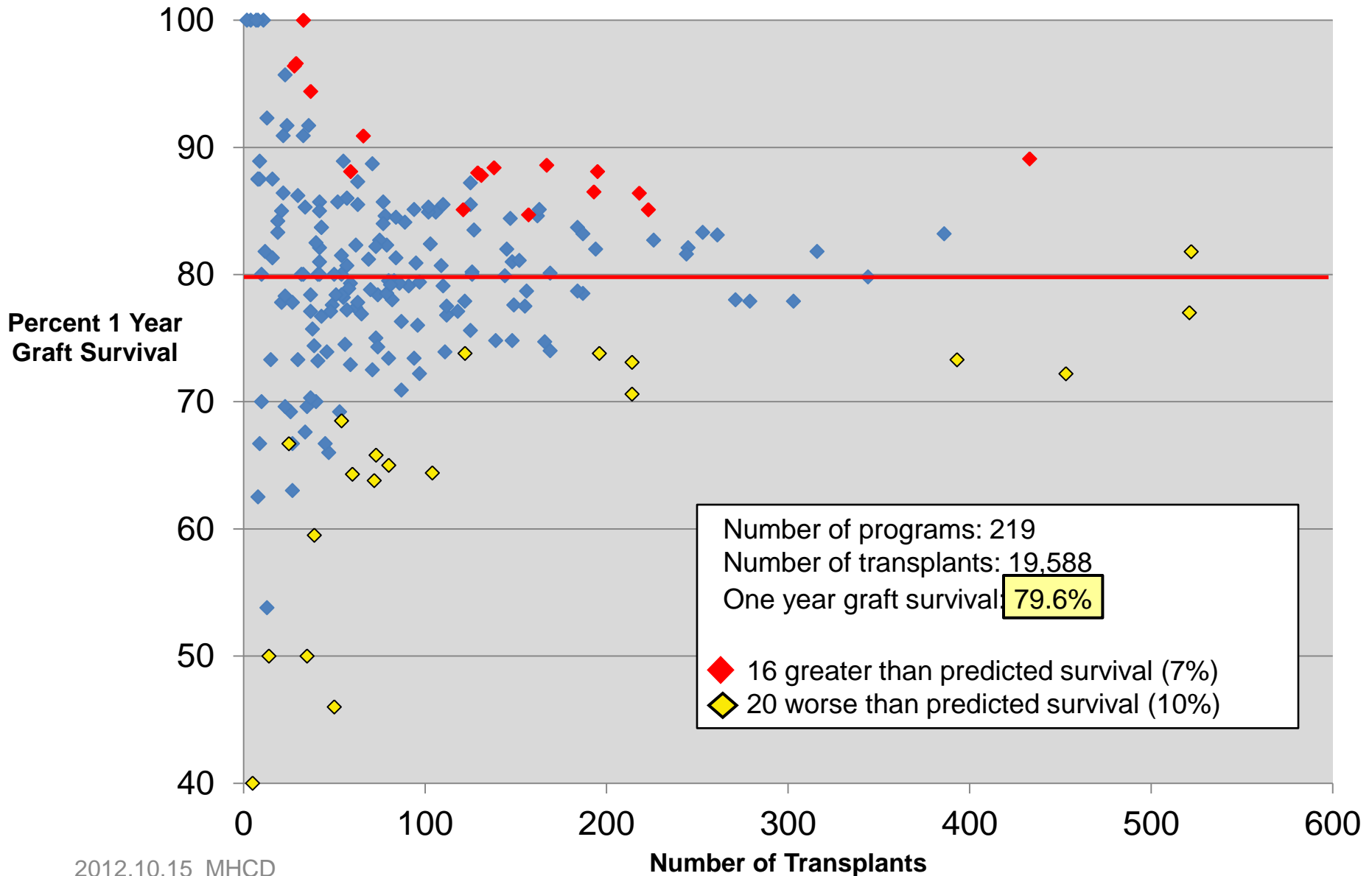


Initial Conditions/Risk Factors

- 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

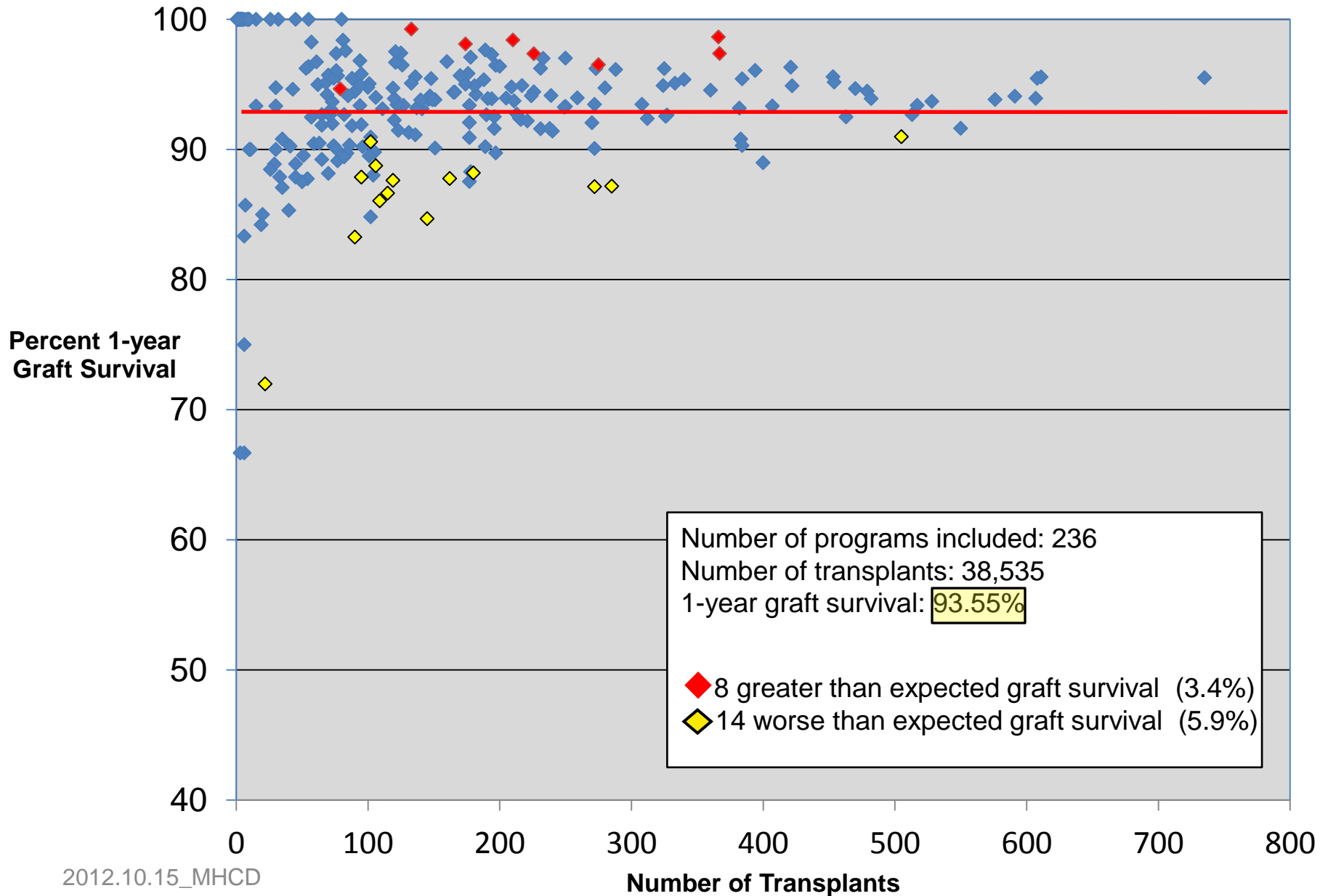
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

U.S. Center Results, 2008-2010



The International Consortium for Health Outcomes Measurement (ICHOM)

Strategic Vision

1. Become the **single global repository** of in-use outcome measures and risk-adjustment factors by medical condition
 - ICHOM Metrics Repository
2. Enable **international standardization** of outcome measures by medical condition
3. Identify and disseminate global **outcome measurement best practices**
 - Registry Development Compass
 - Provider case studies
4. Develop an **cross-stakeholder, cross-country network** dedicated to advancing outcomes measurement and Value-Based Health Care Delivery
 - Curriculum and conferences
 - Working groups

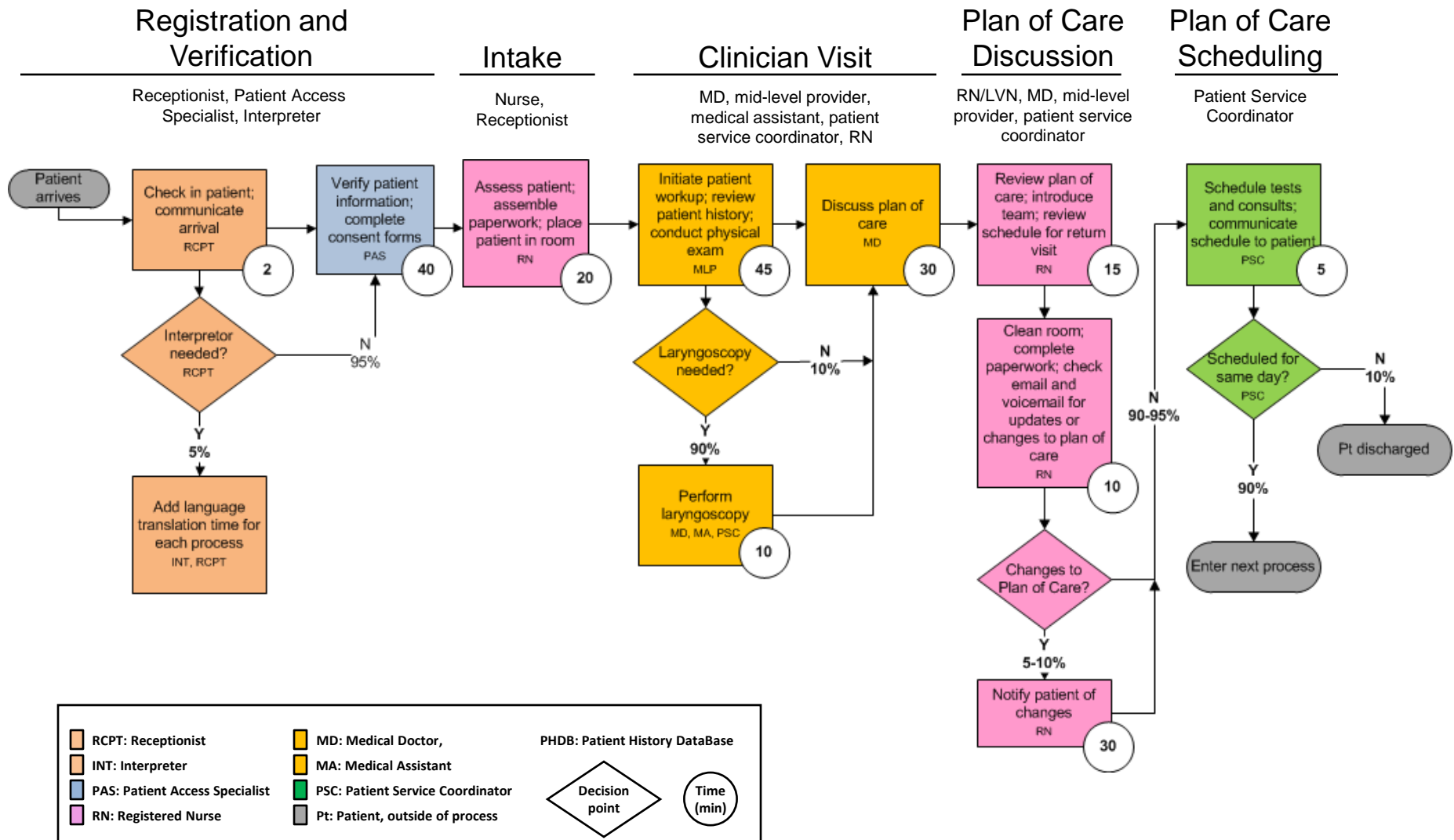
A non-profit organization founded by Professor Michael Porter, The Karolinska University and The Boston Consulting Group to advance outcomes measurement worldwide

Measuring the Cost of Care Delivery: Principles

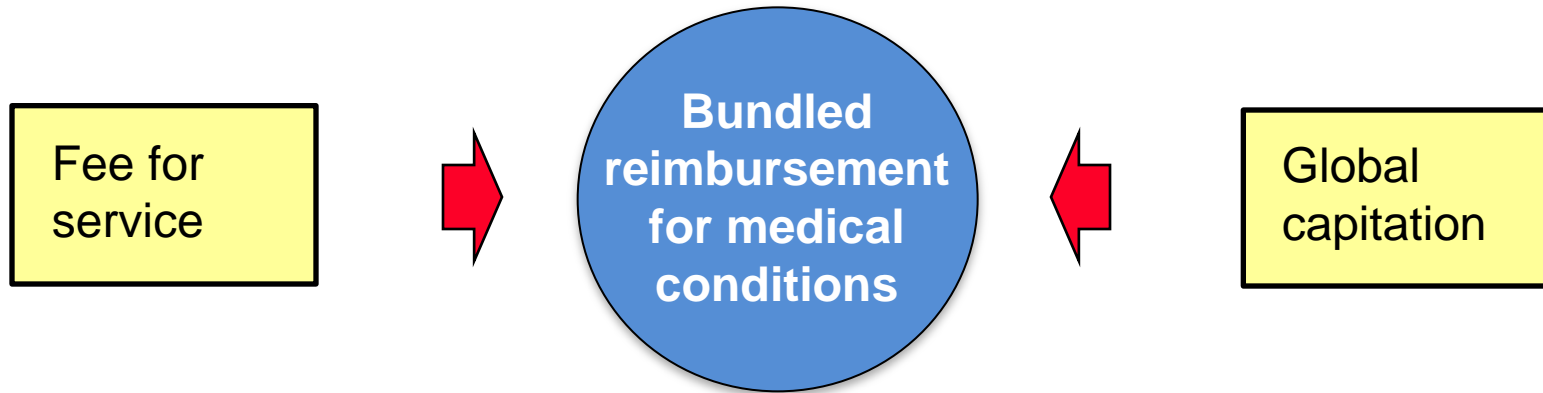
- Cost is the **actual expense** of patient care, not the **charges** billed or collected
- Cost should be measured around the **patient**
- Cost should be aggregated over the **full cycle of care for the patient's medical condition**, not for departments, services, or line items
- Cost depends on the **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



3. Move to 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



Four Levels of Provider System Integration

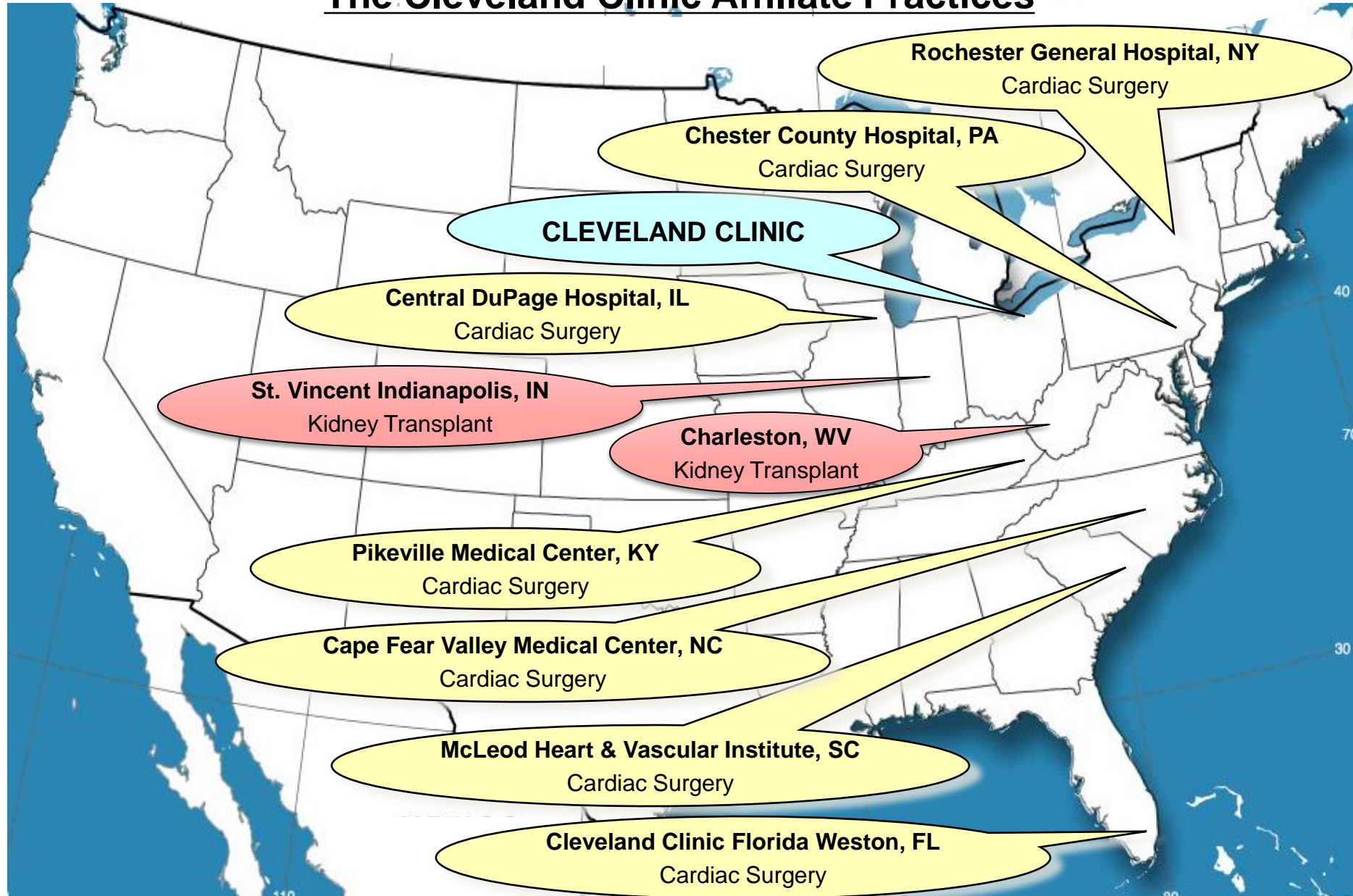
1. Choose an **overall scope of services** where the provider system can achieve excellence in value
2. **Rationalize service lines / IPU across facilities** to improve volume, better utilize resources, and deepen teams
3. Offer specific services at the **appropriate facility**
 - Based on acuity level, 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

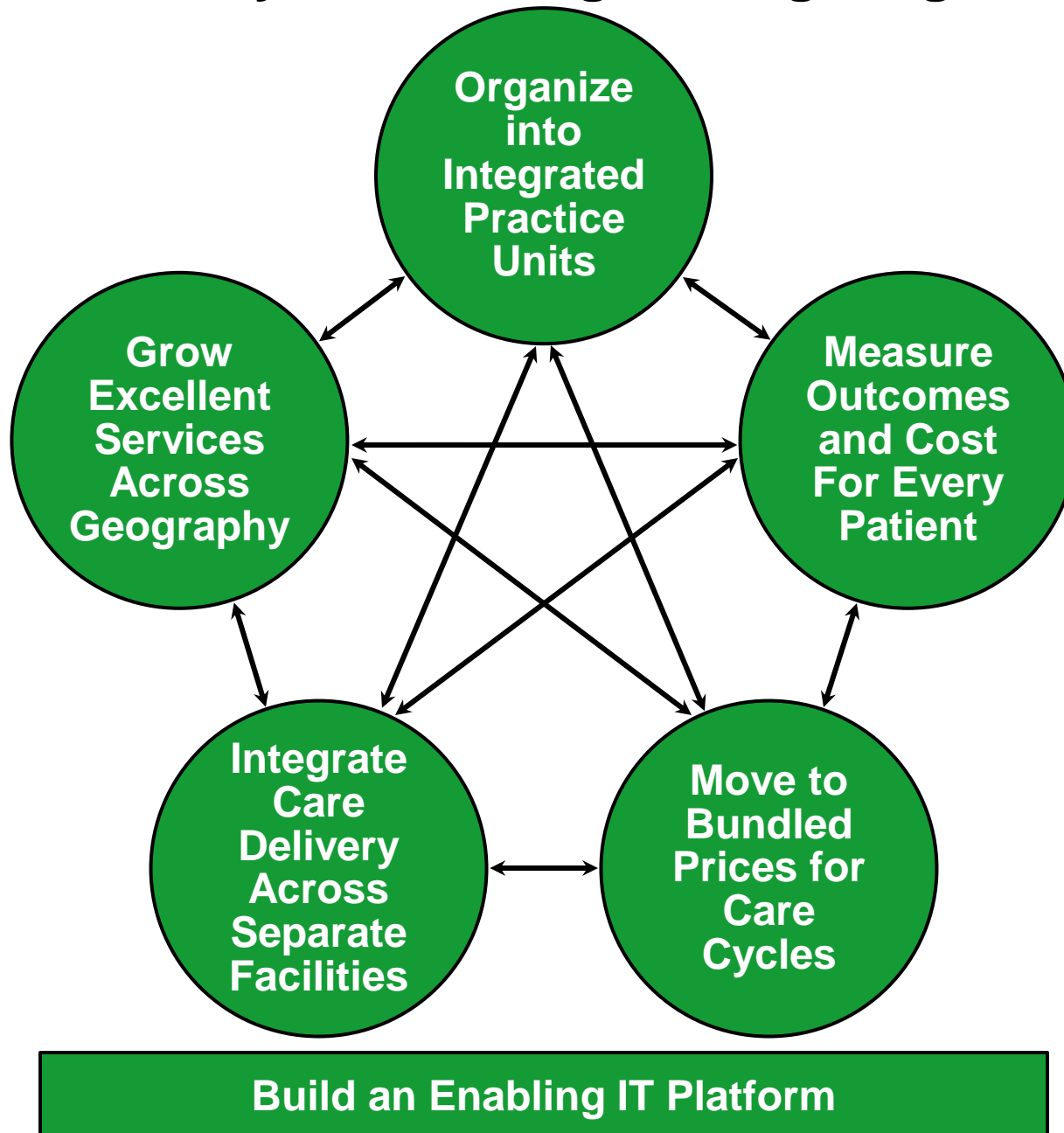


6. Building an Enabling Information Technology Platform

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



Creating a Value-Based Health Care Delivery Organization

Implications for Physician Leaders

1. Organize into Integrated Practice Units (IPUs) Around Patient Medical Conditions
 - Lead **multidisciplinary teams**, not specialty divisions or departments
2. Establish Universal Measurement of Outcomes and Cost for Every Patient
 - Become an **expert in measurement** and process improvement
3. Move to Bundled Prices for Care Cycles
 - Lead the development of new **packaged reimbursement options** and **care guarantees**
4. Integrate Care Delivery Across Separate Facilities
 - View relationships across inpatient and outpatient units, or with sister hospitals, as **value drivers** not loss of autonomy
5. Expand Excellent IPUs Across Geography
 - Aspire to influence patient care **outside the local area**
6. Create an Enabling Information Technology 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. Organize Care into Integrated Practice Units (IPUs) Around Patient Medical Conditions
 - Assist in coordinating patient care **across the care cycle** and across medical conditions
2. Measure Outcomes and Cost for Every Patient
 - Monitor and compare **provider results** by medical condition
 - Provide advice to patients (and referring physicians) in selecting **excellent providers**
3. Reimburse through Bundled Prices for Care Cycles
 - Design **new bundled reimbursement structures** for care cycles instead of fees for discrete services
4. Integrate Care Delivery Across Separate Facilities
 - Encourage payment models that integrate care delivery across a **continuum of providers**
5. Expand Excellent IPUs Across Geography
 - Encourage dissemination of **best practices** by excellent providers
6. Create an Enabling Information Technology Platform
 - Assemble, analyze and manage the **total medical records** of members