

Value-Based Health Care Delivery

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This presentation draws on Michael E. Porter and Elizabeth Olmsted Teisberg: Redefining Health Care: Creating Value-Based Competition on Results, Harvard Business School Press, May 2006, and Porter, Michael E. "A Strategy for Health Care Reform." *New England Journal of Medicine*. June 3, 2009. Porter, Michael E. "Defining and Introducing value in Health Care." Evidence-Based Medicine and the Changing Nature of Healthcare: Meeting Summary (IOM Roundtable on Evidence-Based <http://www.nap.edu/catalog/12041.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 Olmsted Teisberg. Further information about these ideas, as well as case studies, can be found on the website of the Institute for Strategy & Competitiveness at <http://www.isc.hbs.edu>.

Zero-Sum Competition in U.S. Health Care

Bad Competition

- Competition to **capture patients** and **restrict choice**
- Competition to **increase bargaining power** to secure discounts or price premiums
- Competition to **shift costs** or **capture greater revenue**
- Competition to **exclude less healthy individuals**



Zero or Negative Sum
Competition

Good Competition

- Competition to **increase value for patients**



Positive Sum
Competition

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**, not just the cost of a single provider or a single service



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
- 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

Value-Based Health Care Delivery

The Strategic Agenda

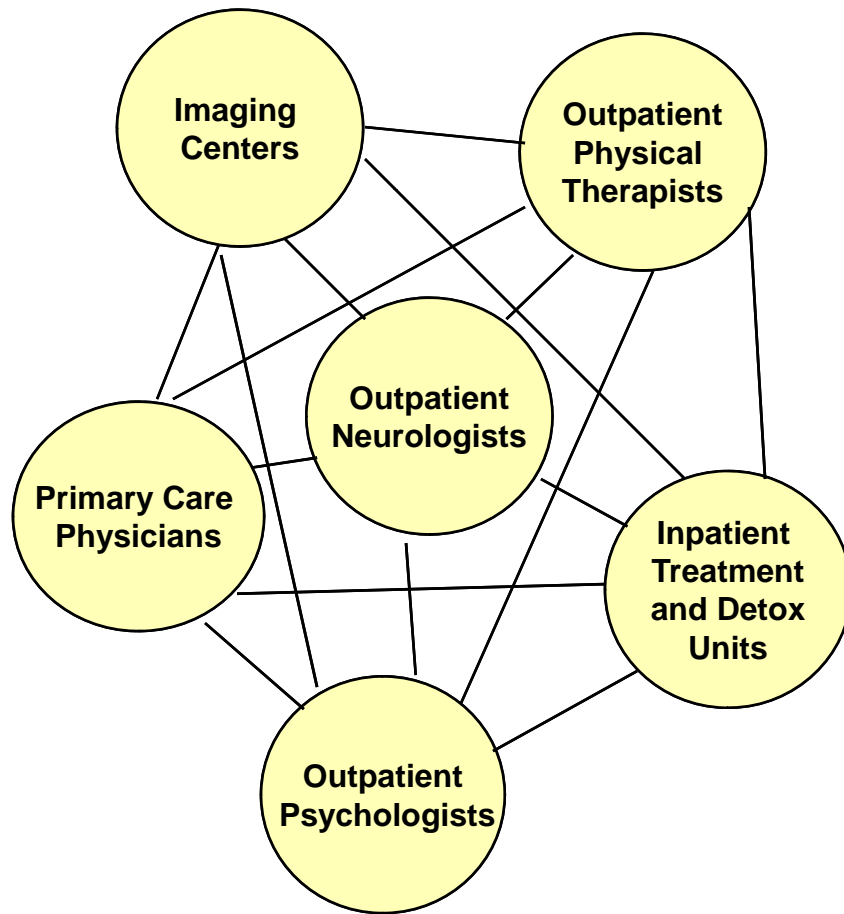
1. Organize into Integrated Practice Units Around the Patient's Medical Condition (IPUs)
 - Specialty care
 - Primary and preventive care for **distinct patient populations**
2. Measure Outcomes and Cost for Every Patient
3. Move to Bundled Prices for Care Cycles
4. Integrate Care Delivery Across Separate Facilities
5. Expand Excellent IPUs Across Geography
6. Create an Enabling Information Technology Platform

1. Moving to Care Delivery Integrated Around the Patient

Migraine Care in Germany

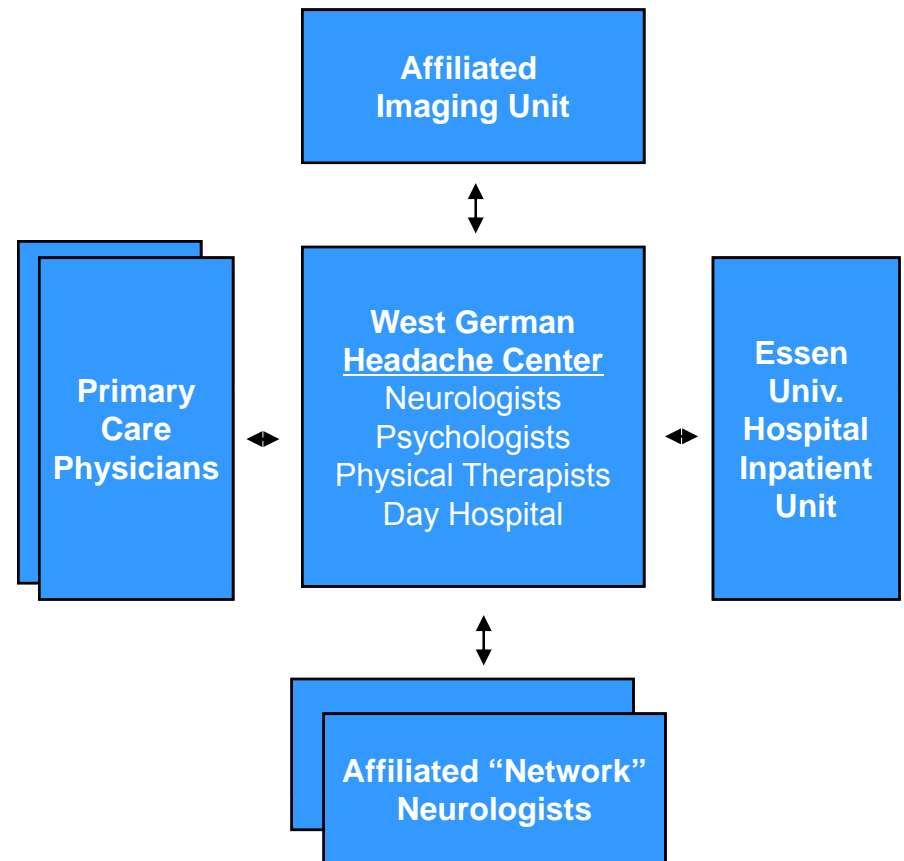
Existing Model:

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

Integrated Care Delivery Includes the Patient

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



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

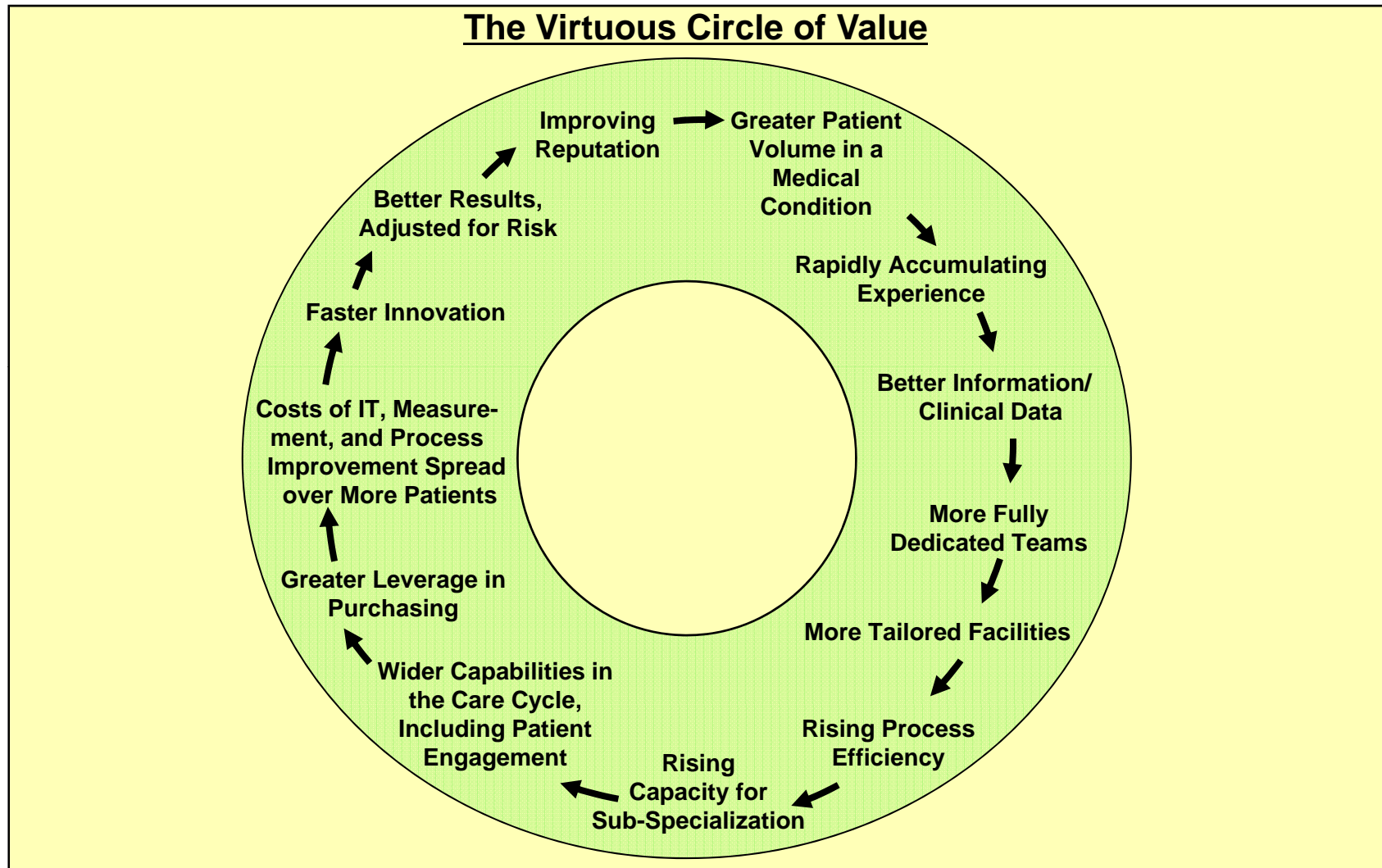
Integrating Across the Cycle of Care

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 | <ul style="list-style-type: none"> Counseling on the treatment process Education on managing side effects and avoiding complications of treatment 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 |
| | | | <ul style="list-style-type: none"> Patient and family psychological counseling | | | |
| MEASURING | <ul style="list-style-type: none"> Self exams Mammograms | <ul style="list-style-type: none"> Mammograms Ultrasound MRI Labs (CBC, Blood chems, 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 | <ul style="list-style-type: none"> Office visits Mammography lab visits | <ul style="list-style-type: none"> Office visits | <ul style="list-style-type: none"> Office visits | <ul style="list-style-type: none"> Hospital stays | <ul style="list-style-type: none"> Office visits | <ul style="list-style-type: none"> Office visits |
| | | <ul style="list-style-type: none"> Lab visits | <ul style="list-style-type: none"> Hospital visits Lab visits | <ul style="list-style-type: none"> Visits to outpatient radiation or chemotherapy units Pharmacy | <ul style="list-style-type: none"> Rehabilitation facility visits Pharmacy | <ul style="list-style-type: none"> Lab visits Mammographic labs and imaging center visits |
| | | <ul style="list-style-type: none"> High risk clinic 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) | <ul style="list-style-type: none"> Surgery (breast preservation or mastectomy, oncoplastic alternative) | <ul style="list-style-type: none"> In-hospital and outpatient wound healing Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema and chronic fatigue) | <ul style="list-style-type: none"> Periodic mammography Other imaging | <ul style="list-style-type: none"> Follow-up clinical exams Treatment for any continued or later onset side effects or complications |
| | | <ul style="list-style-type: none"> Plastic or onco-plastic surgery evaluation Neo-adjuvant chemotherapy | <ul style="list-style-type: none"> Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy) | <ul style="list-style-type: none"> Physical therapy | | |

Breast Cancer Specialist
 Other Provider Entities

Volume and Experience in a Medical Condition Drive Patient Value



- Volume and experience have an **even greater** impact on value in an IPU structure than in the current system

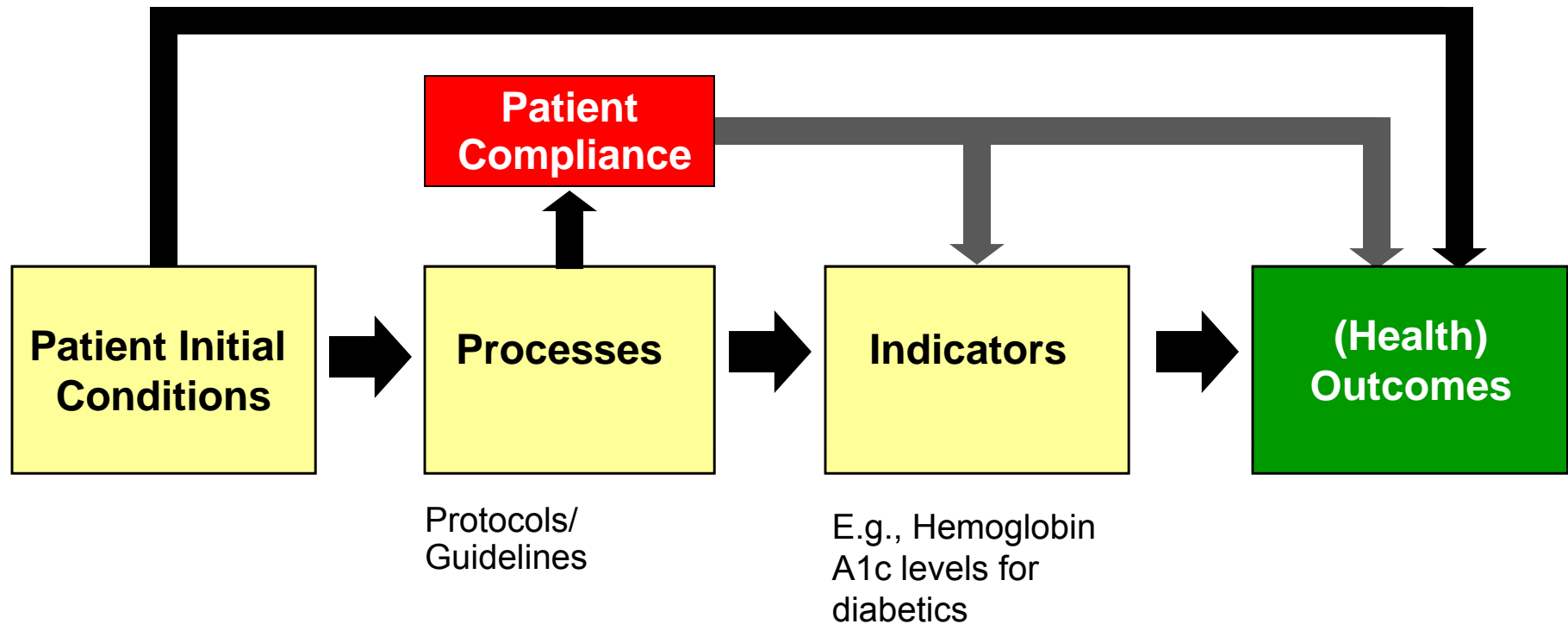
Fragmentation of Hospital Services

Sweden

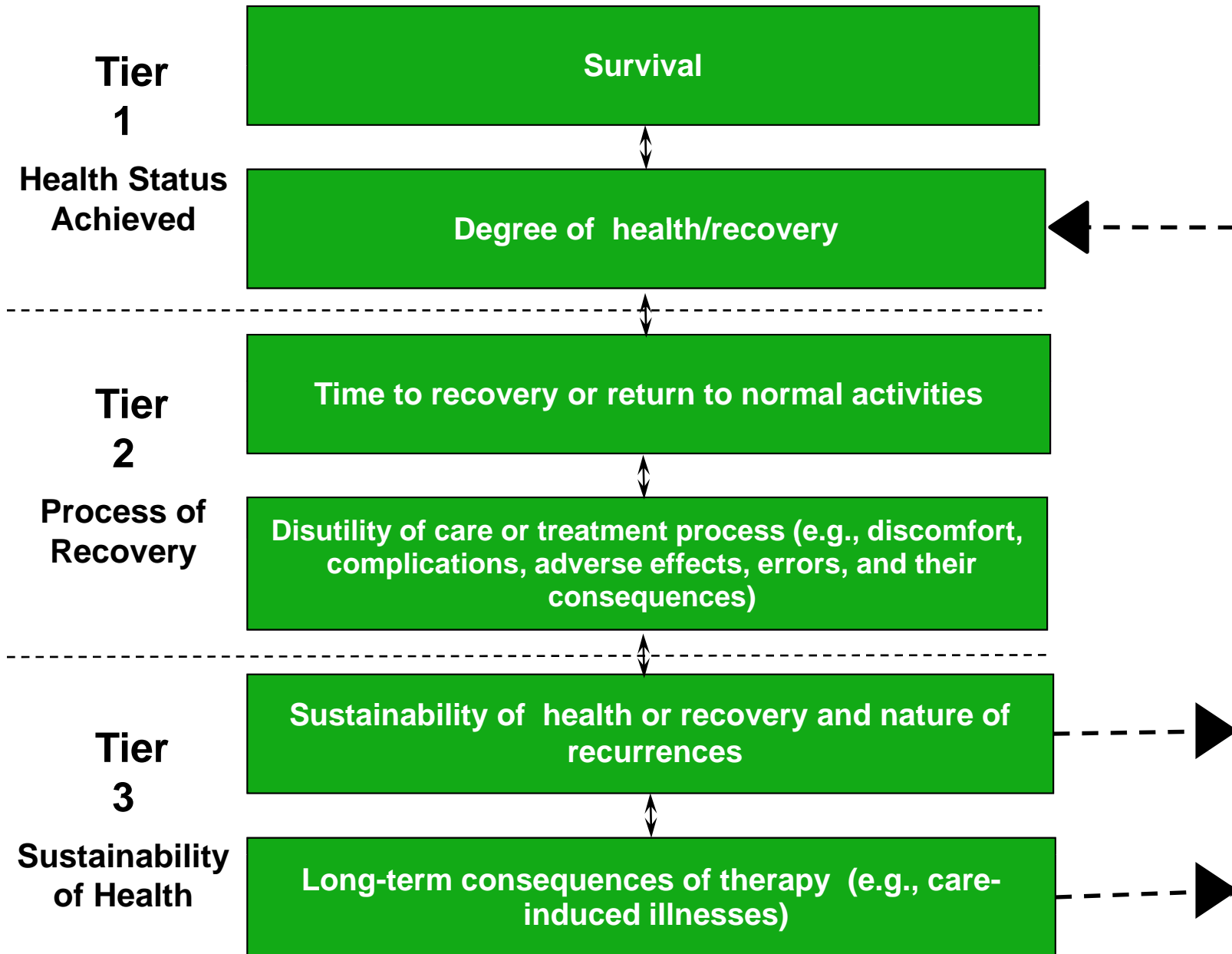
| DRG | Number of admitting providers | Average percent of total national admissions | Average admissions/ provider/ year | Average admissions/ provider/ week |
|--|-------------------------------|--|------------------------------------|------------------------------------|
| Knee Procedure | 68 | 1.5% | 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.

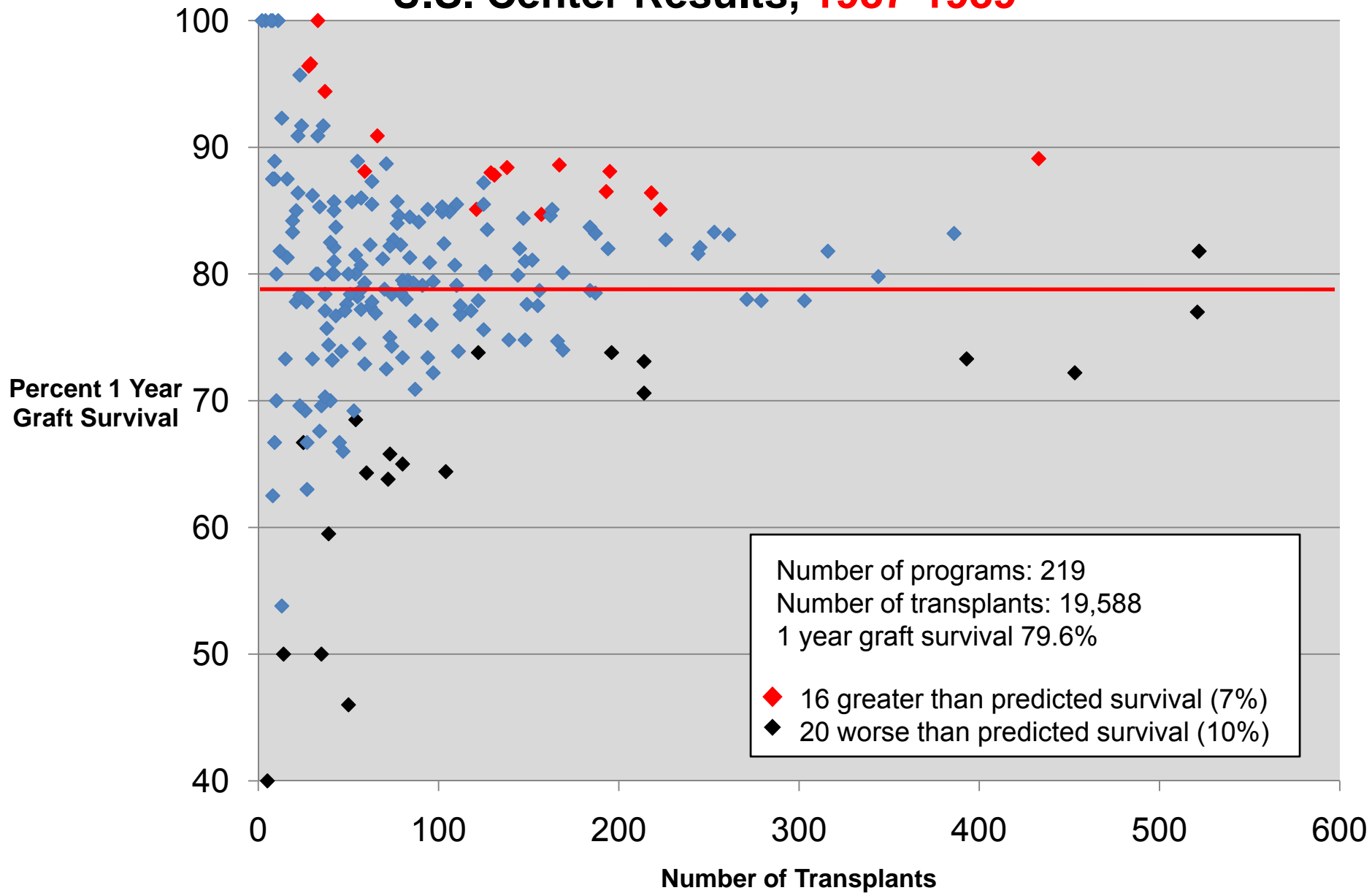
2. Measuring Outcomes and Cost for Every Patient



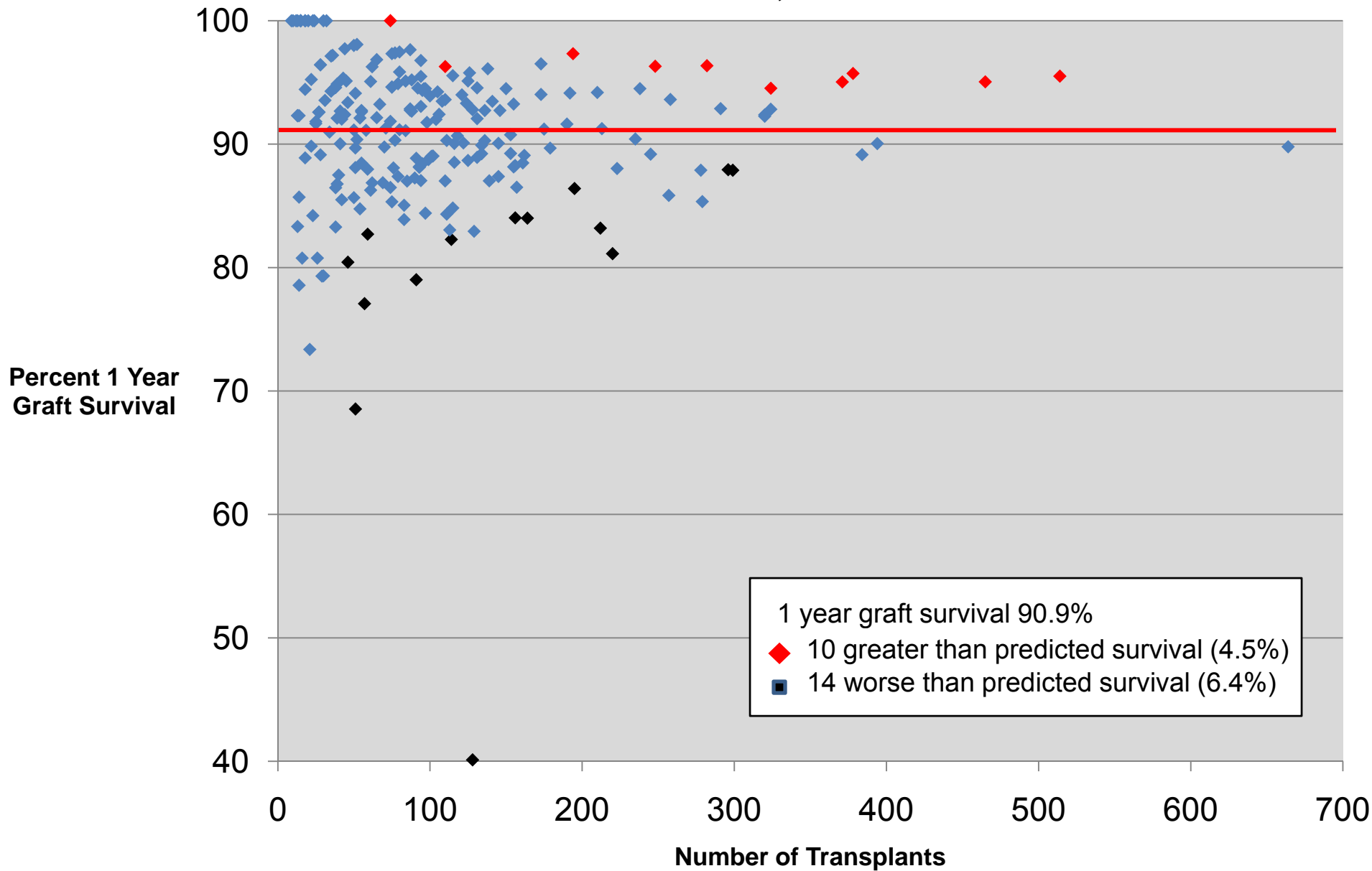
The Outcome Measures Hierarchy



Adult Kidney Transplant Outcomes, U.S. Center Results, 1987-1989

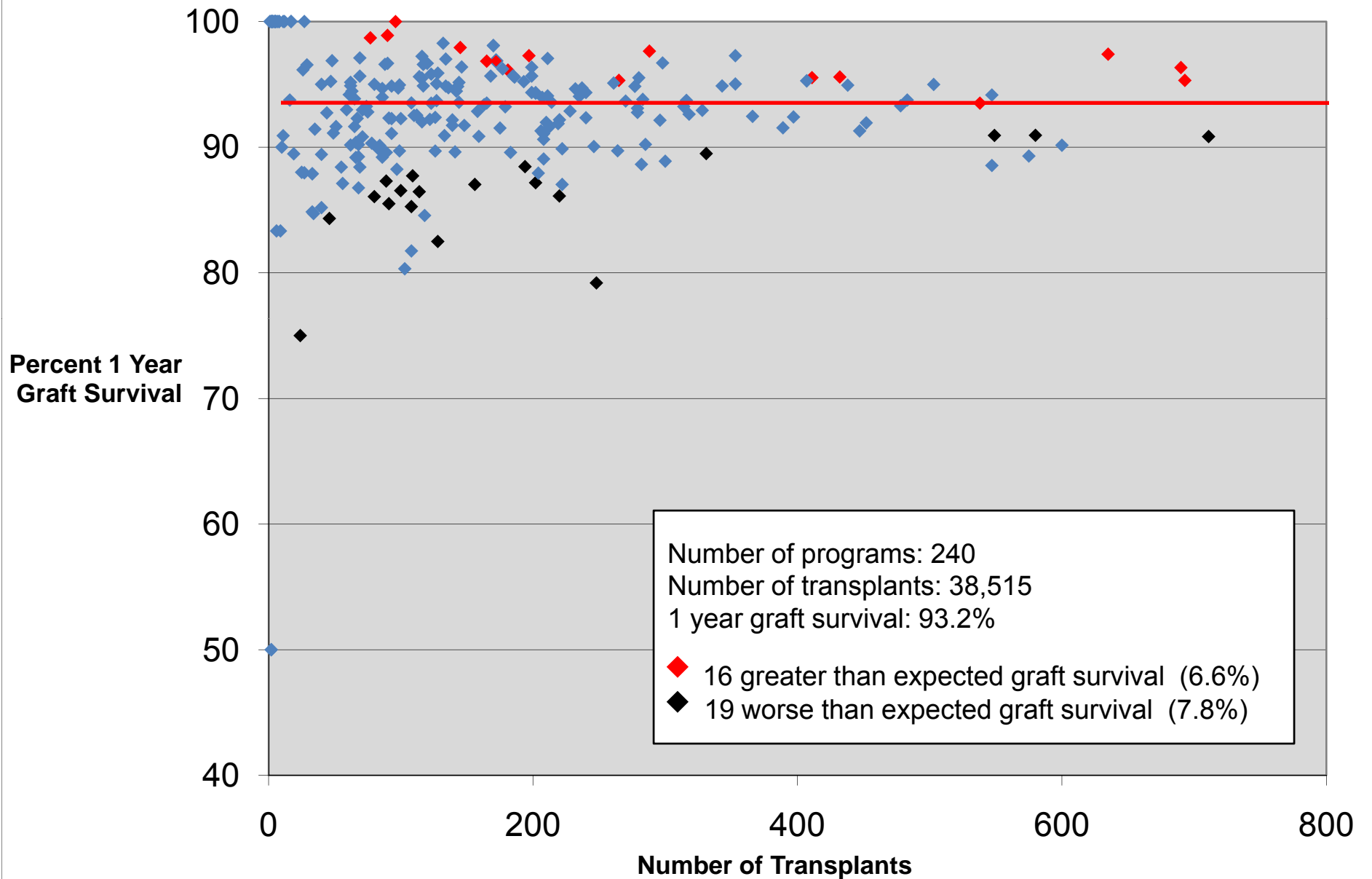


Adult Kidney Transplant Outcomes, U.S. Center Results, 1998-2000



Adult Kidney Transplant Outcomes

U.S. Center Results, 2005-2007



Cost Measurement

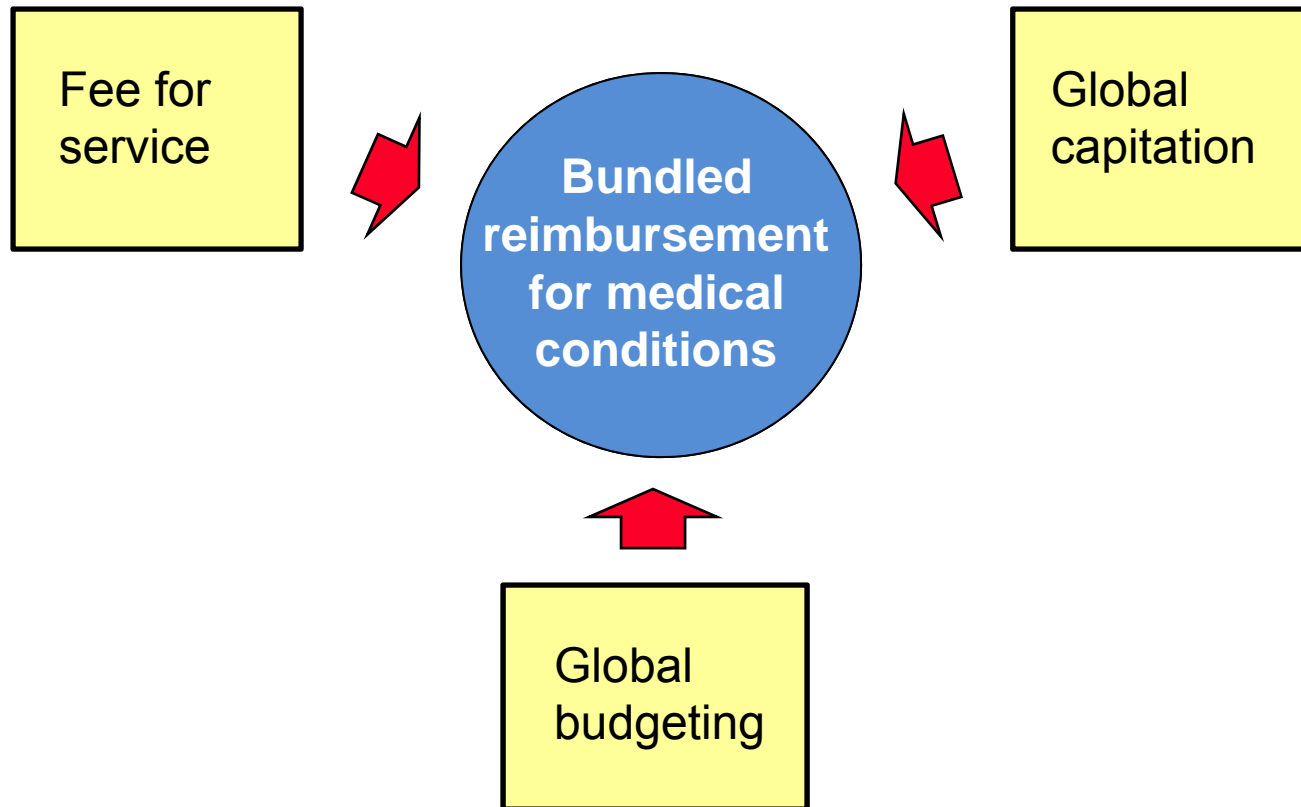
Aspiration

- Cost should be measured for **each medical condition** (which includes common co-occurring conditions), not for all services
- Cost should be measured **for each patient**, aggregated across the **full cycle of care**
- The cost of each activity or input attributed to a patient should reflect **that patient's use of resources** (e.g. time, facilities, service), not average allocations
- The only way to properly measure cost per patient is to track the **time devoted to each patient** by providers, facilities, support services, and other shared costs

Reality

- Most providers track **charges** not costs
- Most providers track cost by **billing category**, not for medical conditions
- Most providers cannot **accumulate total costs** for particular patients
- Most providers use **arbitrary or average** allocations, not patient specific allocations
- Many providers allocate cost based in part on **charge levels**, which biases cost estimates

3. Move to Bundled Prices for Care Cycles



Bundled Payment in Practice

Hip and Knee Replacement in Sweden

- Beginning in 2009, all joint replacements (hip and knee) in Stockholm County Council are reimbursed with a **bundled price** that includes:


- | | |
|---------------------------------|---|
| - 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 | |

- The bundled price 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
- There is **mandatory reporting** by providers to the joint registry plus supplementary reporting
- Provider participation is **voluntary** but all providers are involved
 - 6 public hospitals, 4 private hospitals
 - 3400 patients treated in 2009
- The bundled price for a knee or hip replacement is about **US \$8,000**

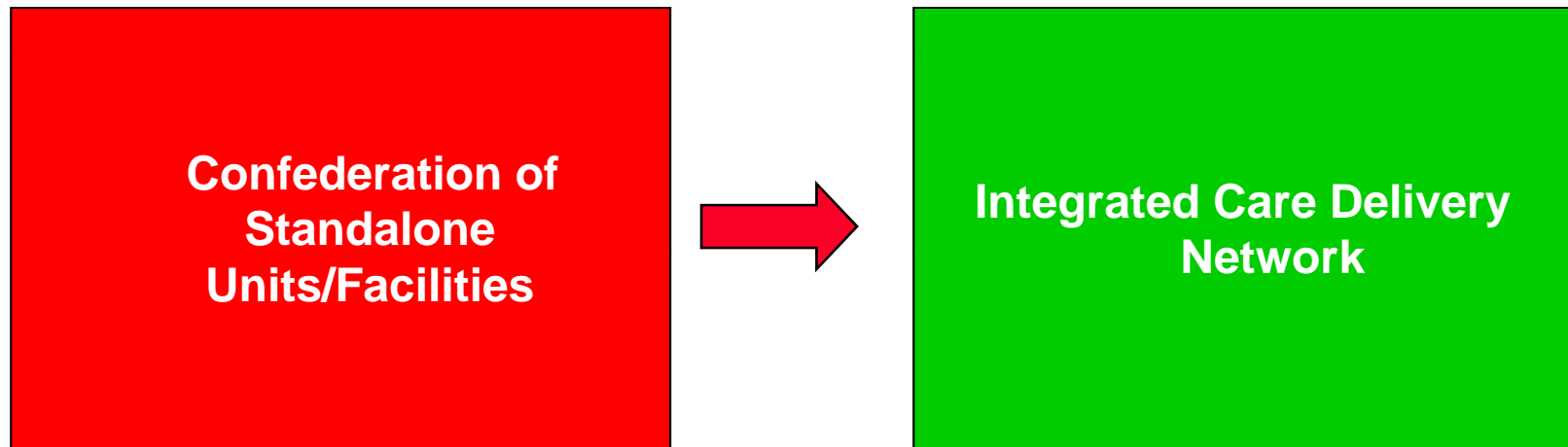
What is a Bundled Payment?

- A **total package price** for the care cycle for a medical condition
 - Time-based bundled reimbursement for **managing chronic conditions**
 - Time-based reimbursement for defined **prevention, screening, wellness/health maintenance** service bundles
 - Should include responsibility for **avoidable complications**
 - “Medical condition capitation”
- 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
 - **Pay-for-performance** bonuses
 - “**Medical Home**” payment for care coordination
- 
- DRGs can be a **starting point** for bundled payment models
 - **Providers** and **health plans** should be proactive in driving new reimbursement models, not wait for government

4. Integrate Care Delivery Across Separate Facilities



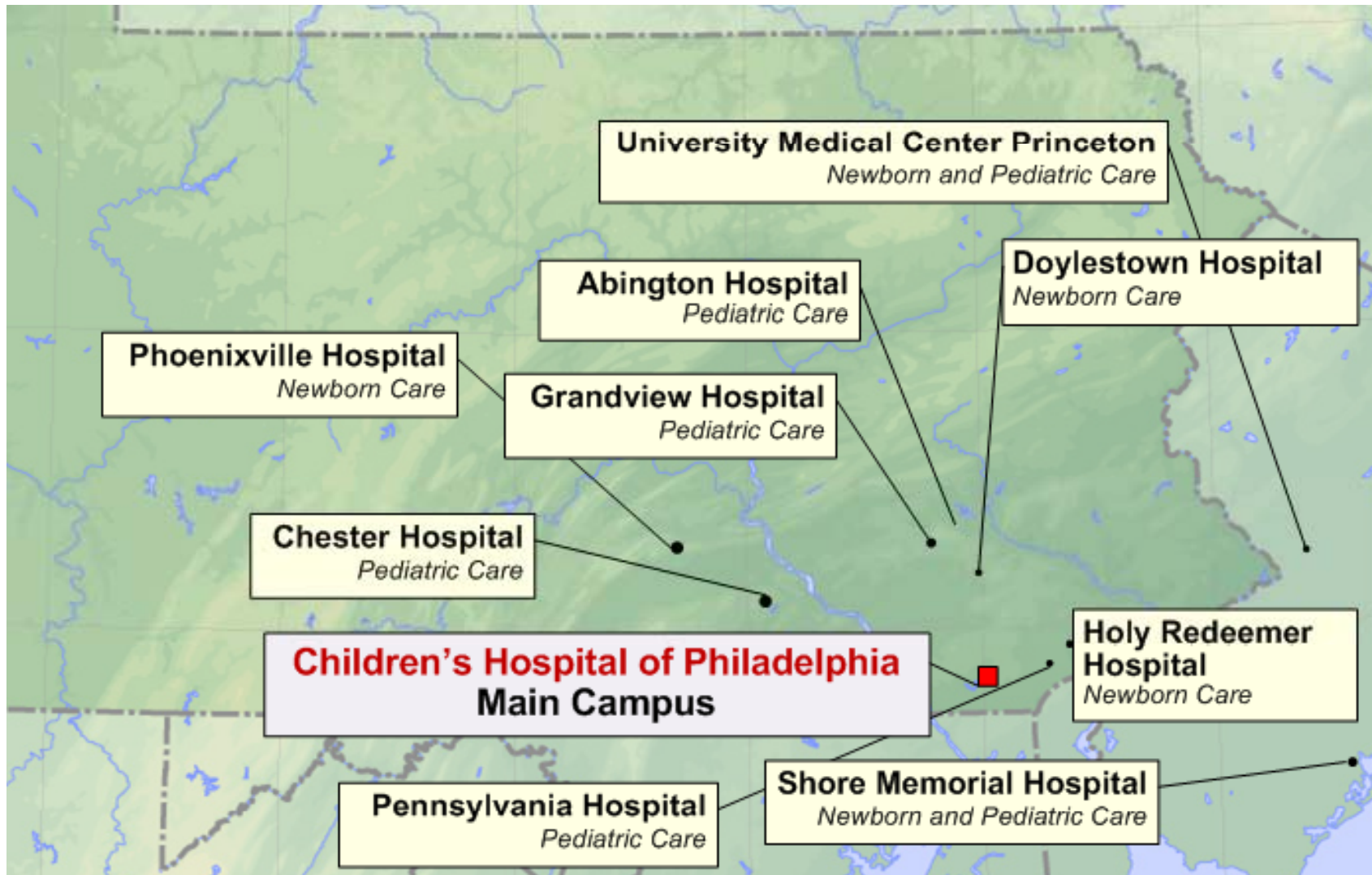
- Increase overall **volume**
↓
- Benefits limited to **contracting** and **spreading limited fixed overhead**

- Increase **value**
↓
- The network is **more than** the sum of its parts

Provider System Integration

Children's Hospital of Philadelphia (CHOP)

Hospital Affiliates

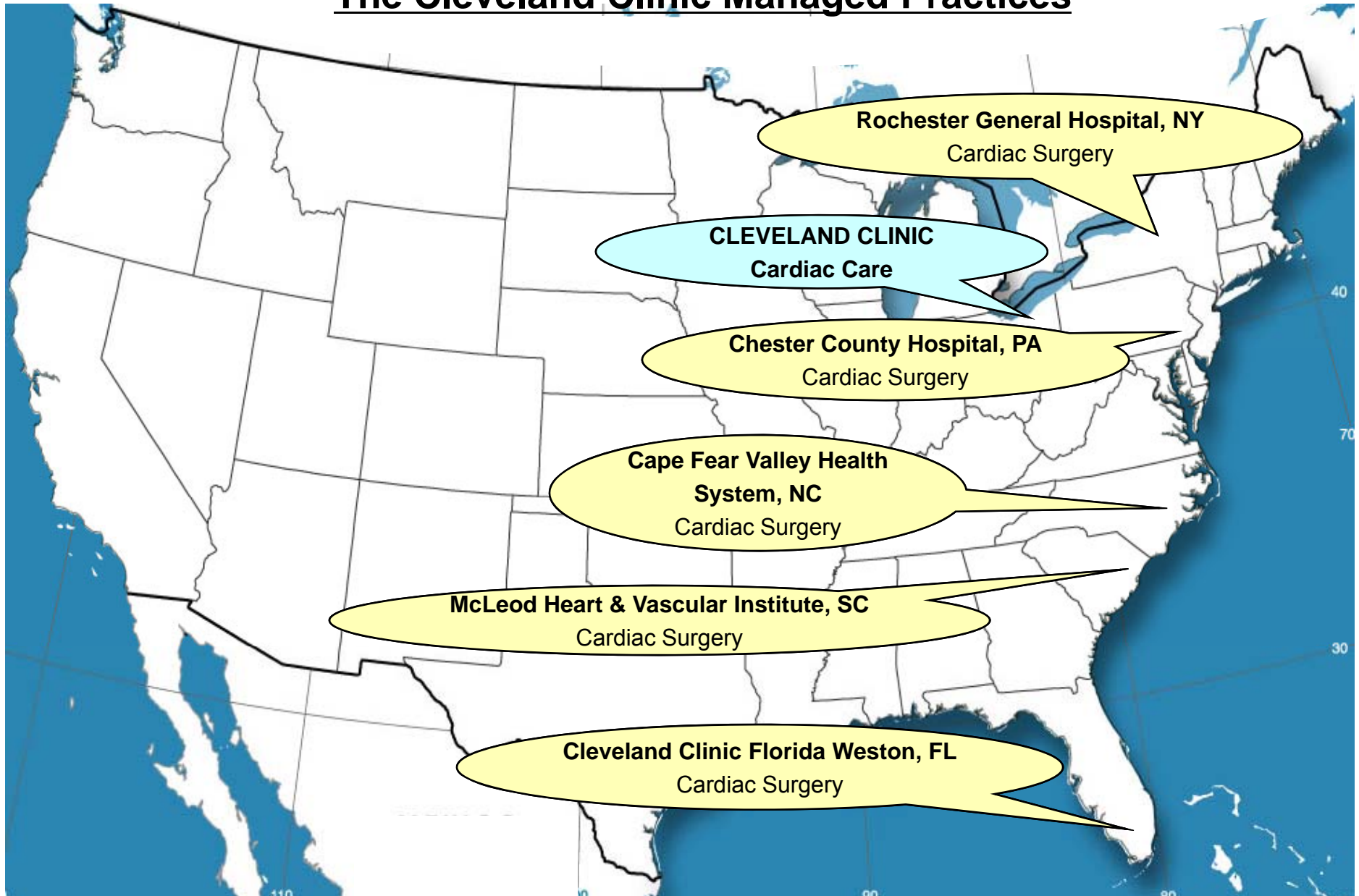


Levels of System Integration

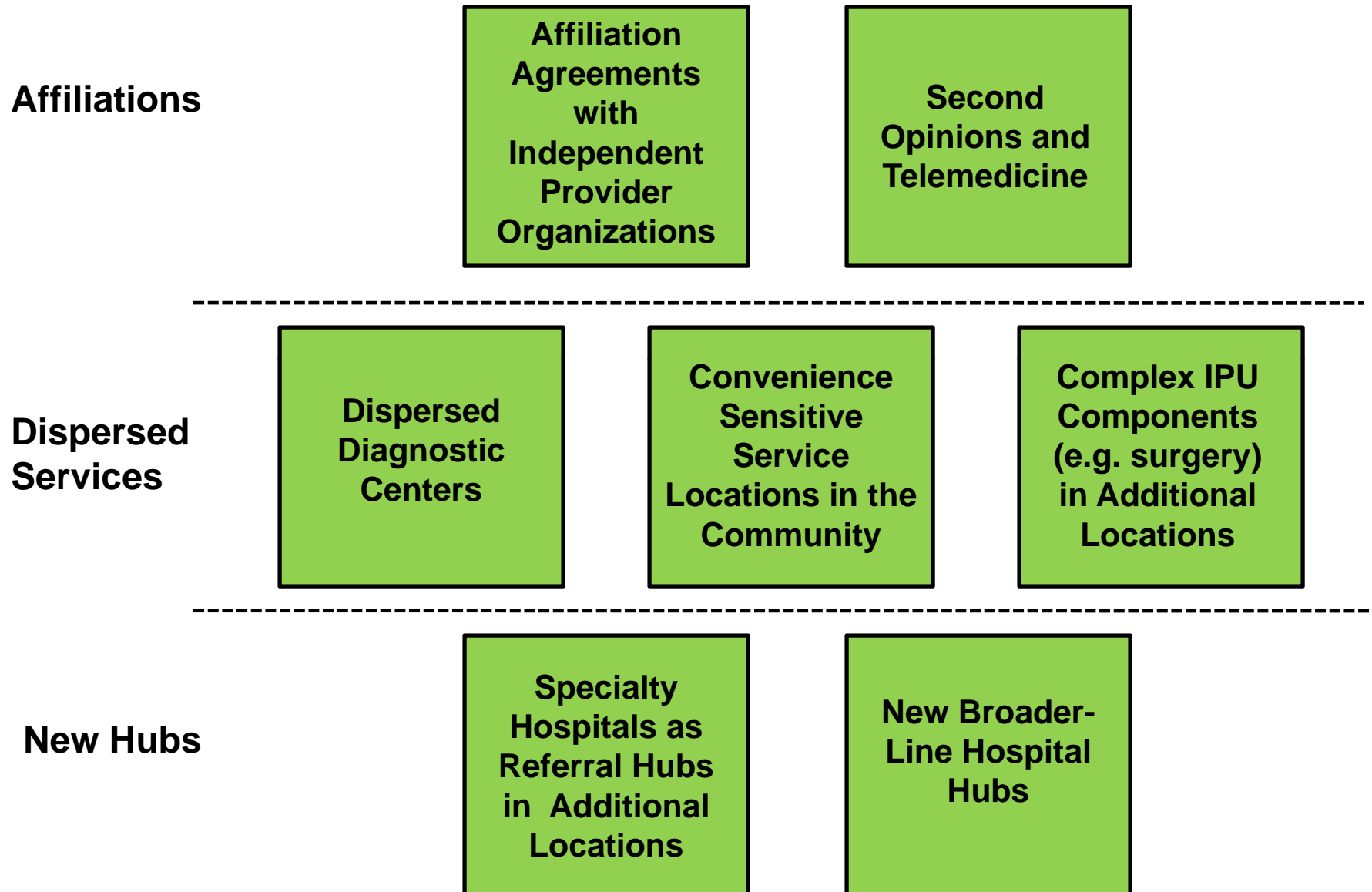
- **Rationalize service lines/ IPU**s across facilities to improve volume, avoid duplication, and concentrate excellence
- **Offer specific services** at the **appropriate facility**
 - E.g. acuity level, cost level, need for convenience
 - Patient referrals across units
- **Clinically integrate care across facilities**, within an IPU structure
 - **Expand** and **integrate** the care cycle
 - Better connect **preventive/primary care** units to specialty IPUs

5. Expand Excellent IPUs Across Geography

The Cleveland Clinic Managed Practices



Models of Geographic Expansion

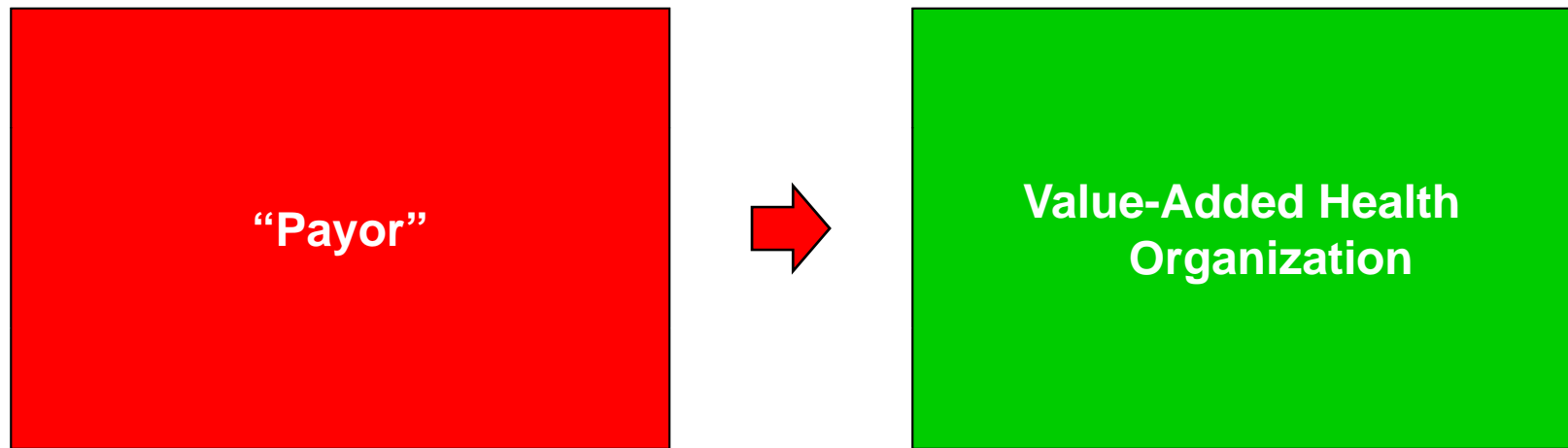


6. Create an Enabling Information Technology Platform

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**

Value-Based Healthcare Delivery: Implications for Contracting Parties/Health Plans



Value-Based Health Care Delivery: Implications for Suppliers

- Compete on delivering **unique value** measured over the **full care cycle**
- **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**
- Work to embed drugs/devices in the **right care delivery processes**
- Market products based on **value, information, provider** support and **patient** support
- Offer services that **contribute to value** rather than reinforce cost shifting
- Move to **value-based pricing** approaches
 - e.g. price for success, guarantees