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 "How Physicians Can Change the Future of Health Care," *Journal of the American Medical Association*, 2007; 297:1103:1111. 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.

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 delivery 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, 21st century medical technology is often delivered with 19th century organization structures, management practices, measurement, and pricing

  - Process improvements, care pathways, lean production, safety initiatives, disease management and other overlays to the current structure are beneficial but **not sufficient**
  - "Consumers" **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**

Financial success of system participants	≠	Patient success

- 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, equity, 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

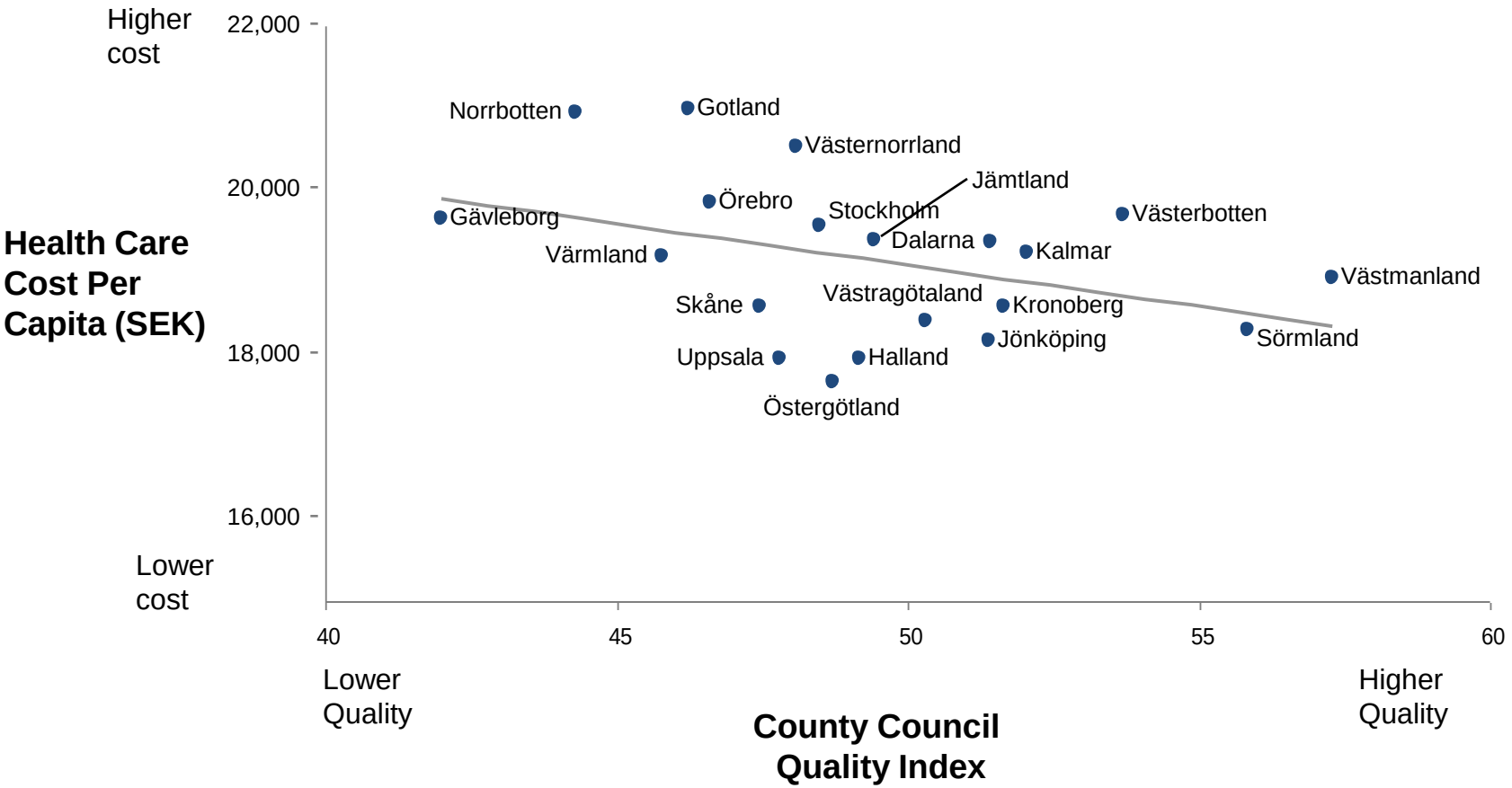
Principles of Value-Based Health Care Delivery

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

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: Öpnna jämförelser, Socialstyrelsen 2008;Sjukvårdsdata i fokus 2008; BCG analysis

Value-Based Health Care Delivery
The Strategic Agenda

1. **Organize into Integrated Practice Units around the Patient's Medical Condition (IPUs)**
   - **Including 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. **Grow by Expanding Excellent IPUs Across Geography**
6. **Create an Enabling Information Technology Platform**

1. Organize Into Integrated Practice Units

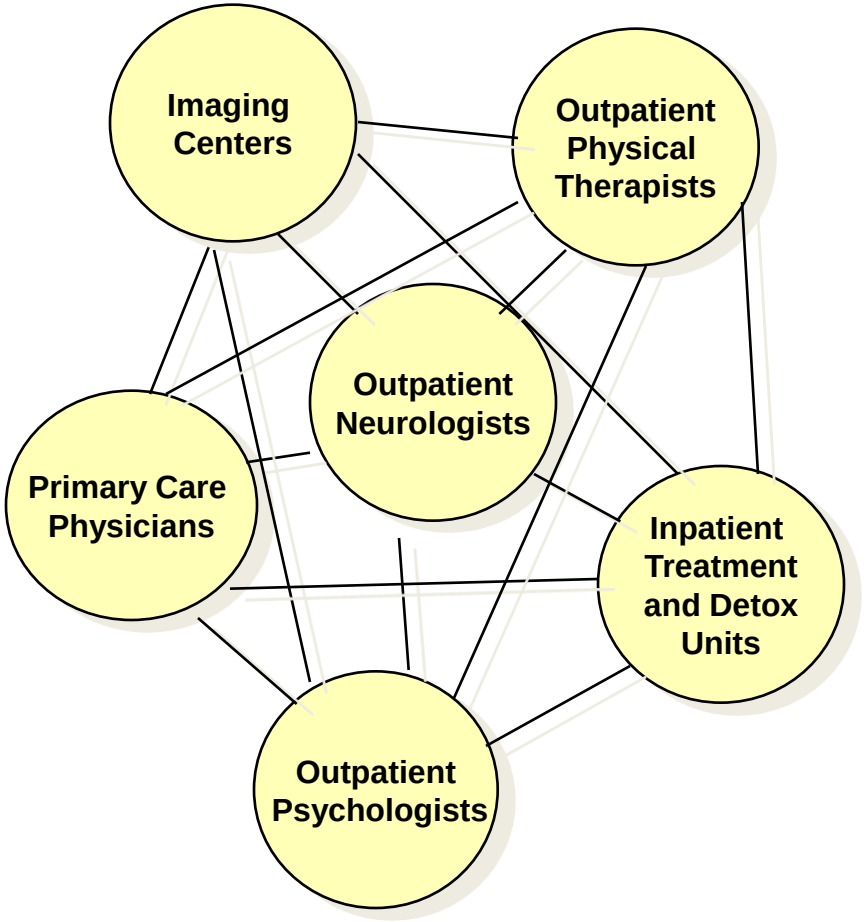
Care delivery should be organized around the patient's **medical condition** over the **full cycle of care**

- A medical condition is **an interrelated set of patient medical circumstances best addressed in an integrated way**
  - Defined from the **patient's** perspective
  - **Including** the most common co-occurring conditions and complications
  - Involving **multiple** specialties and services

- The patient's medical condition is the **unit of value creation** in health care delivery

Organize into Integrated Practice Units
Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services



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

Organize into Integrated Practice Units

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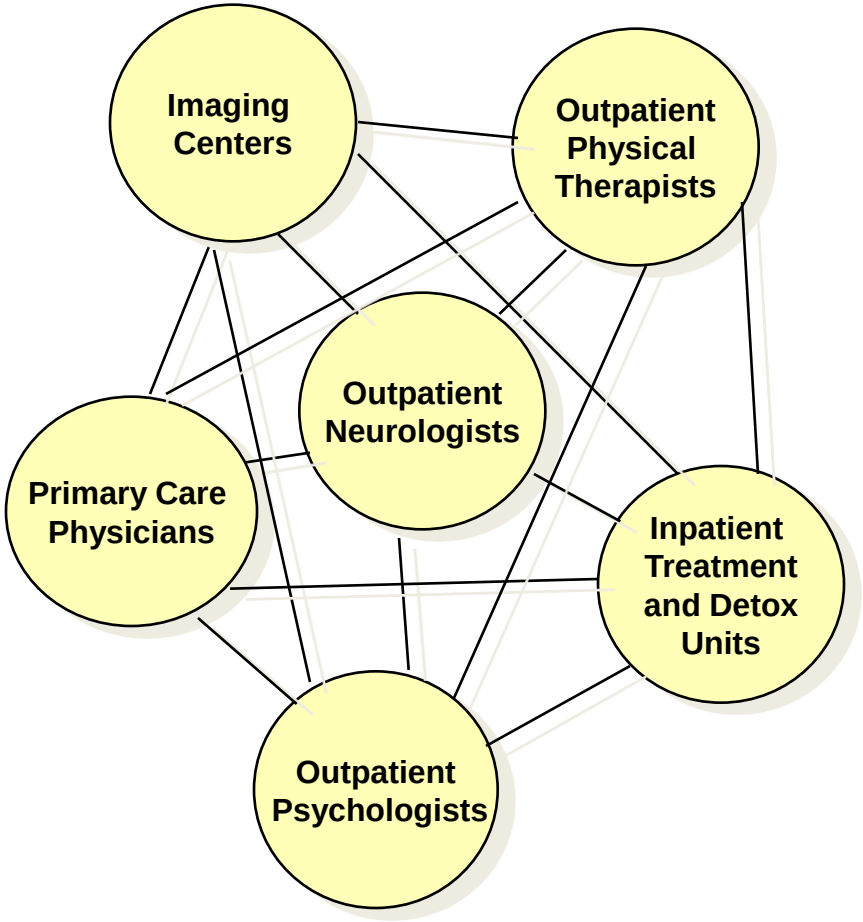
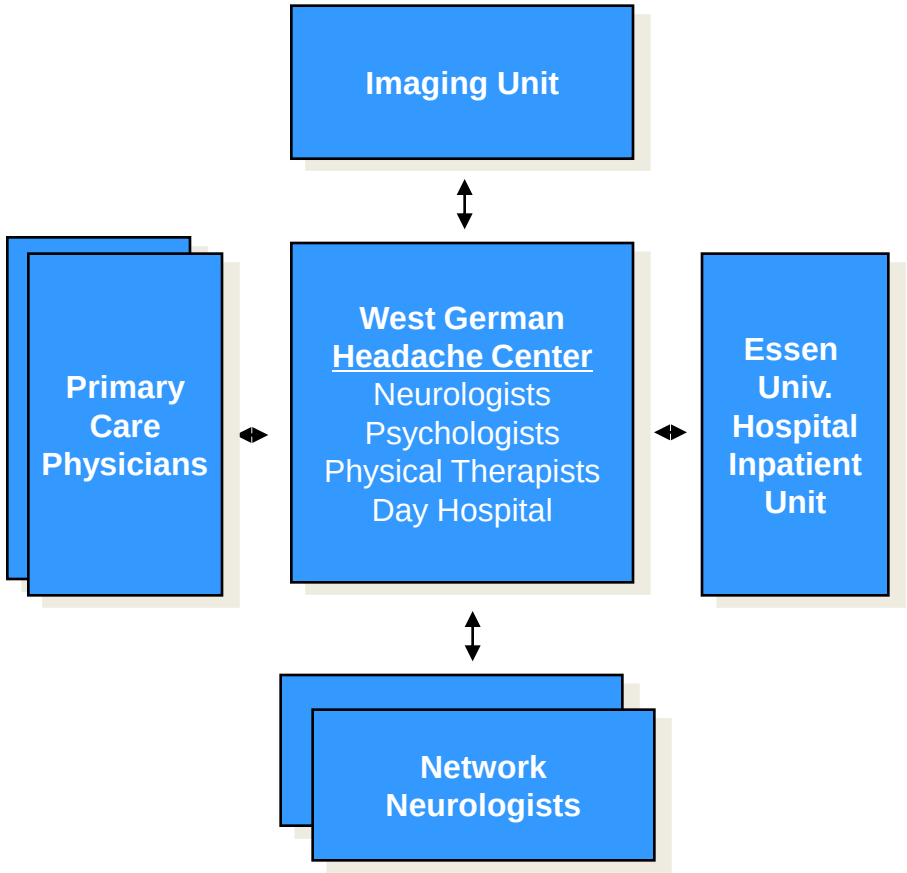


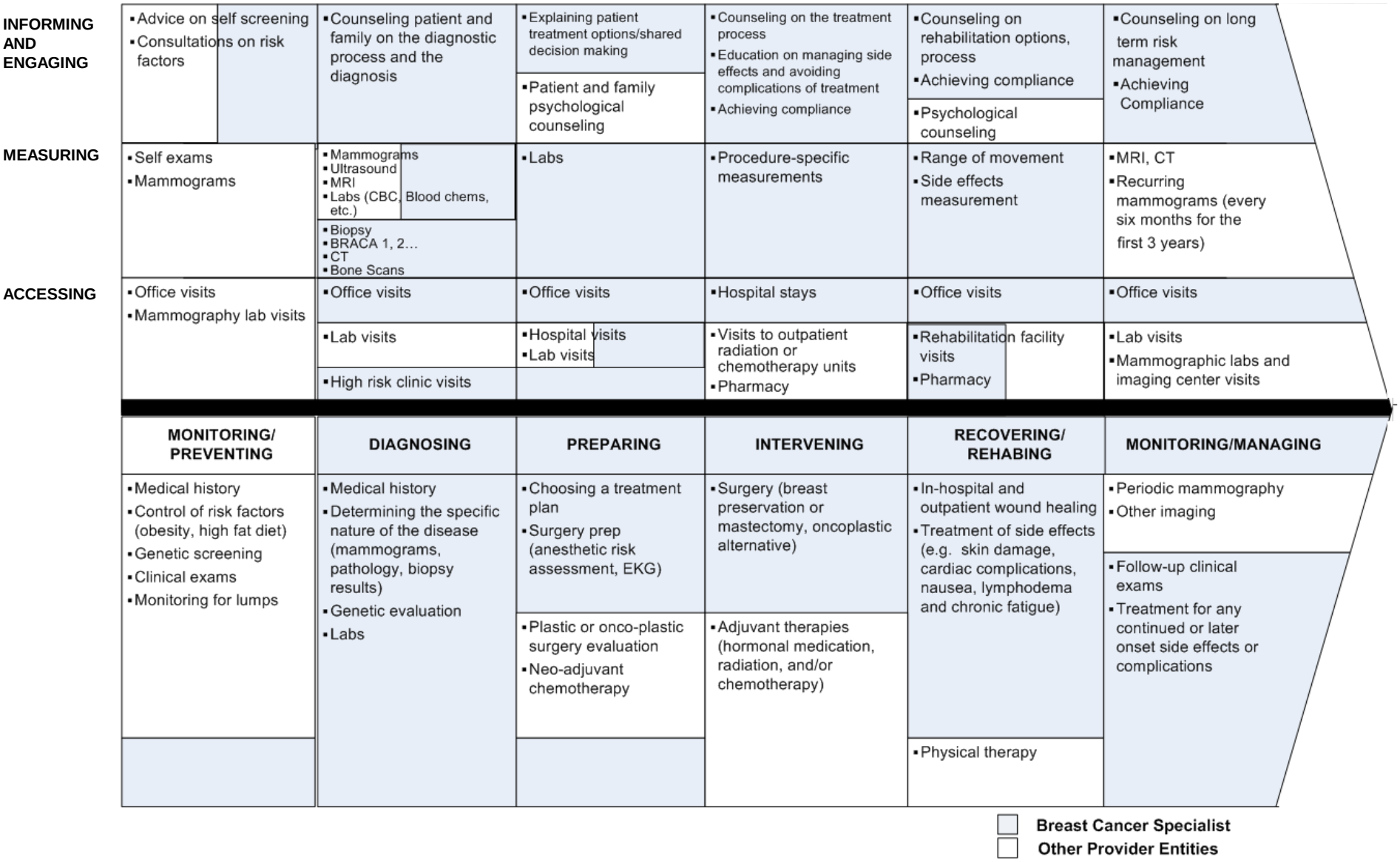
New Model:
Organize into Integrated Practice Units (IPUs)



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



Integrating Across the Cycle of Care

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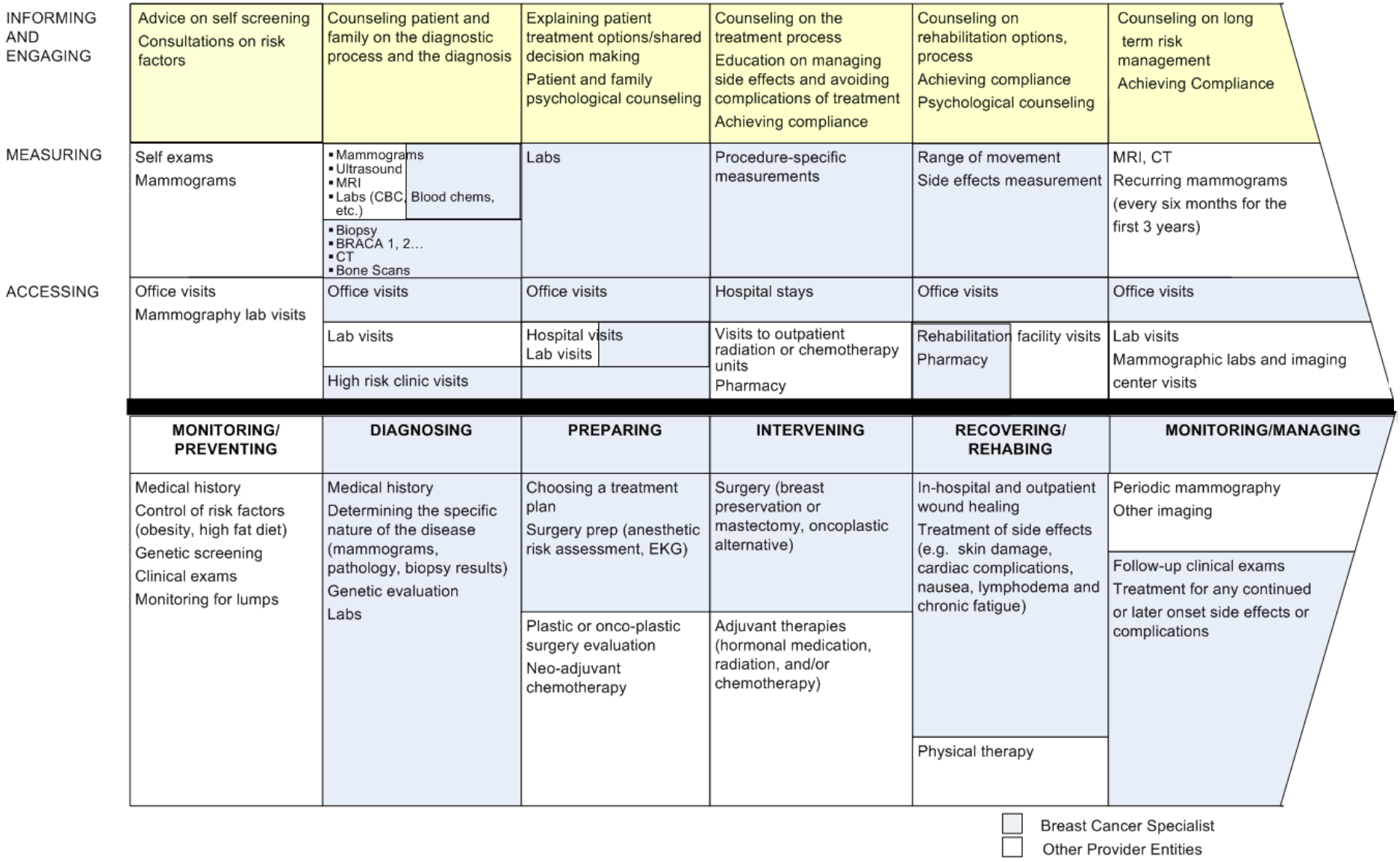


What is Integrated Care?

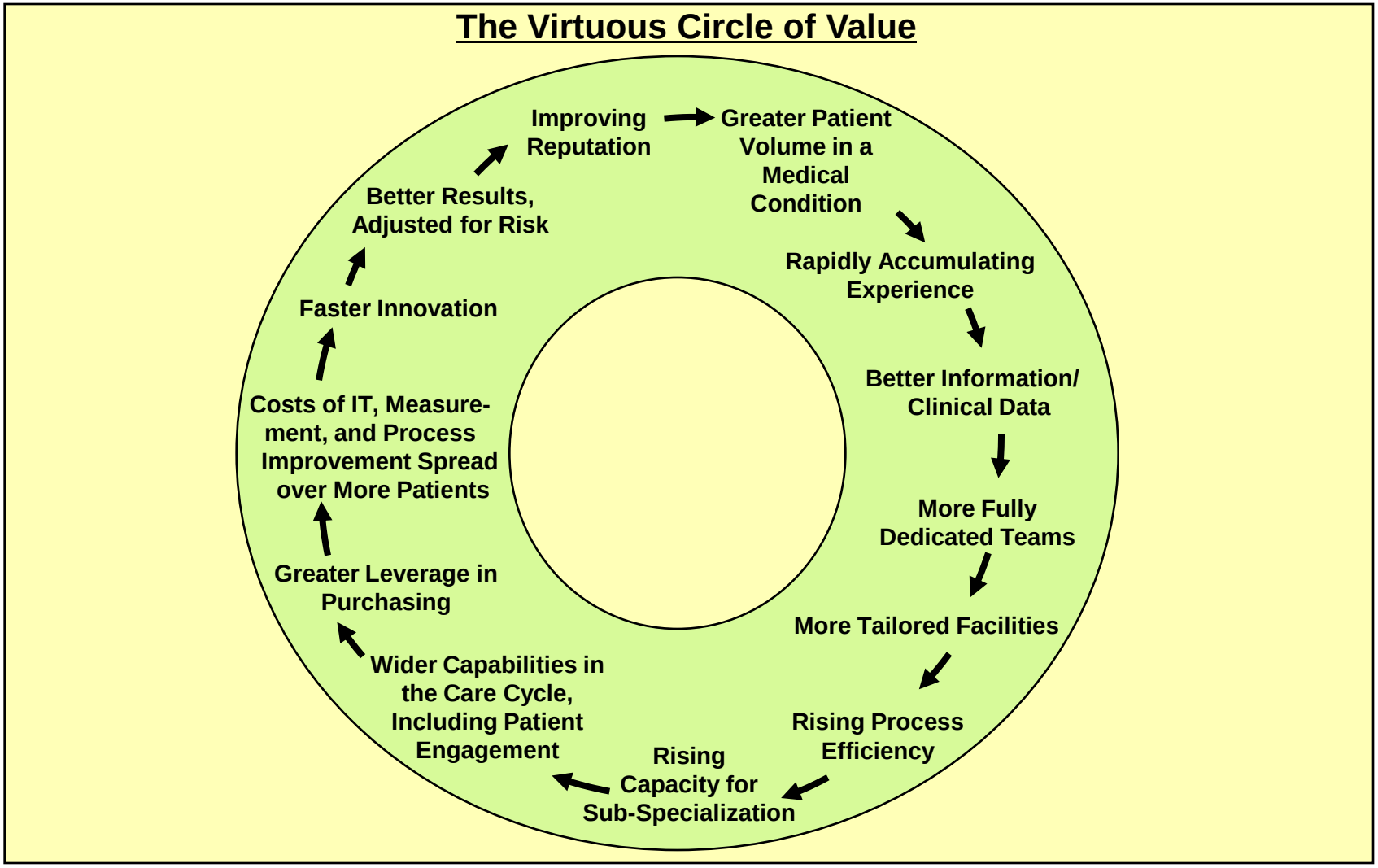
Key Elements of Integrated Care:

- Care for the full care cycle of a **medical condition**
- Encompassing **inpatient/outpatient/rehabilitation** care
- By **dedicated teams** focused around the patient
- **Co-located** in **dedicated facilities**
- In which providers are all part of the **same organizational entity**
- Utilizing a **single administrative and scheduling structure**
- With **joint accountability** for outcomes and overall costs

Integrated care is not the same as:

- Co-location
- Care delivered by the same organization
- A multispecialty group practice
- Clinical Pathways
- Freestanding focused factories
- An Institute or Center
- A Center of Excellence
- A health plan/provider system (e.g. Kaiser Permanente)
- Medical home
- Accountable Care Organization

Volume and Experience in a Medical Condition Drive Patient Value



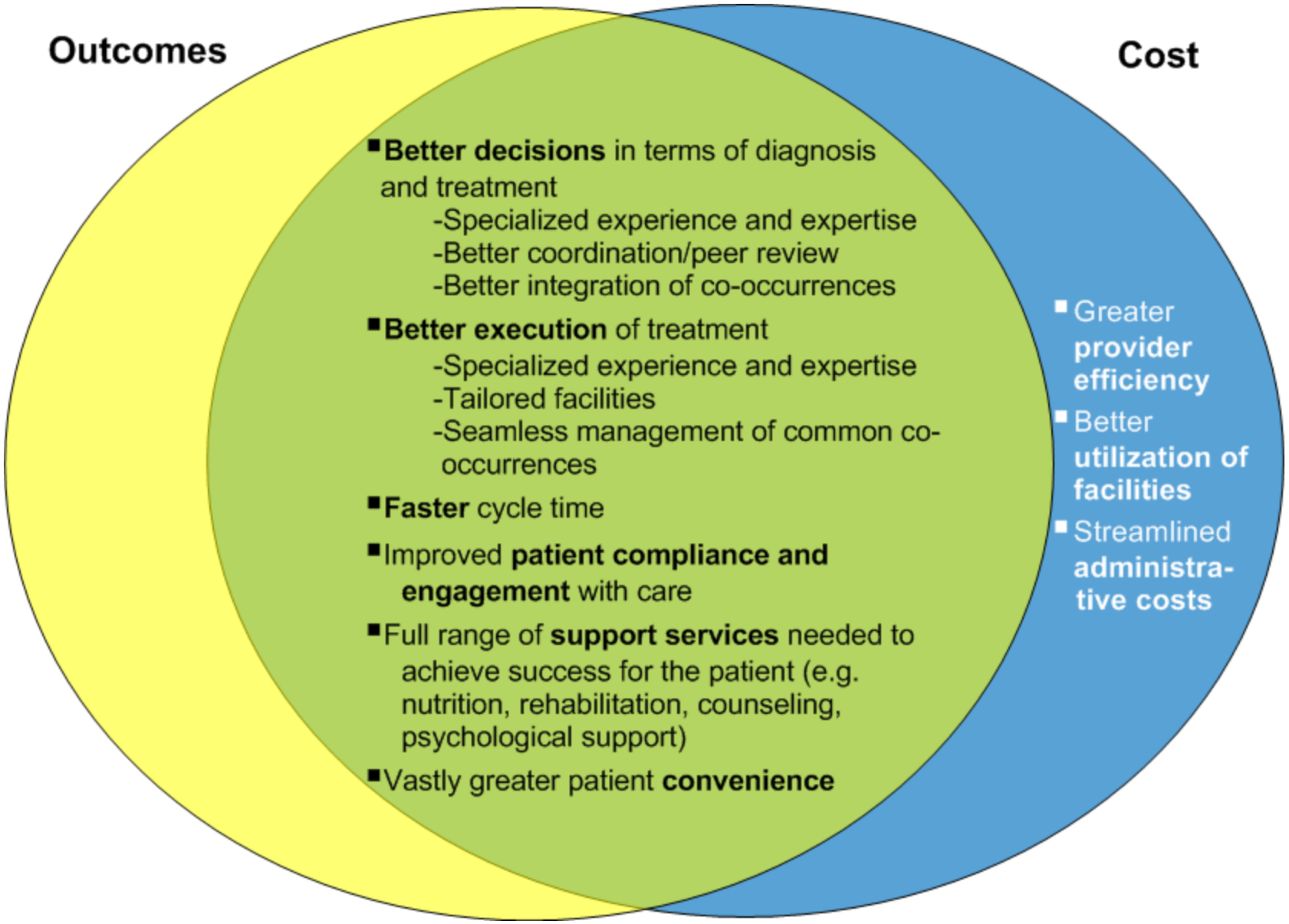
- Volume and experience have an **even greater** impact on value in an IPU structure than in the current system

Fragmentation of Hospital Services
Sweden

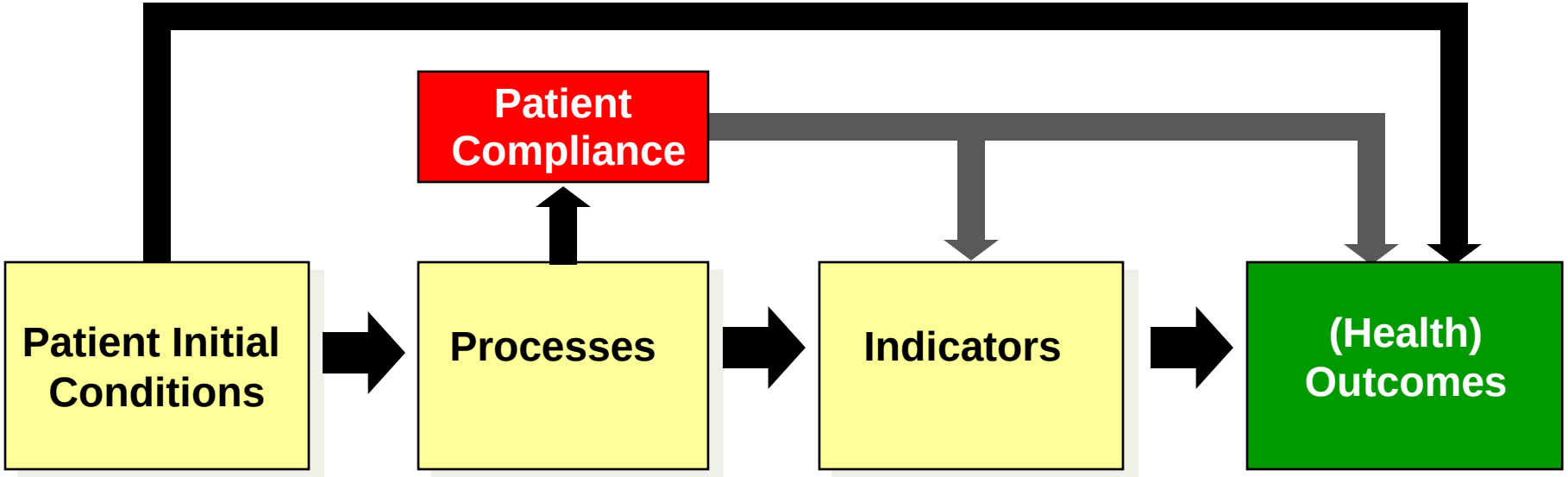
DRG	Number of admitting providers	Average percent of total national admissions	Average admissions/ provider/ year	Average admissions/ provider/ week
Knee Procedure	68	1.5%	55	1
Diabetes age > 35	80	1.3%	96	2
Kidney failure	80	1.3%	97	2
Multiple sclerosis and cerebellar ataxia	78	1.3%	28	1
Inflammatory 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.

IPUs and Value



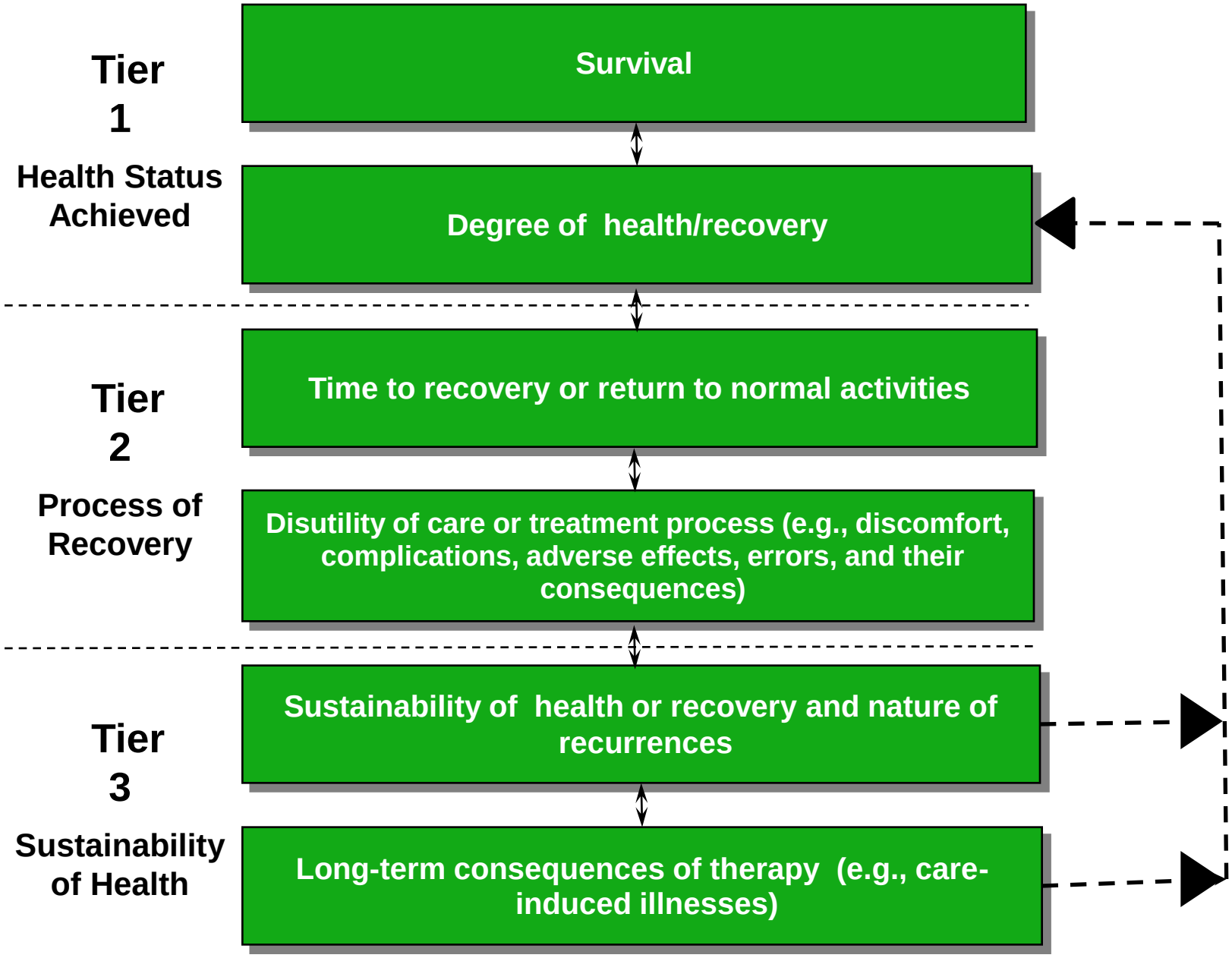
2. Measuring Outcomes and Cost for Every Patient



Protocols/ Guidelines

E.g., Hemoglobin A1c levels for diabetics

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

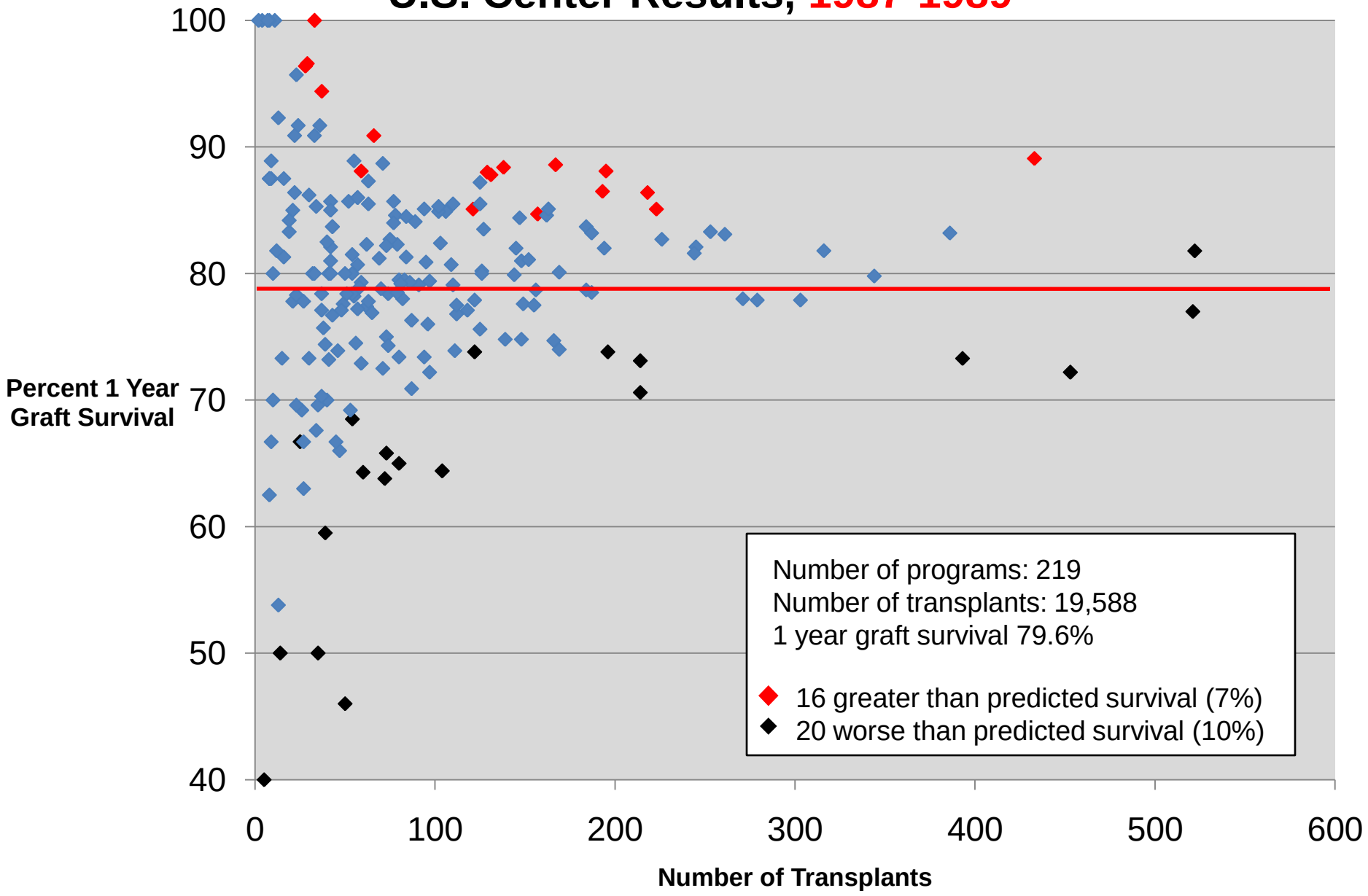
Long-term consequences of therapy (e.g., care-induced illnesses)

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

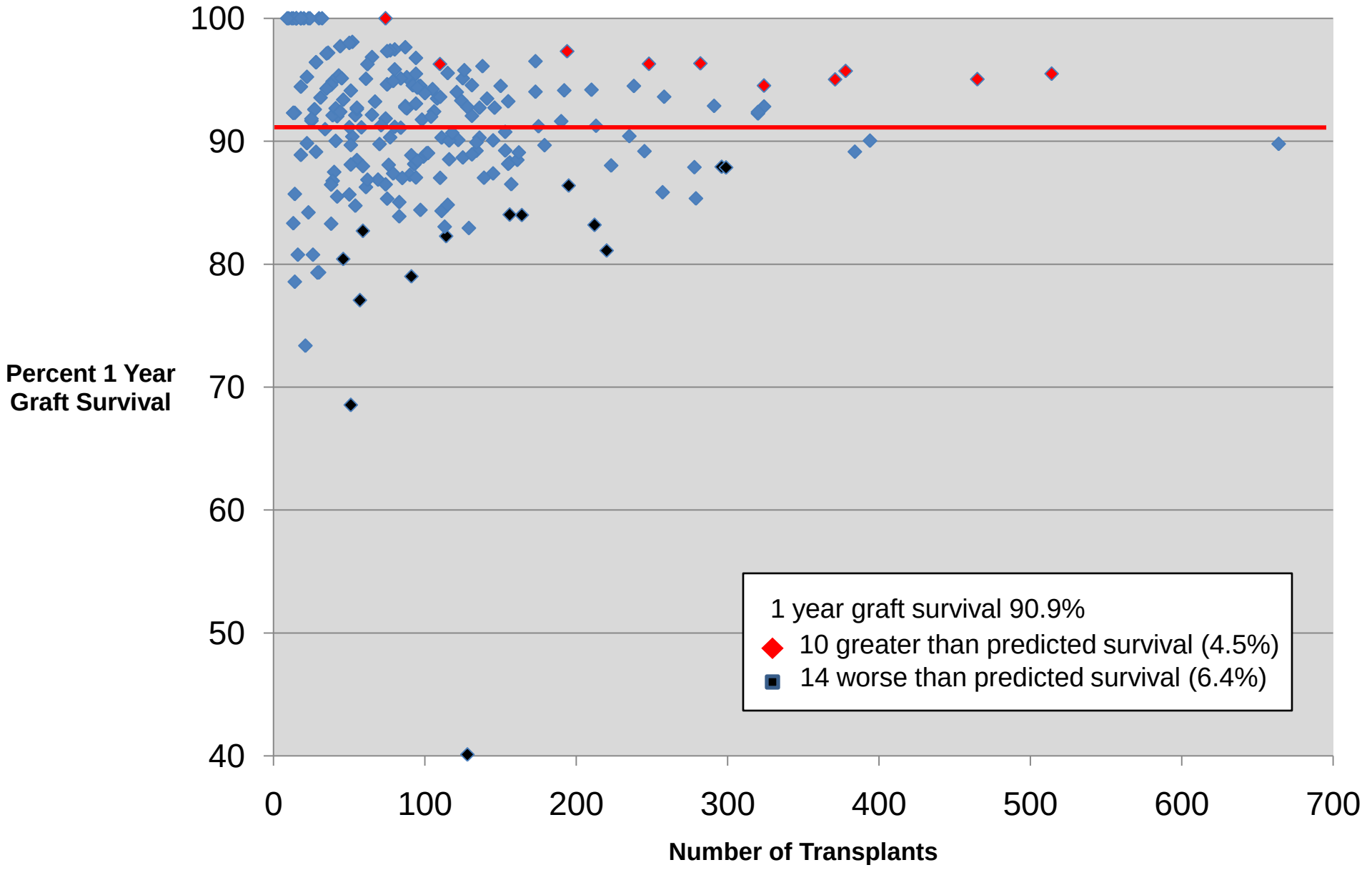
Initial Conditions/Risk Factors

- 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

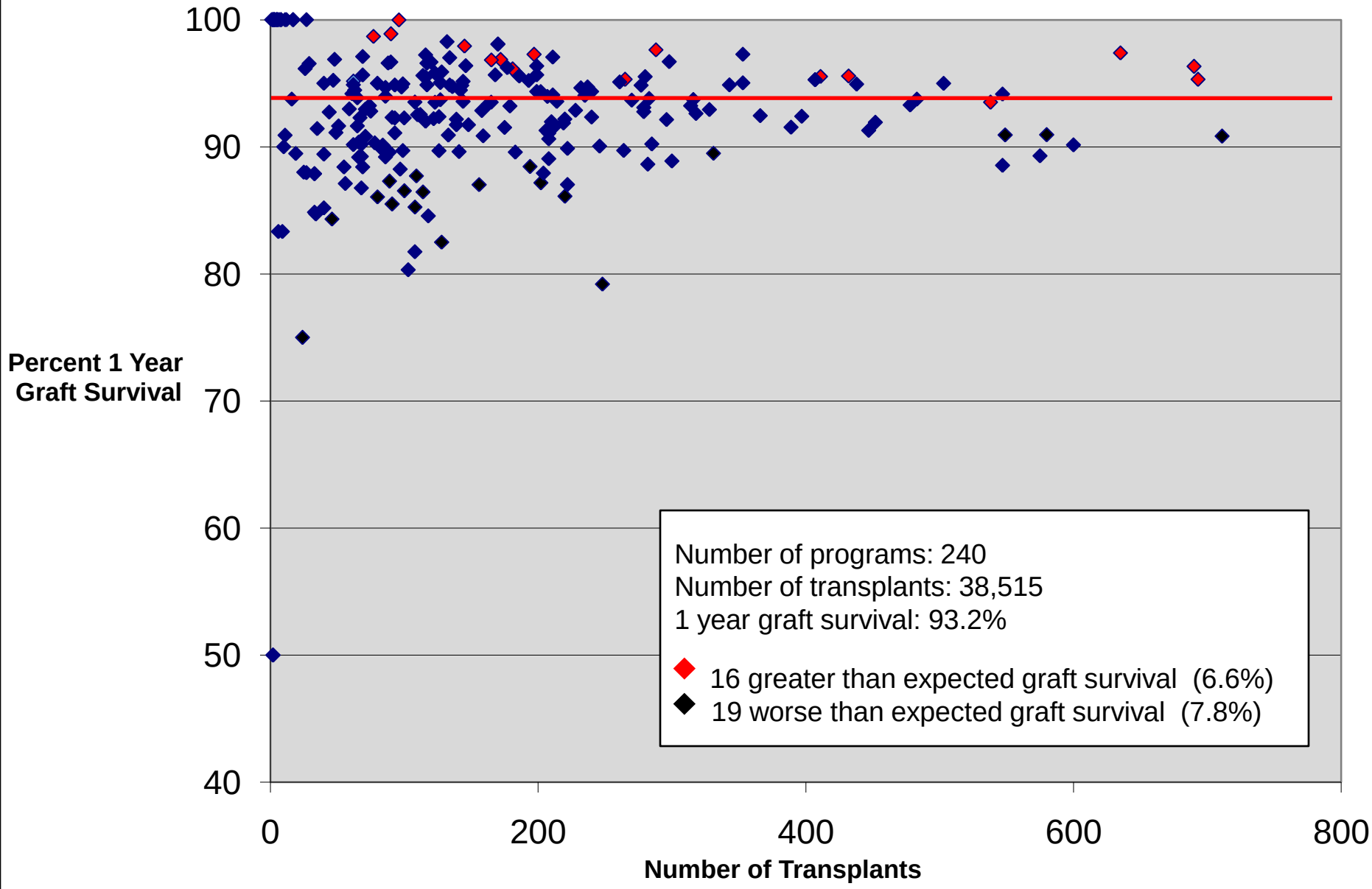
Adult Kidney Transplant Outcomes, U.S. Center Results, 1987-1989



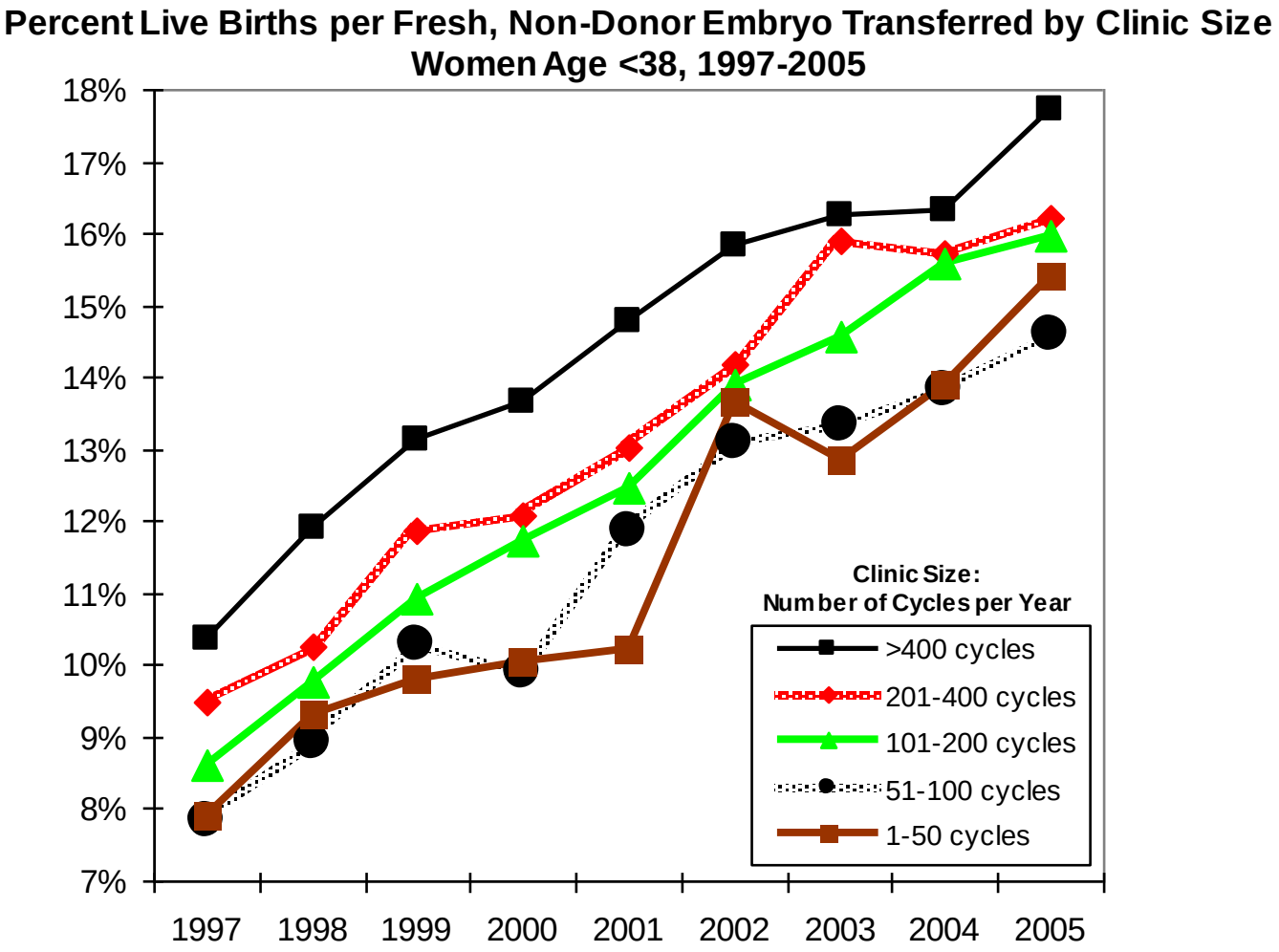
Adult Kidney Transplant Outcomes, U.S. Center Results, 1998-2000



Adult Kidney Transplant Outcomes
U.S. Center Results, 2005-2007



Improvement in In-vitro Fertilization Success Rates



Source: Michael Porter, Saquib Rahim, Benjamin Tsai, *Invitro Fertilization: Outcomes Measurement*. Harvard Business School Press, 2008

Cost Measurement

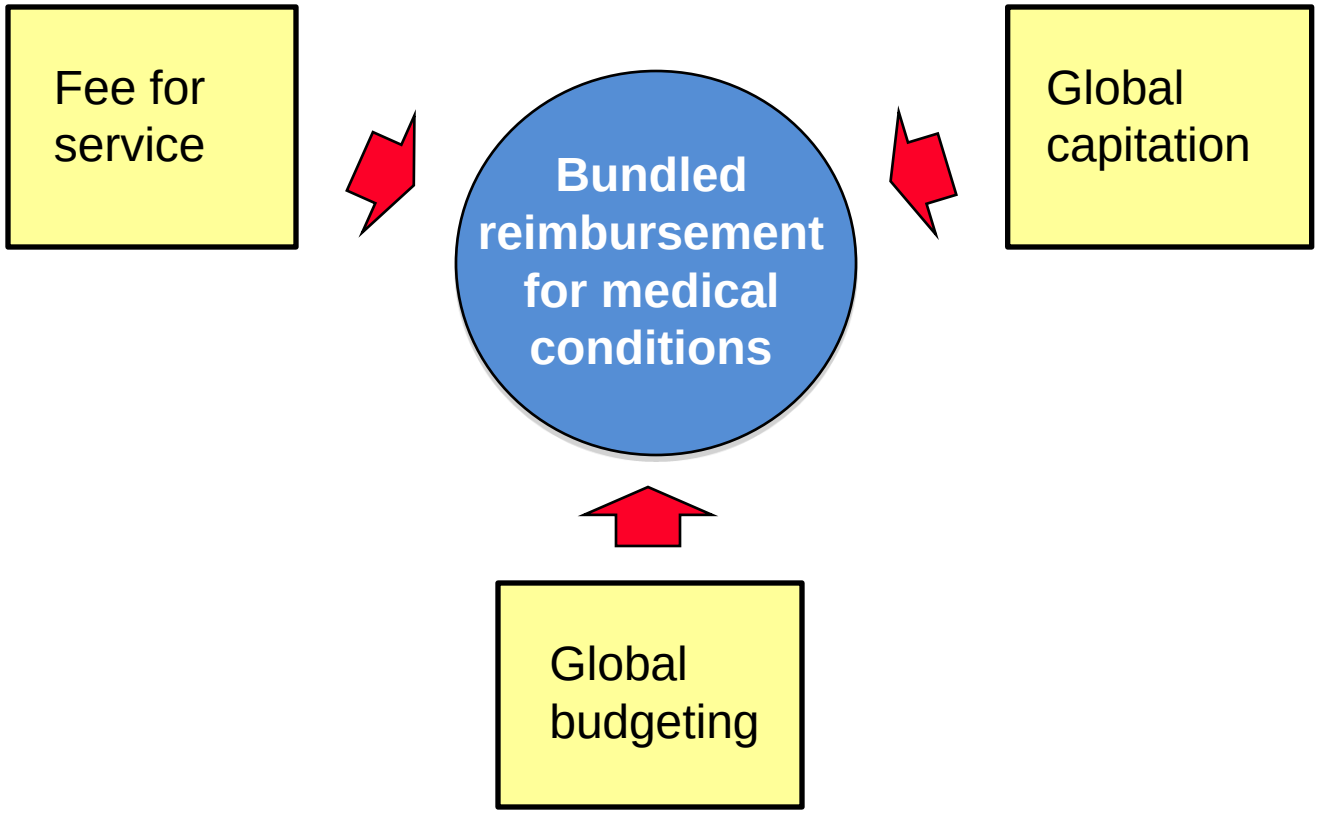
Aspiration

- Cost should be measured at the **medical condition level** (which includes common co-occurring conditions), not for all services combined
- 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

3. Move to Bundled Prices for Care Cycles



What is Bundled Payment?

- **Total package price** for the care cycle for a medical condition
  - Includes responsibility for **avoidable complications**
  - "Medical condition capitation"
- The bundled price should be **severity adjusted**

What is Not Bundled Payment

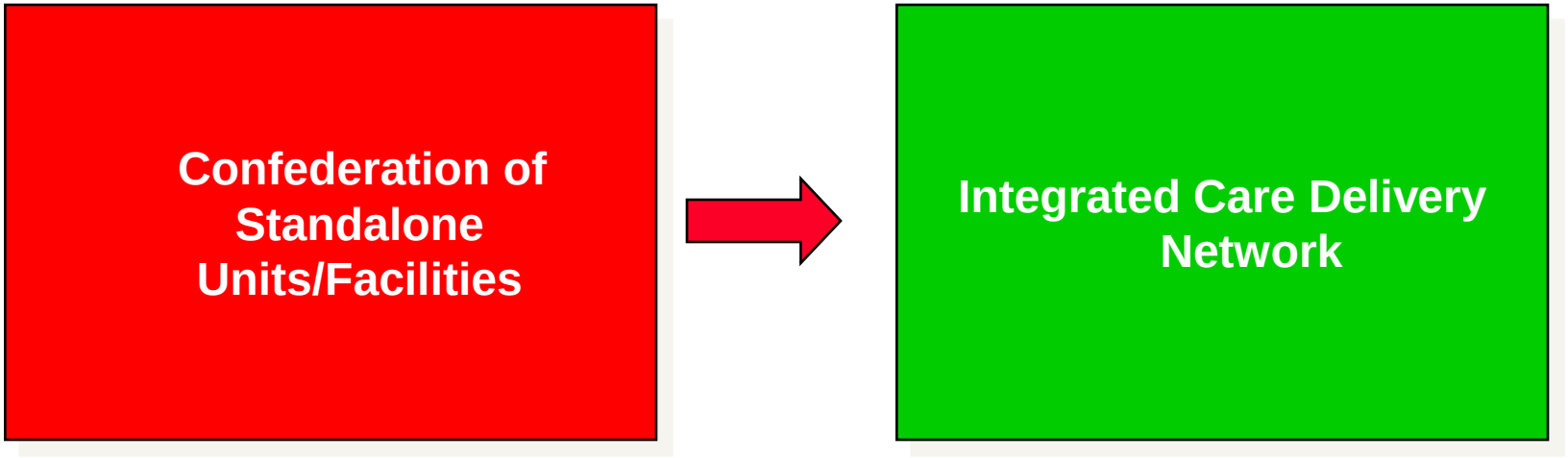
- Prices for **short** episodes (e.g. inpatient only, procedure only)
- **Separate** payments for physicians and facilities
- **Pay-for-performance** bonuses
- "**Medical Home**" payment for care coordination

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

Bundled Payment in Practice
Hip and Knee Replacement in Sweden

- In 2009, Stockholm County Council began to offer a **bundled price for joint replacement** (hip and knee), that includes:
  - Pre-op evaluation
  - Lab tests
  - Radiology
  - Surgery & related admission
  - Prosthesis
  - Drugs
  - Inpatient rehab, up to 6 days
  - 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
- Eligibility is restricted to **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- **Same referral** process as the traditional system
- **Mandatory** reporting to joint registry plus supplementary
- 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**

4. Integrate Care Delivery Across Separate Facilities

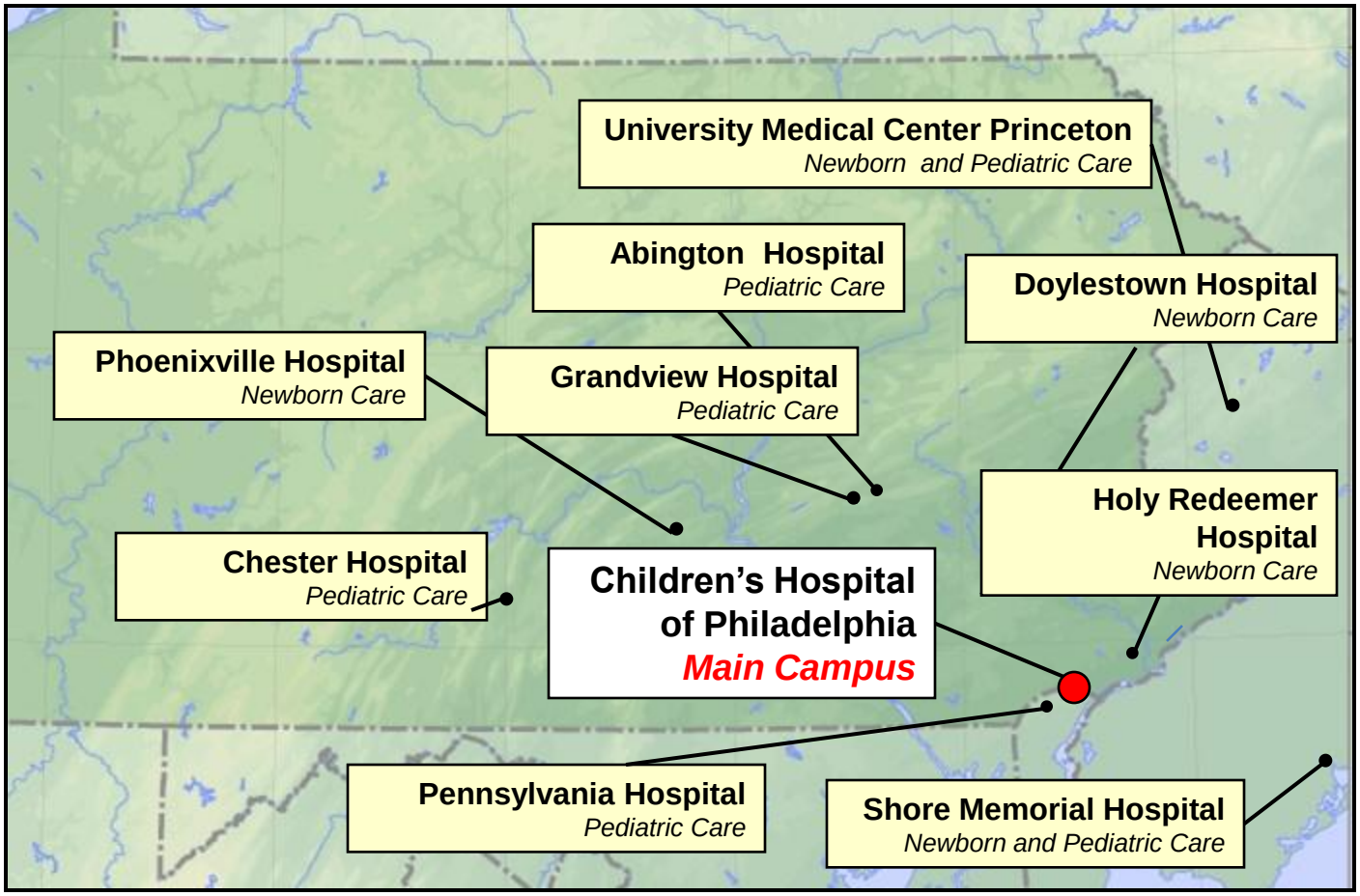


- Increase **volume**
- Benefits limited to **contracting** and **spreading fixed cost**

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

Children's Hospital of Philadelphia (CHOP)

Hospital Affiliates



Children's Hospital of Philadelphia (CHOP)

Primary and Specialty Care Network

Levels of System Integration

- **Rationalize service lines/ IPUs** 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** care across facilities
  - **Consistent protocols** and access to experts throughout the network (IT enabled)
  - Connect **ancillary service units** to IPUs
    - E.g. home care, rehabilitation, behavioral health, social work, addiction treatment (organize within service units to align with IPUs)
  - Better connect **preventive/primary care** units and specialty IPUs

Enabling System Integration

Practice Structure

- **IPU structure**
  - **"Virtual" IPUs** even if providers practice at different locations
  - First step is to increase **consistency** of protocols/processes across sites
  - **Case management structure** spanning units where appropriate

Physician Organization

- **Employed** physicians
- Formal **affiliations** with independent physicians
  - Support service is an inducement for affiliation (E.g. IT, back office)
- **Rotation** of staff across locations

Common Systems

- **Common EMR platform** which aggregates information across units
- Common **outcome and process measurement** systems

Scheduling

- Common or federated **patient scheduling service** across units

Cost Measurement

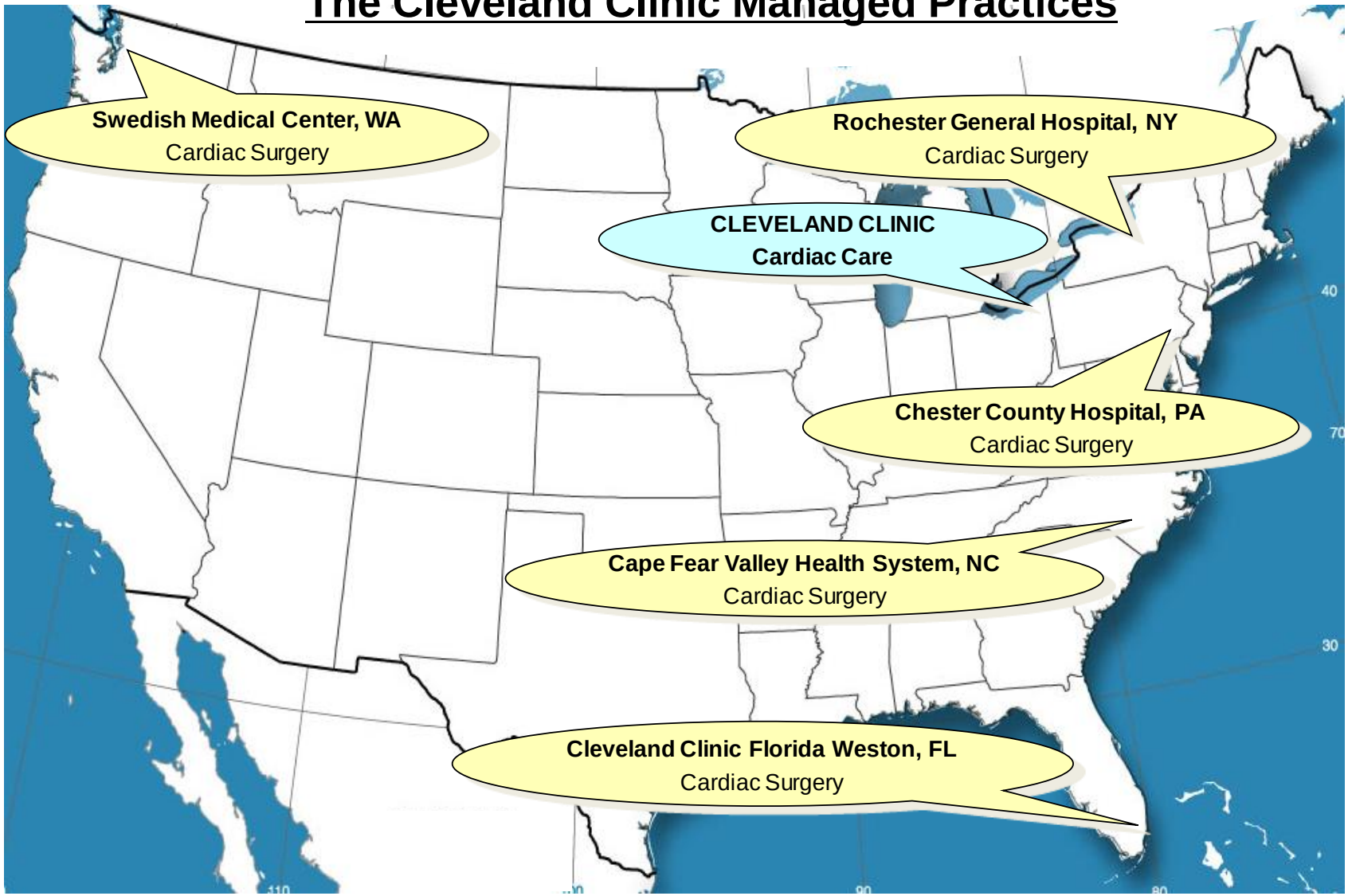
- Ability to accurately accumulate **cost per patient** across the entire care cycle
- Ability to measure **cost by location** for each service/activity

Culture

- Management practices that foster **affiliation with the organization,** developing **personal relationships,** and **regular contact** among dispersed staff

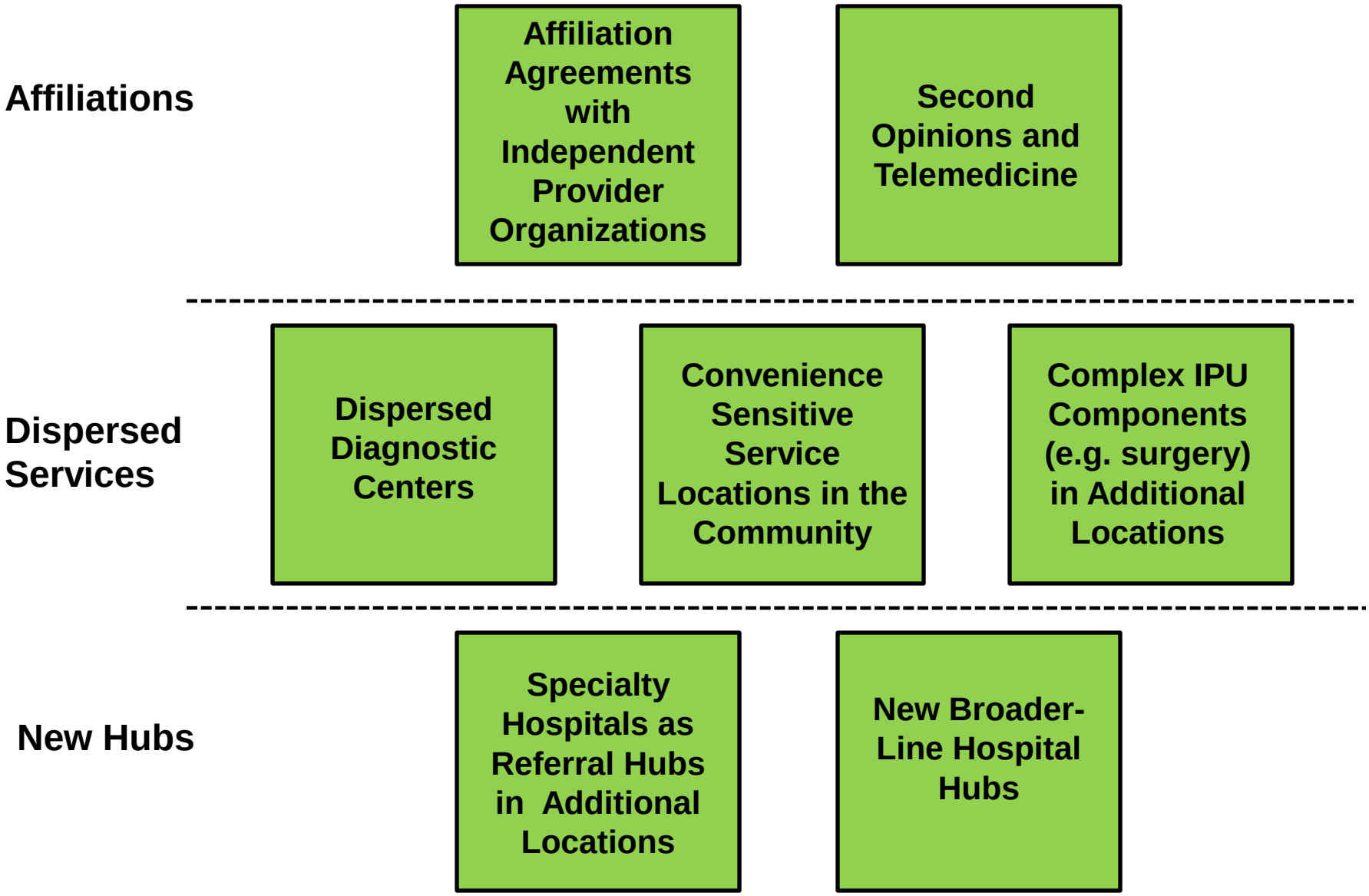
5. Grow by Expanding Excellent IPUs Across Geography

The Cleveland Clinic Managed Practices



- Grow in ways that improve **value**, not just volume

Models of Geographic Expansion

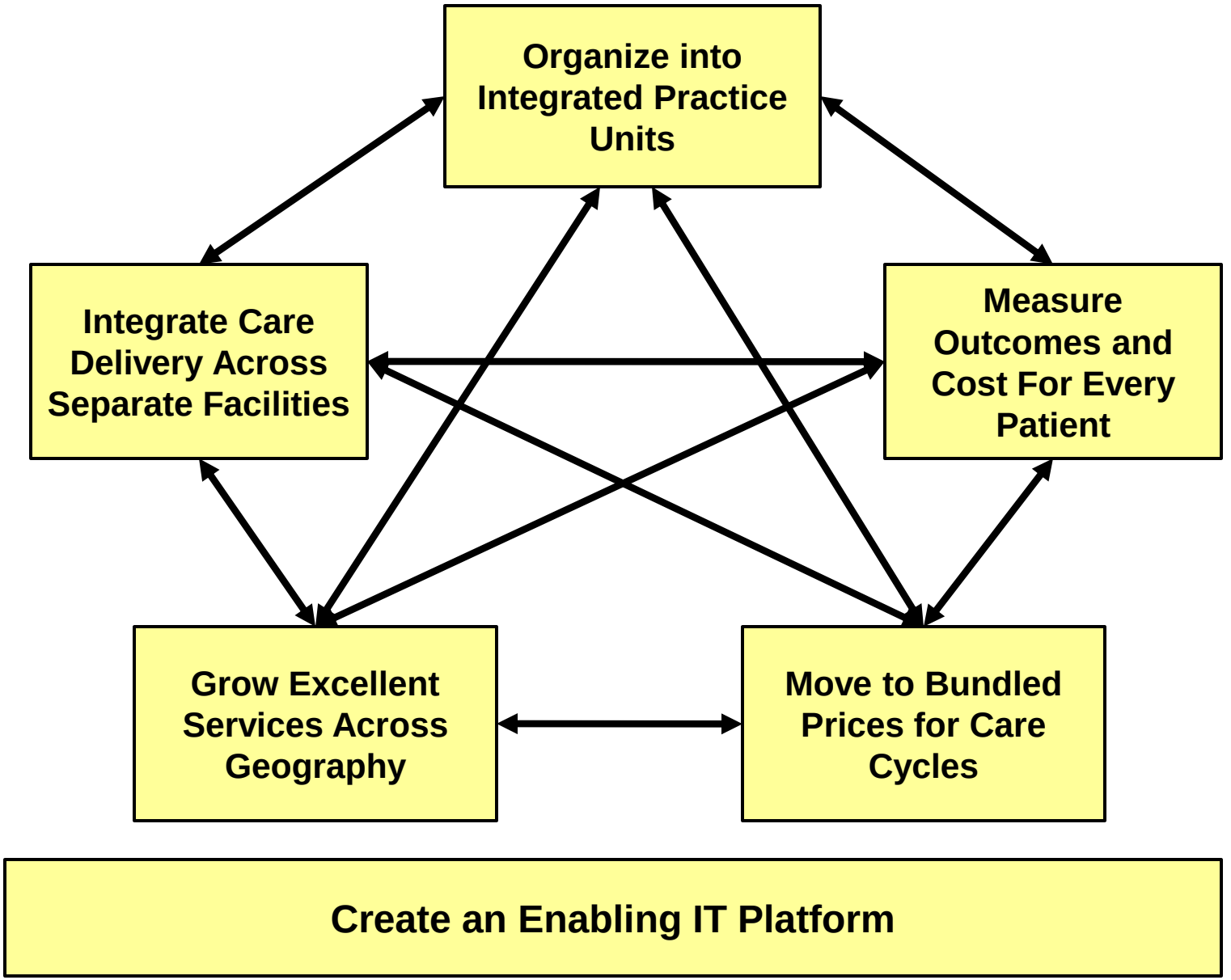


6. Create an Enabling Information Technology Platform

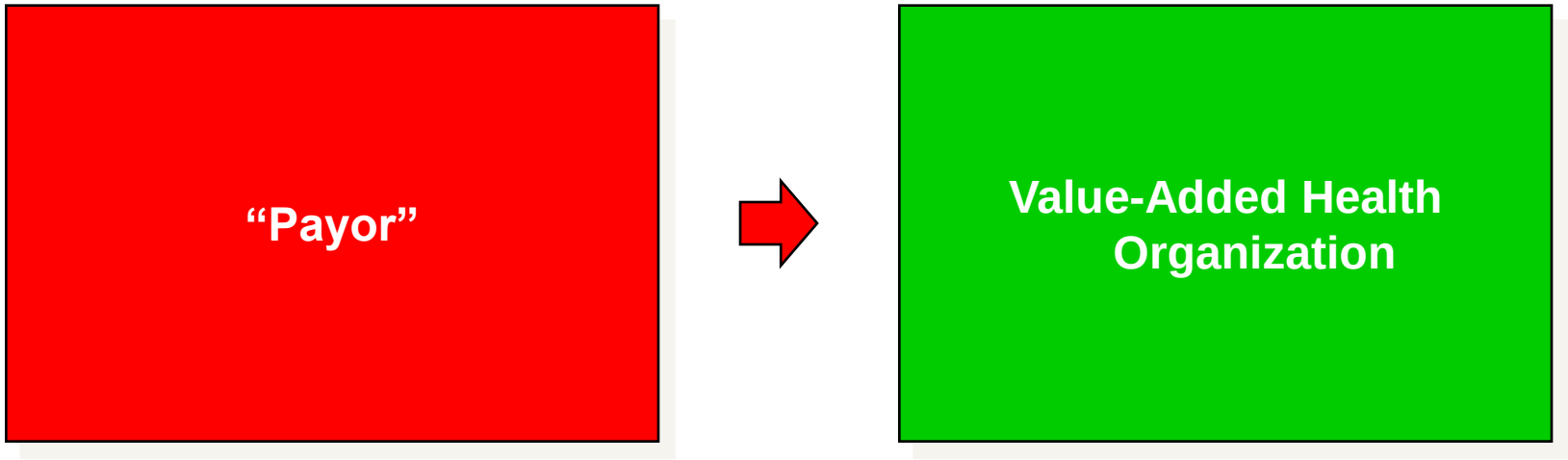
Utilize information technology to enable **restructuring of care delivery** and **measuring results**, rather than treating it as a solution itself

- 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**

A Mutually Reinforcing Strategic Agenda



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



Value-Adding Roles of Health Plans

- Assemble, analyze and manage the **total medical records** of members
- Provide for comprehensive and integrated **prevention**, **wellness**, **screening**, and **disease management** services to all members
- Assist in coordinating patient care across the **care cycle** and **across medical conditions**
- Monitor and compare **provider results** by medical condition
- Provide advice to patients (and referring physicians) in selecting **excellent providers**
- Encourage and reward **integrated practice unit** models by providers
- Design new **bundled reimbursement structures** for care cycles instead of fees for discrete services
- Measure and report **overall health results** for members by medical condition versus other plans

- Health plans will require **new capabilities** and **new types of staff** to play these roles

Value-Based Health Care: The Role of Employers

- Employer interests are **more closely aligned with patient interests** than any other system player
  - 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 should establish **direct relationships with employers** to enable value based approaches

Value-Based Health Care Delivery: Implications for Government

- Remove obstacles to the **restructuring of health care delivery** around the integrated care of medical conditions
- Establish **universal measurement** and **reporting** of provider **health outcomes**
- Require universal reporting by health plans of **health outcomes for members**
- 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
- Encourage greater **responsibility of individuals** for their health and their health care