Value-Based Health Care Delivery

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Harvard Business School

Managing 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 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, and pricing models

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

  - Consumers **cannot fix the dysfunctional structure** of the current system

Harnessing 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

1. Set the goal as **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 the care for the patient's condition**, not just the costs borne by a single provider

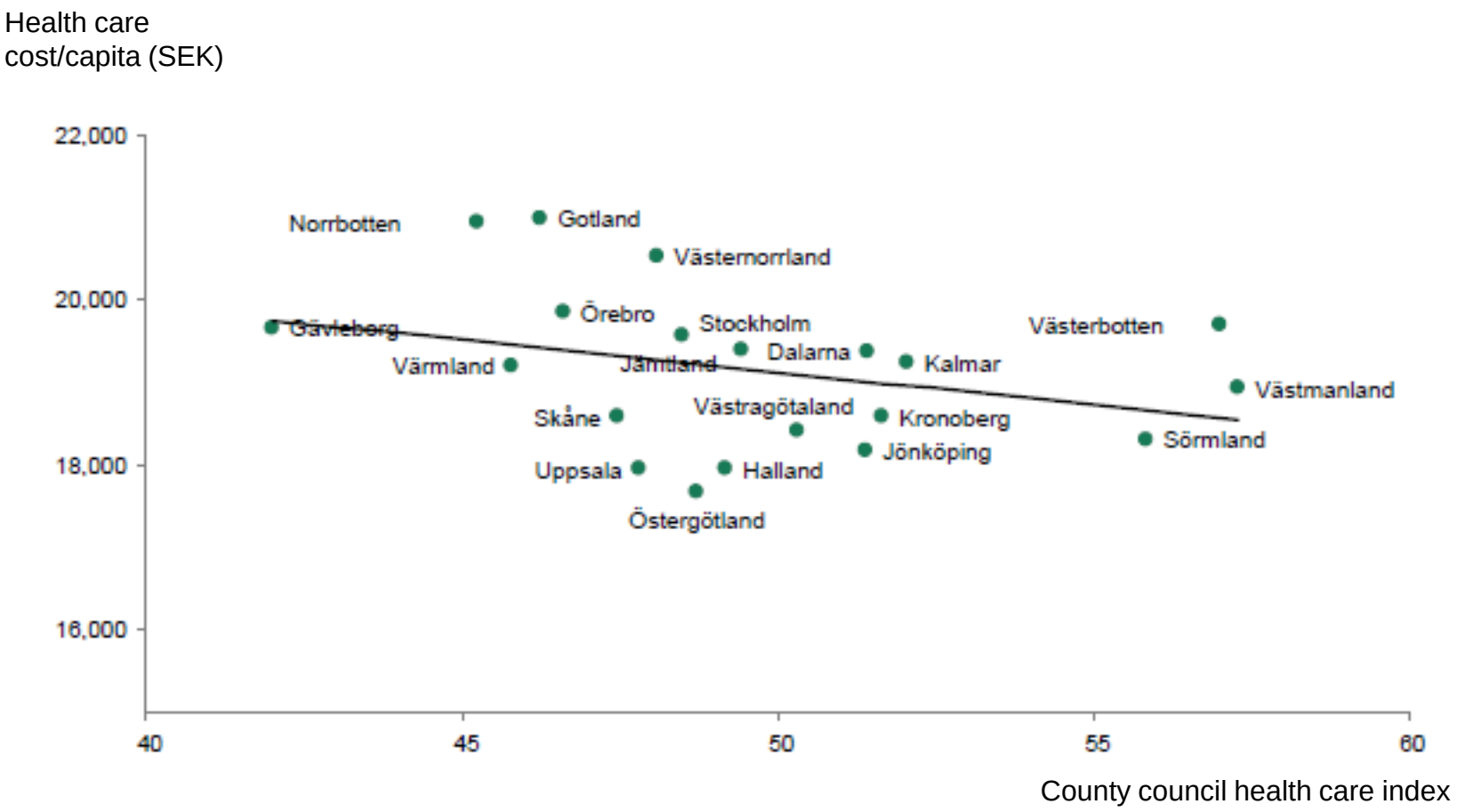
Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**, not containing costs
2. **Quality improvement** is the key driver of cost containment and value improvement, where quality is **health outcomes**

- Prevention
- Early detection
- Right diagnosis
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Right treatment to the right patient
- Rapid cycle time of diagnosis and care
- 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

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

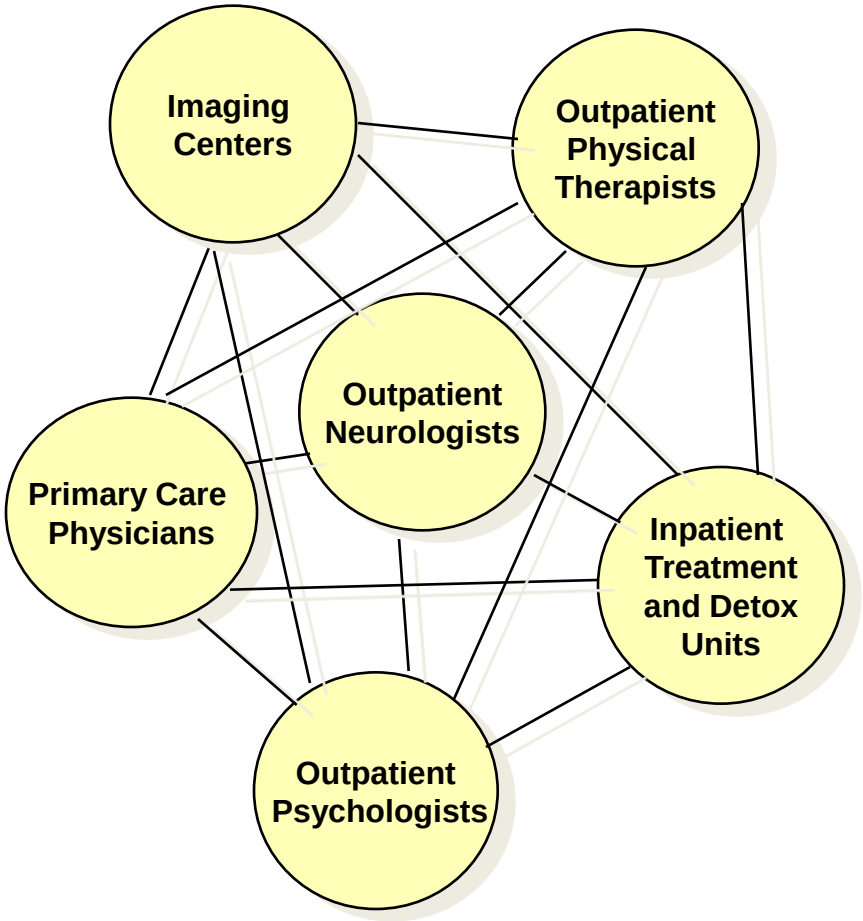
- A medical condition is **an interrelated set of patient medical circumstances best addressed in an integrated way**
  - Defined from the **patient's** perspective
  - **Including** the most common co-occurring conditions and complications
  - Involving **multiple** specialties and services

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

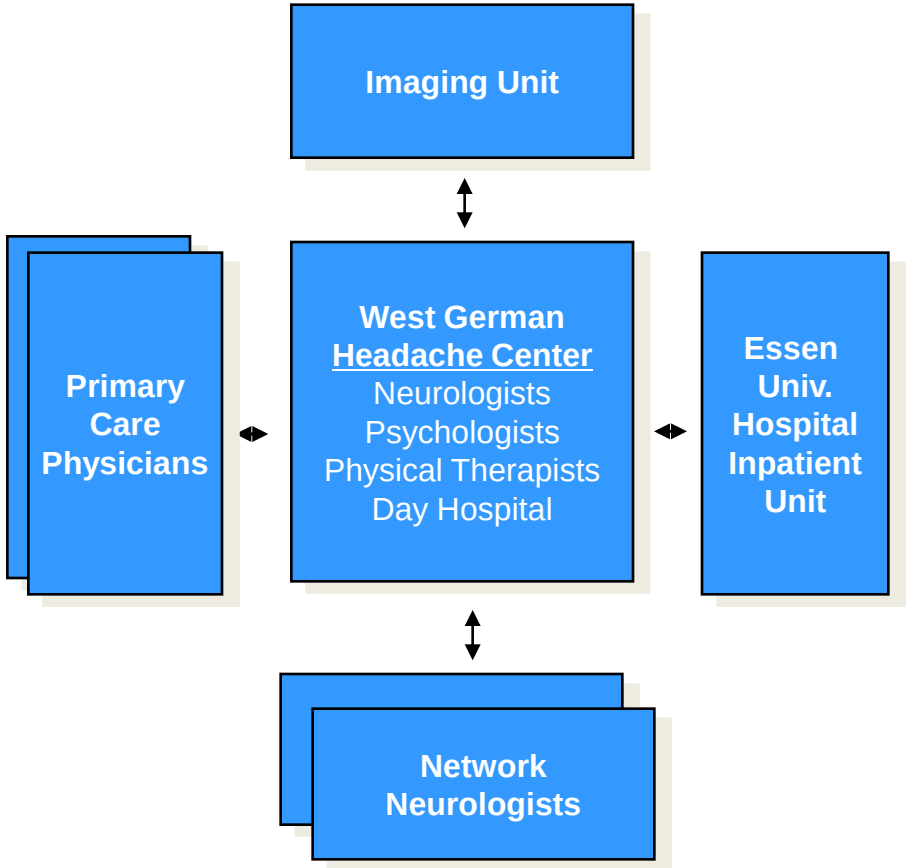
Restructuring Care Delivery

Migraine Care in Germany

Existing Model:
Organize by Specialty and Discrete Services



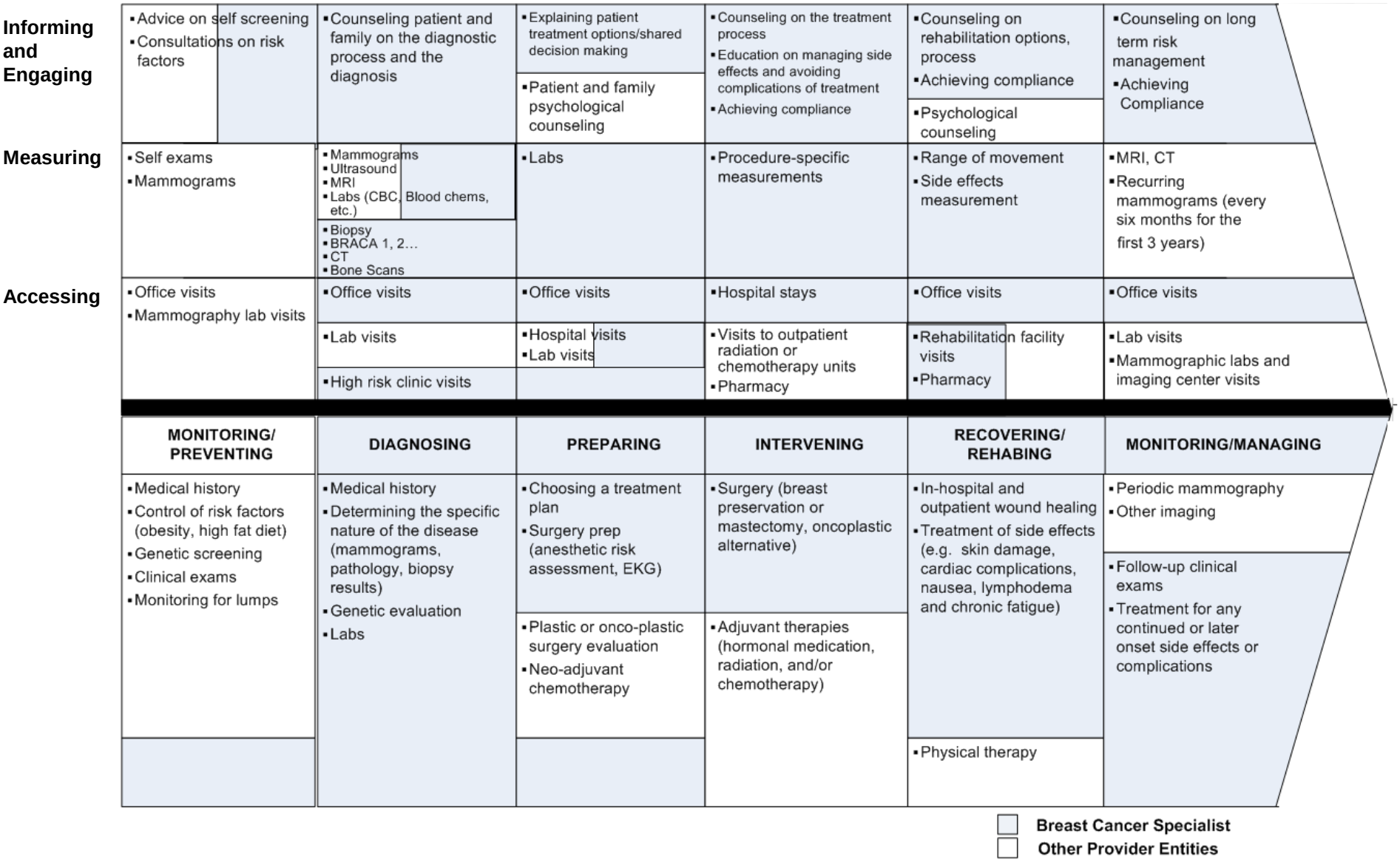
New Model:
Organize into Integrated Practice Units (IPUs)



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



What is Integrated Care?

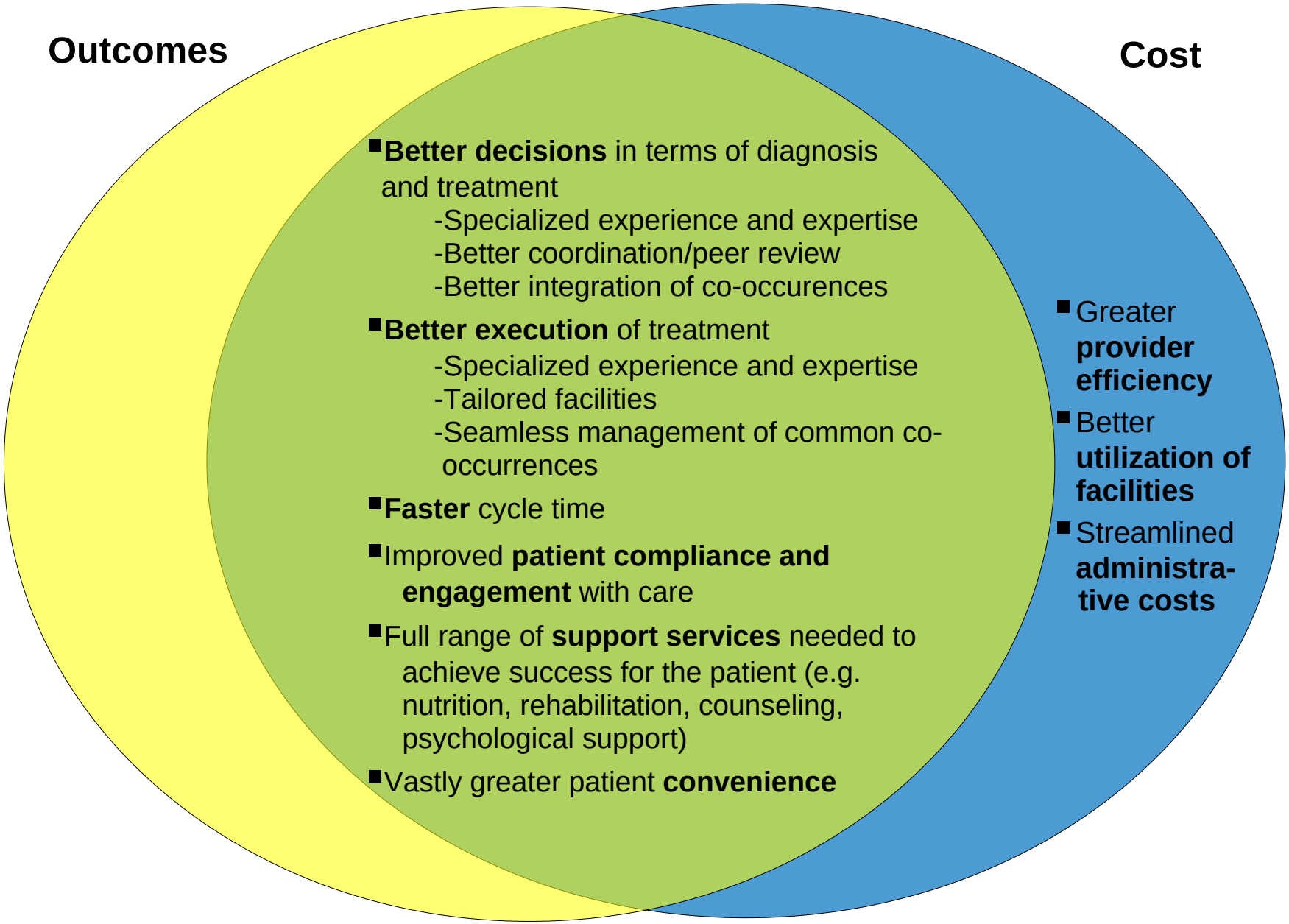
Key Elements of Integrated Care:

- 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

IPUs and Value



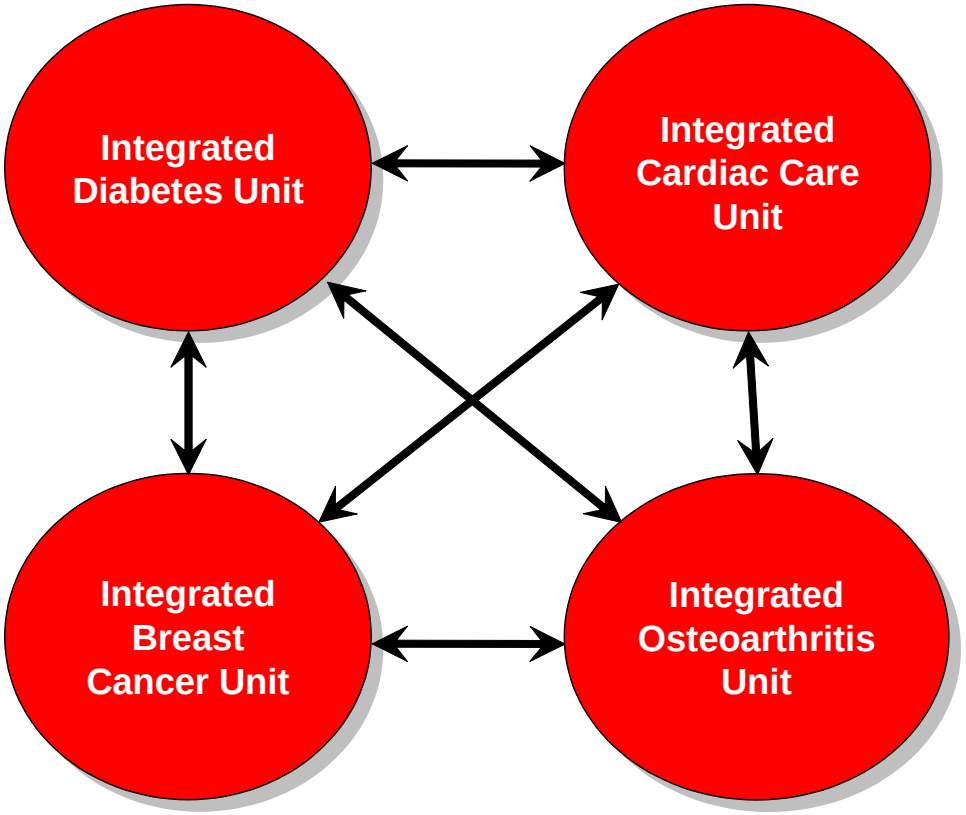
Integrated Models of Primary Care

- Today's primary care is **fragmented** and attempts to address **overly broad** needs with limited resources

- Redefine primary care as prevention, screening, diagnosis, wellness and health maintenance **service bundles**
- Design primary care services around **specific patient populations** (e.g. healthy adults, frail elderly, type II diabetics) rather than attempt to be all things to all patients
- Provide primary care service bundles using **multidisciplinary teams, support staff,** and **dedicated facilities**
- Deliver primary care at the **workplace**, **community organizations**, and **other settings** that offer regular patient contact and the ability to develop a group culture of wellness
- Create **formal partnerships** between primary care organizations and specialty IPUs

Coordinating Care Across IPUs

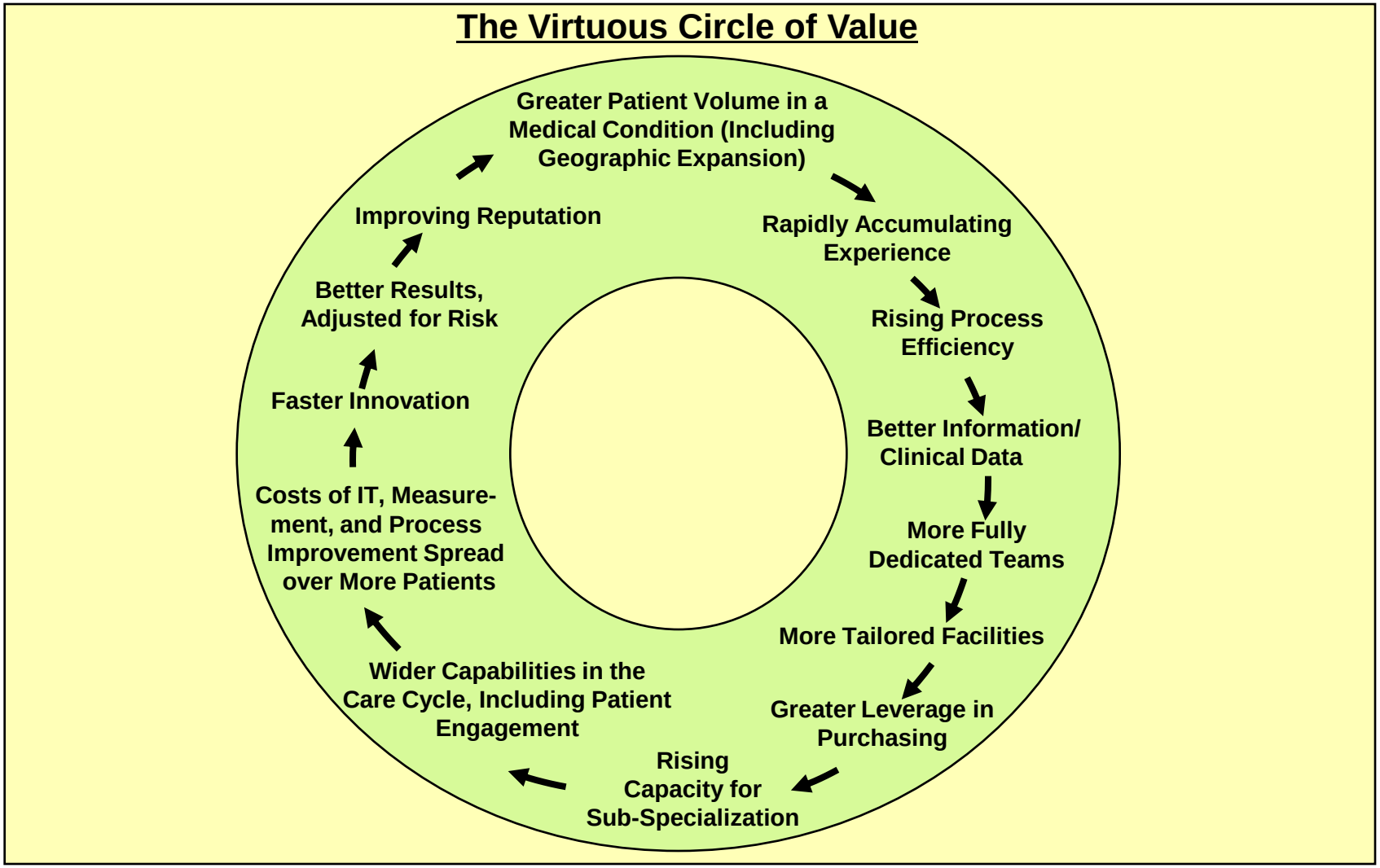
Patients with Multiple Medical Conditions



- The primary organizational structure for care delivery should be around the forms of integration required for **every patient**
  - The current system is organized around the **exception**, not the rule
- **Overlay mechanisms** are then utilized to manage coordination across IPUS
- The IPU model will **greatly simplify** coordination of care for patients with multiple medical conditions

Principles of Value-Based Health Care Delivery

4. Provider **experience**, **scale**, and **learning** at the medical condition level drive value improvement



- Volume and experience will have a **much greater impact** on value in an IPU structure
- The virtuous circle **extends across geography in integrated care organizations**

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	1
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.

Fragmentation of Hospital Services

Japan

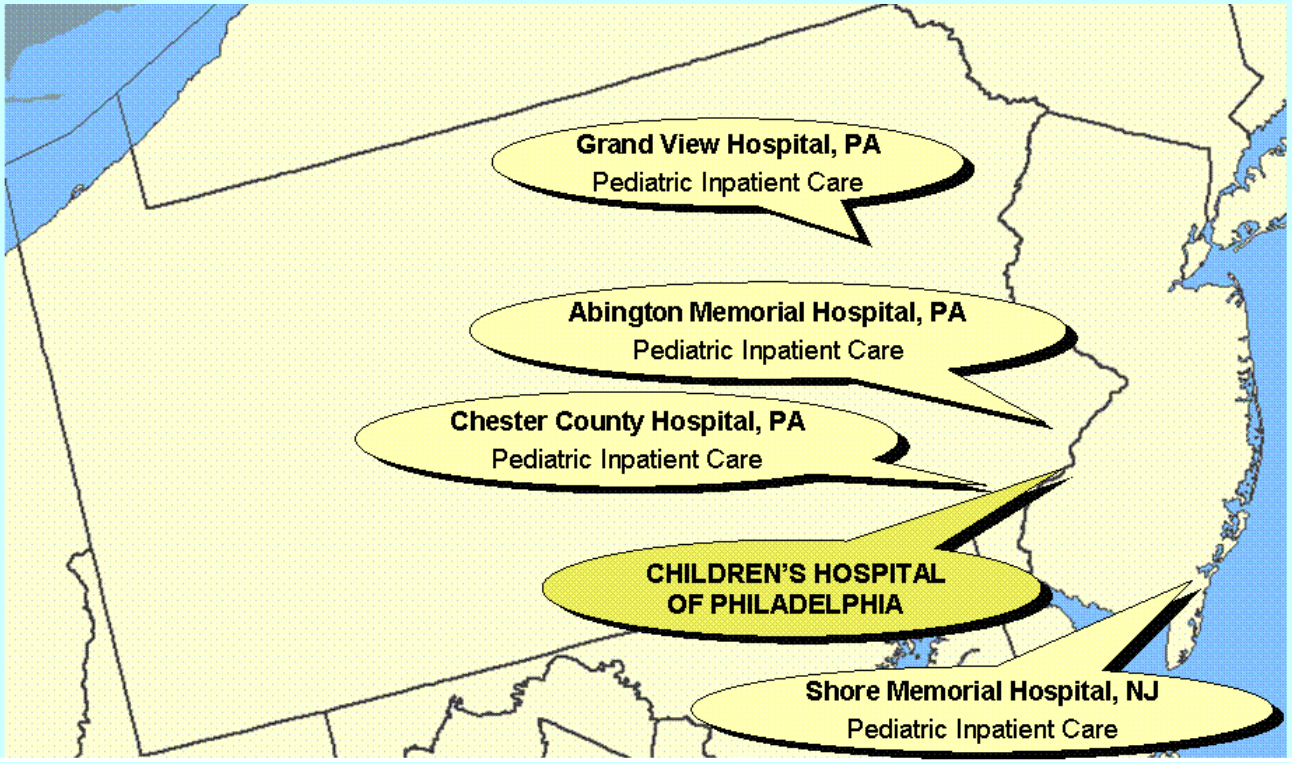
Procedure	Number of hospitals performing the procedure	Average number of procedures per provider per year	Average number of procedures per provider per week
Craniotomy	1,098	71	1.4
Operation for gastric cancer	2,336	72	1.4
Operation for lung cancer	710	46	0.9
Joint replacement	1,680	50	1.0
Pacemaker implantation	1,248	40	0.8
Laparoscopic procedure	2,004	72	1.4
Endoscopic procedure	2,482	202	3.9
Percutaneous transluminal coronary angioplasty	1,013	133	2.6

Source: Porter, Michael E. and Yuji Yamamoto, *The Japanese Health Care System: A Value-Based Competition Perspective*, Unpublished White Paper, September 1, 2007

Principles of Value-Based Health Care Delivery

5. **Integrate care across facilities** and **geography**, rather than duplicating services in stand-alone units

Children's Hospital of Philadelphia (CHOP) Affiliations



- Deliver services in the **appropriate** facility, not every facility
- Excellent providers can manage care delivery across **multiple geographic areas**

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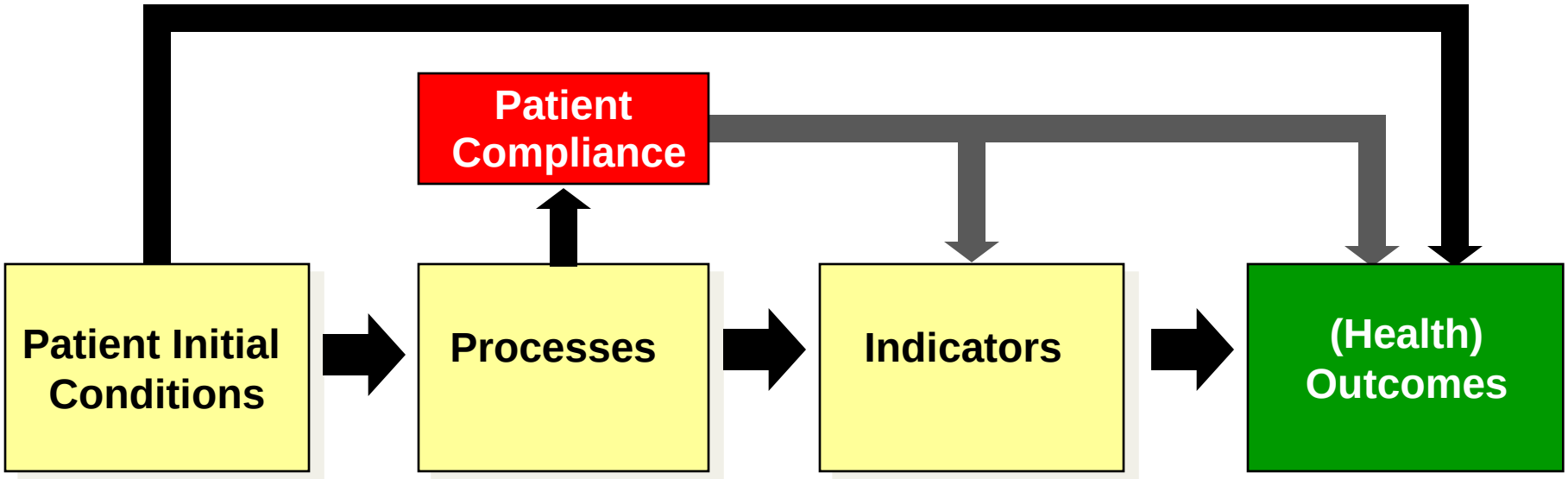
3. Care delivery should be organized around the patient's **medical condition** over the **full cycle of care**
4. Provider **experience**, **scale**, and **learning** at the medical condition level drive value improvement
5. **Integrate care across facilities** and **geography**, rather than duplicating services in stand-alone units
6. Measure and report **outcomes** and **costs** for every provider, every medical condition, and every patient

Measuring Value in Health Care



Protocols/ Guidelines

E.g., Hemoglobin A1c levels for diabetics

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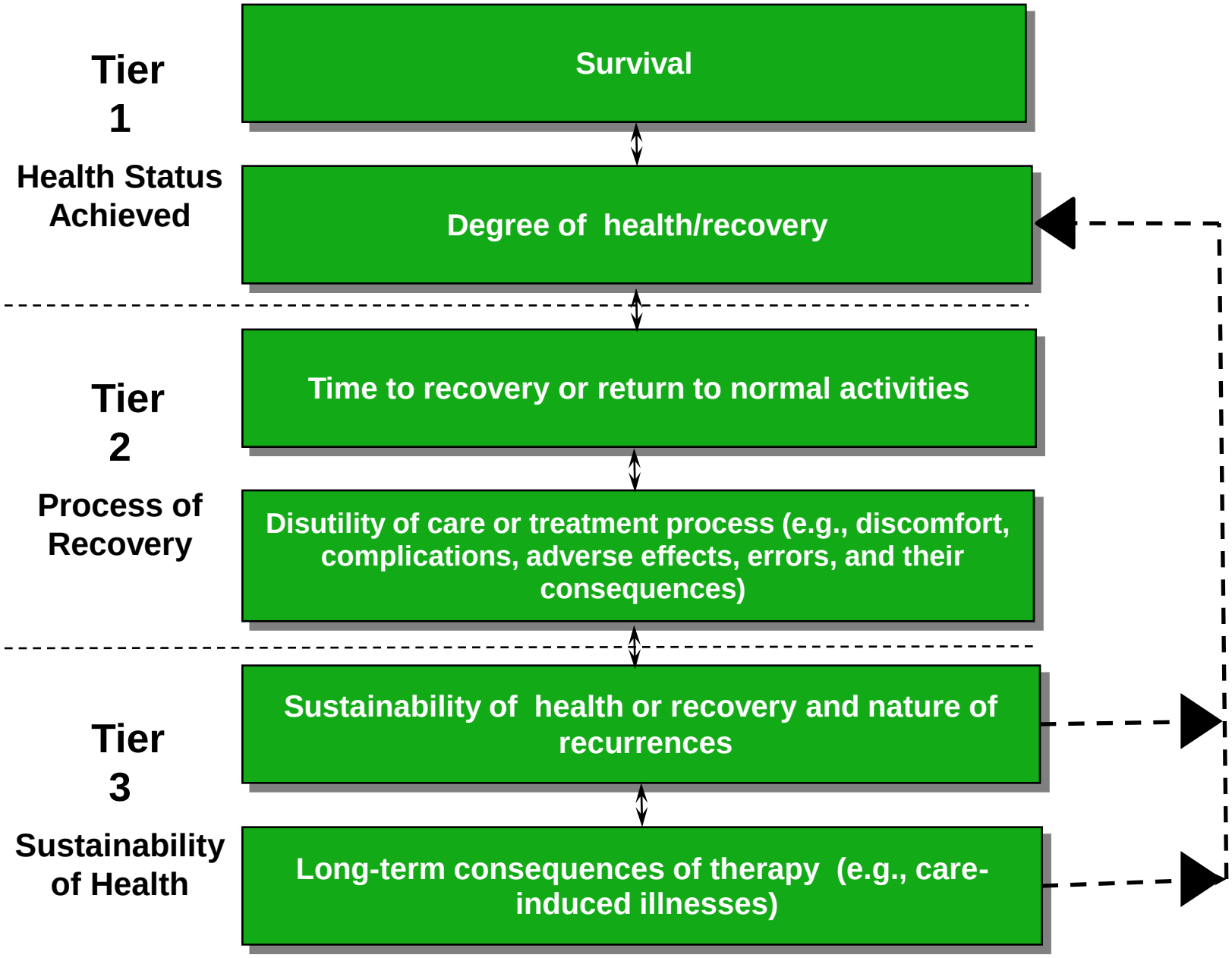
6. Measure and report **outcomes** and **costs** for every provider, every medical condition, and every patient

- Results must be measured at **the level at which value is created** not traditional organizational units

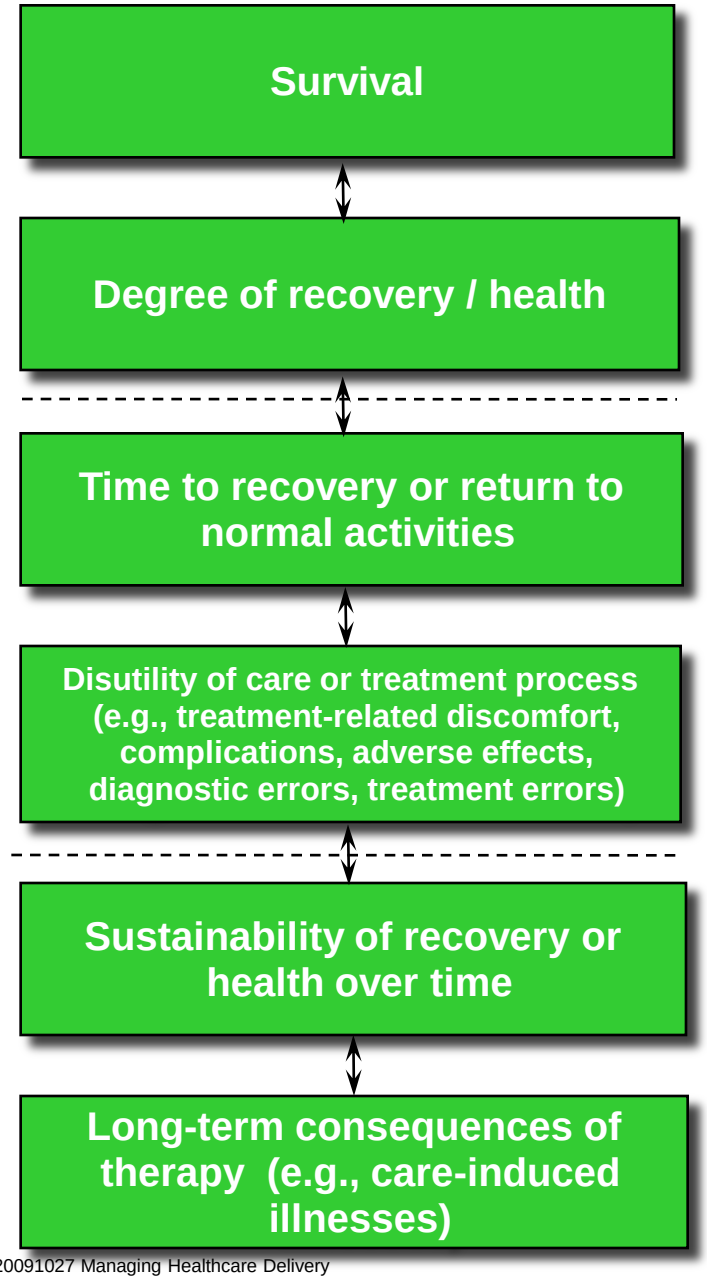
- Outcomes should be measured for **each medical condition** over the **cycle of care**
  - Not for interventions or short episodes
  - Not separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)
  - Not for practices, departments, clinics, or entire hospitals

The Outcome Measures Hierarchy



The Outcome Measures Hierarchy

Breast Cancer



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

- **Degree of remission**
- **Functional status**

- **Breast conservation outcome**

- **Time to remission**

- **Time to achieve functional status**

- **Nosocomial infection**
- **Nausea**
- **Vomiting**
- **Febrile neutropenia**

- **Limitation of motion**
- **Suspension of therapy**
- **Failed therapies**
- **Depression**

- **Cancer recurrence**

- **Sustainability of functional status**

- **Incidence of secondary cancers**
- **Brachial plexopathy**

- **Fertility/pregnancy complications**
- **Premature osteoporosis**

Swedish Obesity Registry
Indicators

Surgery

- Operation type and concurrent operations (gall bladder removal, appendix removal, etc)
- Surgery data (surgery/anesthesia times, blood loss, etc)
- Perioperative complications

6-week follow-up

- Length of stay
- Post operative but <30d surgical complications (bleeding, leakage, infection, technical complications, etc)
- Post operative but <30d general complications (blood clot, urinary infection, etc)
- Other operations required (gall bladder, plastic surgery, etc)
- Diabetes compliance (HbA1c)
- Repetition of anthropometric measurements (height, weight, waist, BMI, and change from initial)

Source: SOReg: Swedish National Obesity Registry

1,2 & 5-year follow-up

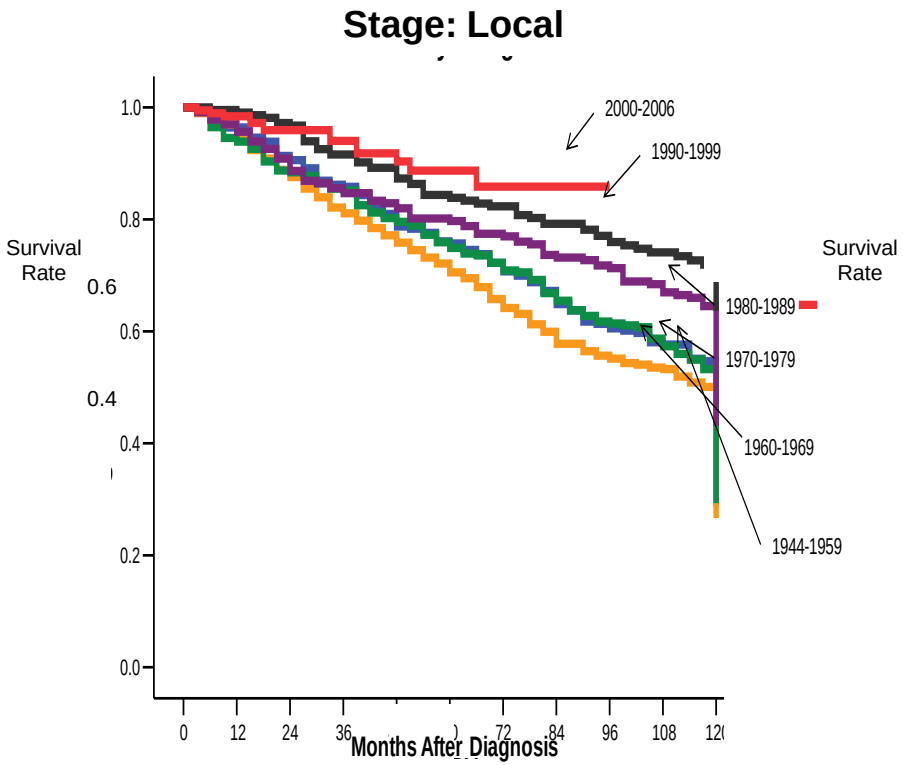
- Anthropometrics and change from initial
- Diabetes, triglycerides, cholesterol indicators
- Comorbidities, and ongoing treatments
- Delayed complications of operation (hernia, ulcer, treatment related malnutrition or anemia, etc)
- Other surgeries since registration
- SF-36/OP-9 (validated quality of life measures)

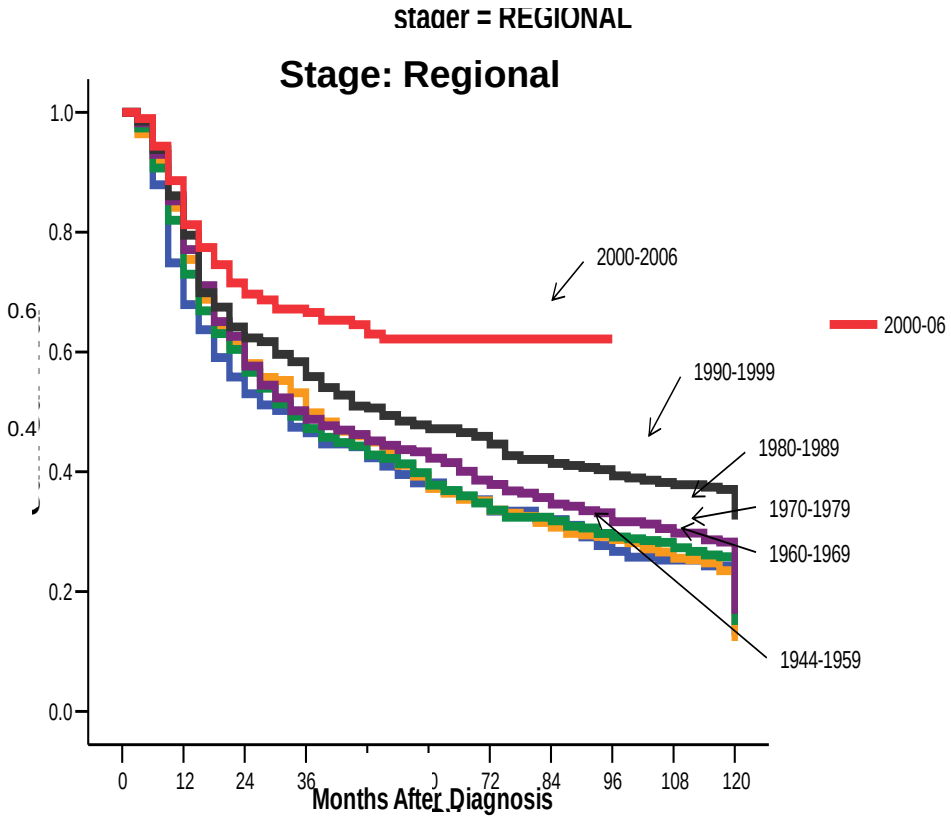
Initial Conditions

- Demographics (age, sex, height, weight, BMI, waist circumference etc)
- Baseline labs – HbA1c (a measure of long-term blood glucose control), Triglycerides, Low Density Lipoprotein (bad cholesterol),High Density Lipoprotein (good cholesterol) Comorbidities (sleep apnea, diabetes, depression, etc)
- SF-36/OP-9 (validated quality of life measures)
- Background (Previous surgeries, anesthesia risk class)

Source: SOReg: Swedish National Obesity Registry

MD Anderson Oral Cavity Cancer Survival by Registration Year





Source: MD Anderson Cancer Center

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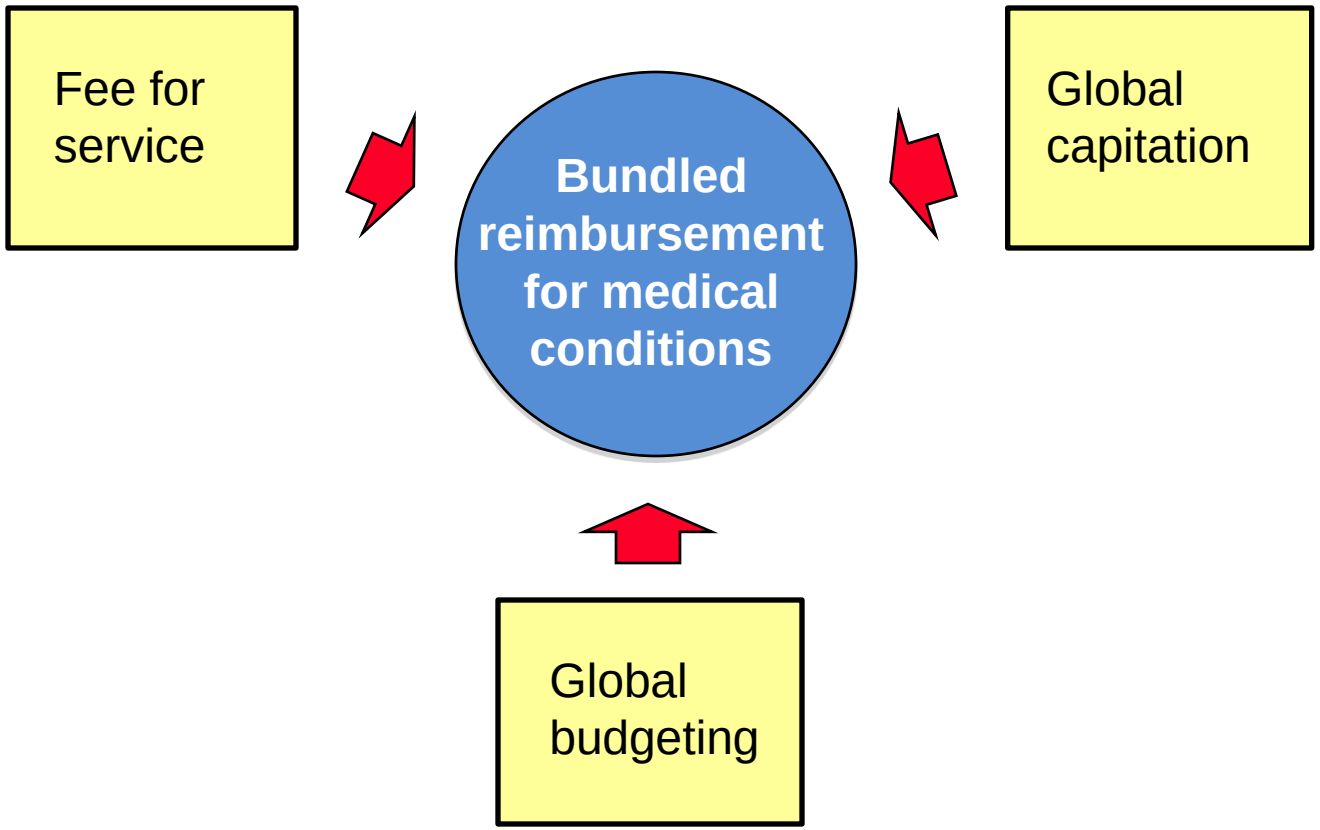
5. **Integrate care across facilities** and **geography**, rather than duplicating services in stand-alone units
6. Measure and report **outcomes** and **costs** for every provider, every medical condition, and every patient
7. **Align reimbursement** with value and reward innovation

- **Bundled reimbursement** for **cycles of care** for medical conditions, not payment for discrete services or short episodes
- Time-base bundled reimbursement for **managing chronic conditions**
- Reimbursement for defined **prevention, screening, wellness/health maintenance** service bundles

- **Providers** and **health plans** should be proactive in driving new reimbursement models, not wait for government

Value-Based Reimbursement



- Bundled reimbursement for care cycles motivates **value improvement, care cycle optimization**, and **spending to save**
- **Outcome measurement and reporting** at the medical condition level is needed for any reimbursement system to ultimately succeed

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7. **Align reimbursement** with value and reward innovation
8. Utilize information technology to enable **restructuring of care delivery** and **measuring results**, rather than treating it as a solution itself

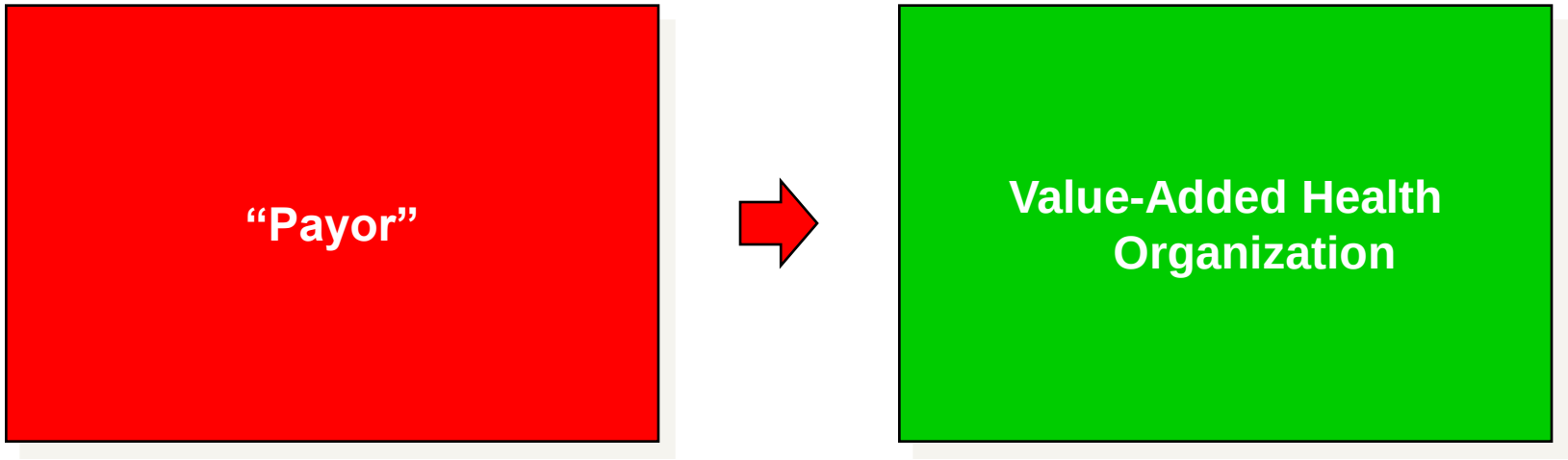
- Common data definitions
- "Structured" data vs. free text
- Data encompasses the full care cycle, including referring entities
- Interoperability standards enabling communication among systems
- Structure for combining all types of data (e.g. notes, images) for each patient over time
- Templates for medical conditions to enhance the user interface
- Accessible by, and allowing communication among, all involved parties, including patients
- Architecture that allows easy extraction of outcome measures

Value-Based Health Care Delivery

The Strategic Agenda for Providers

1. **Integrated Practice Units**
   - Including primary care
2. **Outcomes and Cost Measurement**
3. **New Reimbursement Models**
   - Engage health plans but also seek direct relationships with employers/employer groups
4. **Provider System Integration**
   - **Rationalize service lines/ IPUs** across facilities to improve volume, avoid duplication, and enable excellence
   - Offer specific services at the **appropriate facility**
     - **e.g. acuity level, cost level, benefits of convenience**
   - Clinically integrate care **across facilities** within an IPU structure
     - The **care delivery organization should span facilities**
   - Formally link **primary care** units to specialty IPUs
5. **Growth Across Geography**
6. **Enabling Information Technology Platform**

Value-Based Healthcare Delivery:
Implications for Health Plans



Value-Adding Roles of Health Plans

- Measure and report **overall health results** for members by medical condition versus other 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
- Monitor and compare **provider results** by medical condition
- Provide advice to patients (and referring physicians) in selecting **excellent providers**
- Assist in coordinating patient care across the **care cycle** and **across medical conditions**
- Encourage and reward **integrated practice unit** models by providers
- Design new **bundled reimbursement structures** for care cycles instead of fees for discrete services

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

Implications for Employers

- Set the goal of **employee health**
- Assist employees in **healthy living** and **active participation in their own care**
- Provide for convenient and high value **prevention, wellness, screening,** and **disease management** services
  - On site clinics
- Set **new expectations for payors**
  - Plans should contract for **integrated care**, not discrete services
  - Plans should contract for care **cycles rather** than single interventions
  - Plans should assist subscribers in **accessing excellent providers** for their medical condition
  - Plans should **measure** and **improve** member health results by condition, and expect providers to do the same
- Provide for **health plan continuity** for employees, rather than plan churning
- Measure and hold employee benefit staff accountable for the **health value achieved** by the company
- Find ways to **expand insurance coverage** and advocate **reform of the insurance system**

- Providers should **forge direct relationships** with employers

Implications for Government

Shift insurance market competition to value and enable universal coverage:

- Shift insurance market competition by ending discrimination based on pre-existing conditions and re-pricing upon illness
- Build upon the current **employer based system**
- Create a viable insurance option for **individuals and small groups** through large statewide and multistate **insurance pools**, coupled with a **reinsurance system** for high cost individuals
- Establish **income-based subsidies** on a sliding scale for lower income individuals
- Once viable insurance options are established, **mandate the purchase of health insurance** for all Americans
- Give employers a choice of providing insurance or a payroll tax based on the proportion of employees requiring public assistance1

Implications for Government (Continued)

Restructure Delivery

- Establish universal and mandatory measurement and reporting of provider **health outcomes**
  - **Experience** reporting as an interim step
- Shift reimbursement systems to **bundled payment for cycles of care** instead of payments for discrete treatments or services
- Encourage **restructuring of health care delivery** around the integrated care for medical conditions
  - Eliminate obstacles such as Stark Laws, Corporate Practice of Medicine
  - Minimum volume standards as an interim step
- Create new integrated **prevention, wellness, screening** and **health maintenance** service bundles for defined patient groups
- Mandate **EMR adoption** that enables integrated care and supports outcome measurement
  - Software as a service model for smaller providers
  - National standards for data, communication, and aggregation
- Encourage **responsibility of individuals** for their health and health care
- **Open up value-based competition** for patients within and across state boundaries

How Will Redefining Health Care Begin?

- It is **already happening** in the U.S. and other countries
- Steps by pioneering institutions will be **mutually reinforcing**
- Once competition begins working, value improvement will **no longer be discretionary**
- Those organizations that **move early** will gain major benefits

- **Providers** can and should take the lead