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 system that **dramatically improves patient value**
  - Ownership of entities is secondary (e.g. non-profit vs. for profit vs. government)
- How to create 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 delivered with 19th century organization structures, management practices, and pricing models

  - TQM, process improvements, safety initiatives, disease management and other overlays are beneficial but **not sufficient** to substantially improve value

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

Harnessing Competition on Value

- Competition is a powerful force to encourage **restructuring of care** and **continuous improvement in value**
  - Competition for patients
- Today's competition in health care **is not aligned with value**

Financial success of system participants	$\neq$	Patient success

Zero-Sum Competition in U.S. Health Care

Bad Competition

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

Zero or Negative Sum

Good Competition

- Competition to **increase value for patients**

Positive Sum

Harnessing Competition on Value

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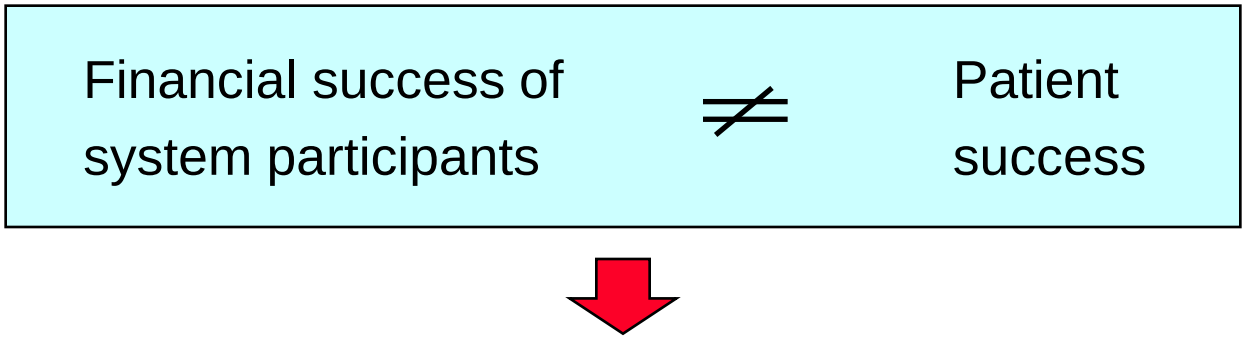

- Creating **competition on value** is a central challenge in health care reform

Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**, not containing costs

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

- Outcomes are the **full set of health outcomes** achieved by the patient over the care cycle
- Costs are the **total costs for the care of 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. Use **quality improvement** to drive cost containment (and value improvement), where quality is health **outcomes**

- Prevention of disease
- Early detection
- Right diagnosis
- Early and timely treatment
- Right treatment to the right patients
- Treatment earlier in the causal chain of disease
- Rapid care delivery process with fewer delays
- 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

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2. Use **quality improvement** to drive cost containment (and value improvement), where quality is health **outcomes**
3. Reorganize health care delivery around **medical conditions** over the **full cycle of care**

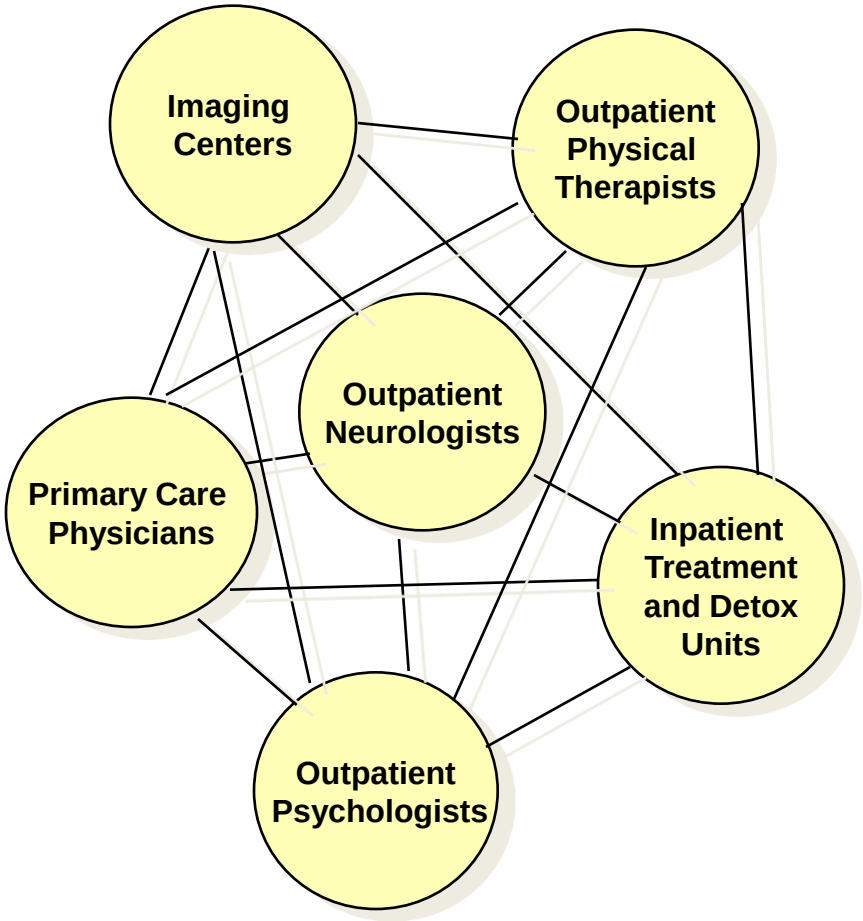
- A medical condition is **an interrelated set of patient medical circumstances best addressed in an integrated way**
  - Defined from the **patient's** perspective
  - **Including** the most common co-occurring conditions
  - Involving **multiple** specialties and services

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

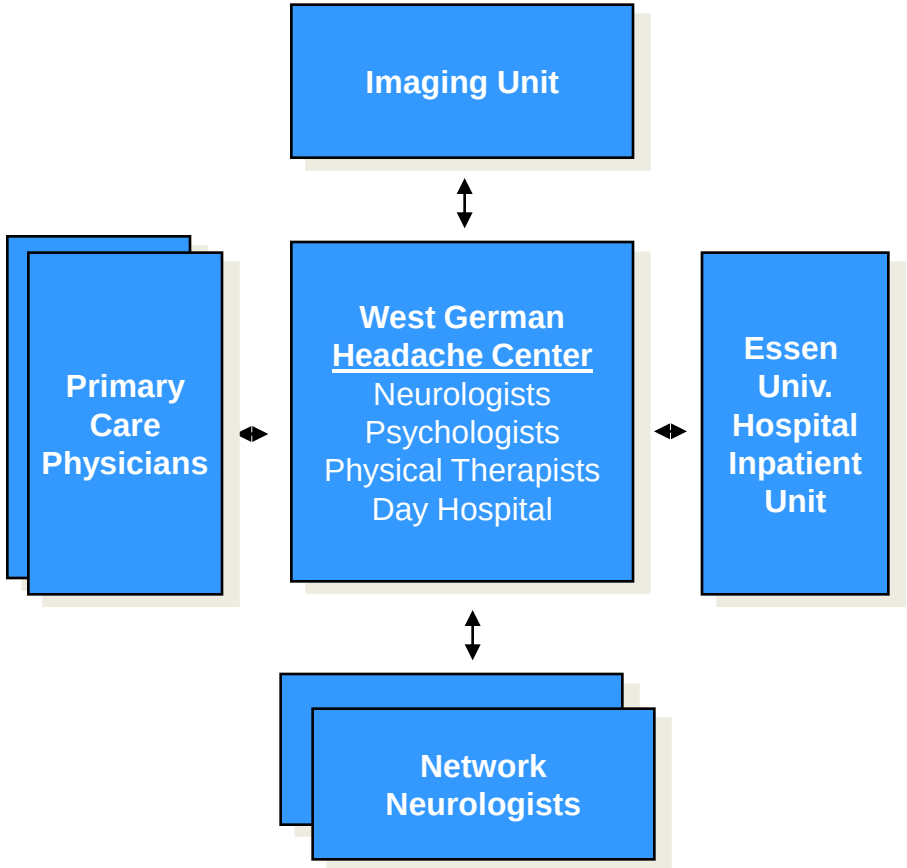
Restructuring Care Delivery

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

The Cycle of Care

Breast Cancer

	MONITORING/ PREVENTING	DIAGNOSING	PREPARING	INTERVENING	RECOVERING/ REHABING	MONITORING/ MANAGING
ENGAGING	▪Advice on Self screening ▪Consultations on risk factors	▪Counseling patient and family on the diagnostic process and the diagnosis	▪Explaining patient choices of treatment ▪Patient and family psychological counseling	▪Counseling on the treatment process ▪Achieving compliance	▪Counseling on rehabilitation options, process ▪Achieving compliance ▪Psychological counseling	▪Counseling on long term risk management ▪Achieving Compliance
MEASURING	▪Self exams ▪Mammograms	▪Mammograms ▪Ultrasound ▪MRI ▪Biopsy ▪BRACA 1, 2...		▪Procedure-specific measurements	▪Range of movement ▪Side effects measurement	▪Recurring mammograms (every six months for the first 3 years)
ACCESSING	▪Office visits ▪Mammography lab visits	▪Office visits ▪Lab visits ▪High risk clinic visits	▪Office visits ▪Hospital visits	▪Hospital stays ▪Visits to outpatient or radiation chemotherapy units	▪Office visits ▪Rehabilitation facility visits	▪Office visits ▪Lab visits ▪Mammographic labs and imaging center visits
	▪Medical history ▪Control of risk factors (obesity, high fat diet) ▪Genetic screening ▪Clinical exams ▪Monitoring for lumps	▪Medical history ▪Determining the specific nature of the disease ▪Genetic evaluation ▪Choosing a treatment plan	▪Surgery prep (anesthetic risk assessment, EKG) ▪Plastic or onco-plastic surgery evaluation	▪Surgery (breast preservation or mastectomy, oncoplastic alternative) ▪Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy)	▪In-hospital and outpatient wound healing ▪Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphodema and chronic fatigue) ▪Physical therapy	▪Periodic mammography ▪Other imaging ▪Follow-up clinical exams ▪Treatment for any continued side effects

PROVIDER MARGIN

Breast Cancer Specialist

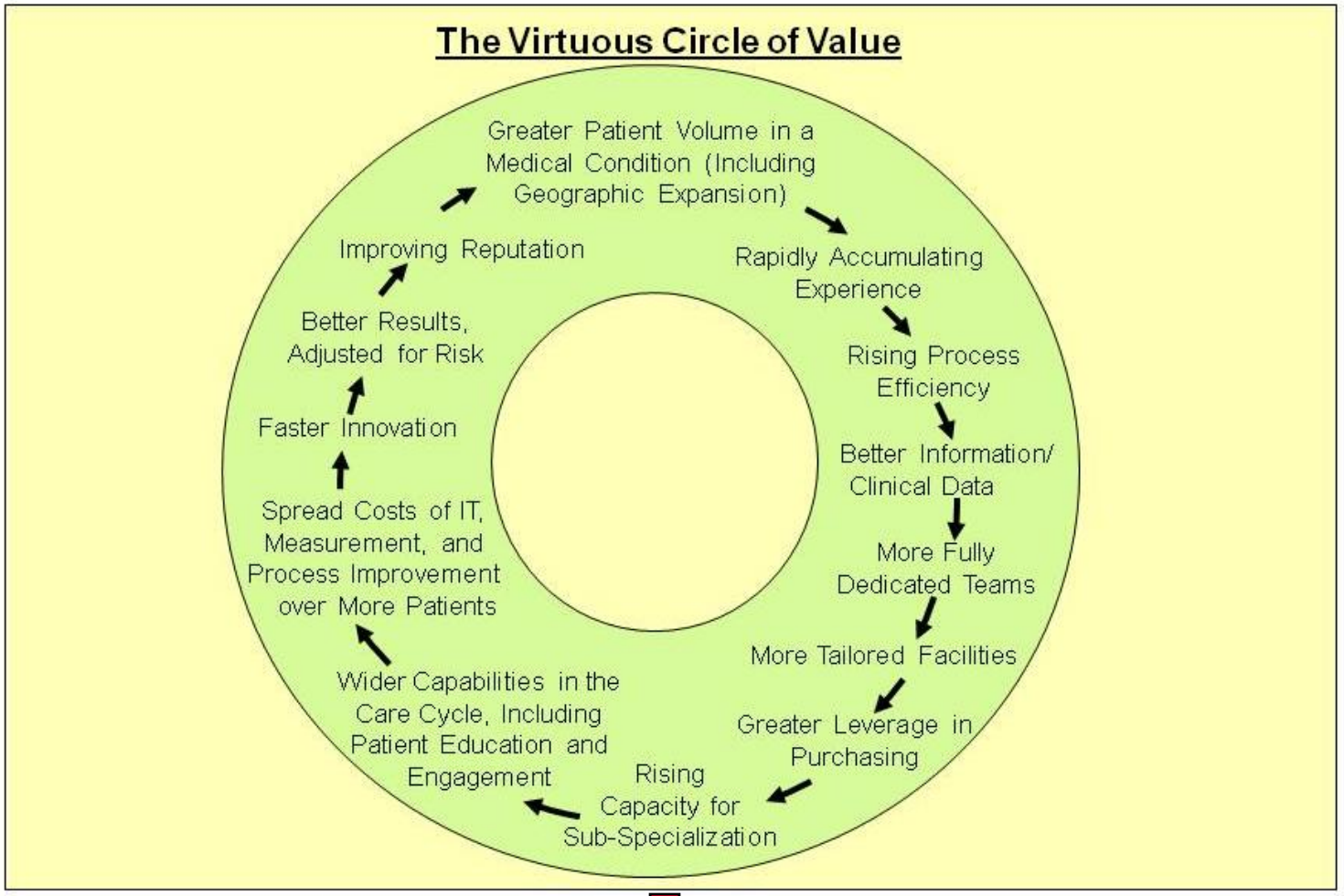
Other Provider Entities

Integrated Practice Models for Prevention, Wellness, Screening, and Health Maintenance (PWSM)

- Today's primary care structures are **fragmented** and attempt to address **overly broad** needs with limited resources
- Primary care should involve **defined sets of prevention, screening** and **wellness services** in organizations with sufficient expertise and support staff to achieve high value
- Some PWSM care delivery organizations should focus on **specific patient populations** (e.g. elderly, type II diabetes) rather than attempt to be all things to all patients
- Care delivery structures should involve the **workplace**, **community organizations**, and **other non traditional settings** to leverage the efficiency and effectiveness of regular patient contact and the ability to develop a group culture of wellness

Principles of Value-Based Health Care Delivery

4. **Increase** provider **experience**, **scale**, and **learning** to drive value at the **medical condition level**



- The virtuous circle **extends across geography** when care for a medical condition is integrated across locations

Fragmentation of Hospital Services
Sweden

DRG	Total admissions / year nationwide	Number of admitting providers	Average admissions/ provider/ year	Average admissions/ provider/ week	Average percent of total national admissions/ provider
Diabetes age > 35	7,649	80	96	2	1.3%
Kidney failure	7,742	80	97	1	1.3%
Multiple sclerosis and cerebellar ataxia	2,218	78	28	1	1.3%
Inflammatory bowel disease	4,816	73	66	1	1.4%
Implantation of cardiac pacemaker	6,324	51	124	2	2.0%
Splenectomy age > 17	129	37	3	<1	2.6%
Cleft lip & palate repair	583	7	83	2	14.2%
Heart transplant	74	6	12	<1	16.6%

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	0.5
Operation for gastric cancer	2,336	72	0.5
Operation for lung cancer	710	46	0.3
Joint replacement	1,680	50	0.3
Pacemaker implantation	1,248	40	0.3
Laparoscopic procedure	2,004	72	0.5
Endoscopic procedure	2,482	202	1.4
Percutaneous transluminal coronary angioplasty	1,013	133	0.9

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

Integrated Care Delivery Includes the Patient

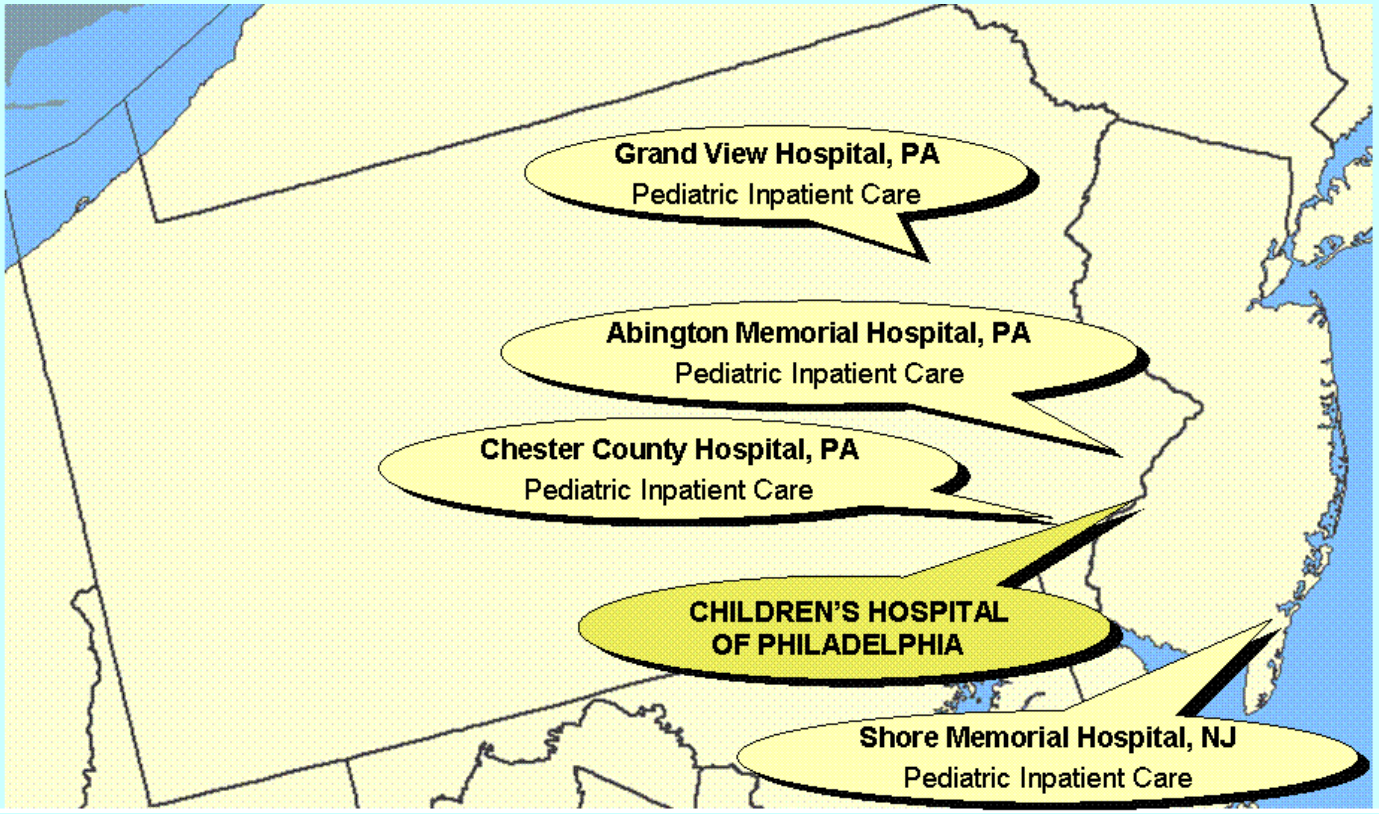
- Value in health care is **co-produced** by patients and clinicians
- Unless patients **comply** with care and treatment plans and take steps to improve their health, even the best delivery team will fail
- For chronic care, patients **are often the best experts** on their own health and personal barriers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

- **IPUs** will improve patient engagement

Principles of Value-Based Health Care Delivery

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

Children's Hospital of Philadelphia (CHOP) Affiliations



- Excellent providers can manage care delivery **across multiple geographies**

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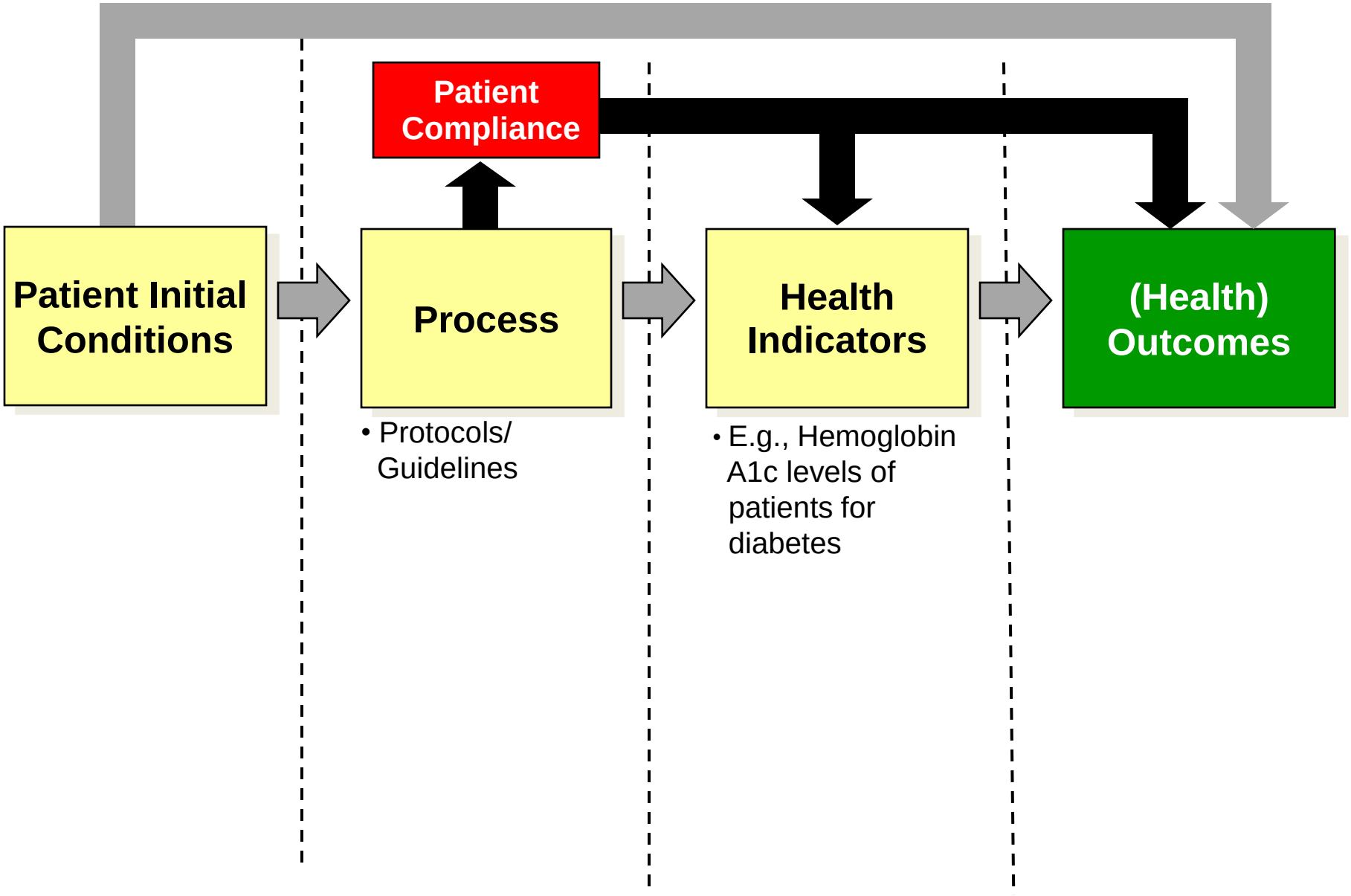
4. **Increase** provider **experience**, **scale**, and **learning** to drive value at the **medical condition level**
5. **Integrate care across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. **Measure** and ultimately **report** value for every provider for every medical condition

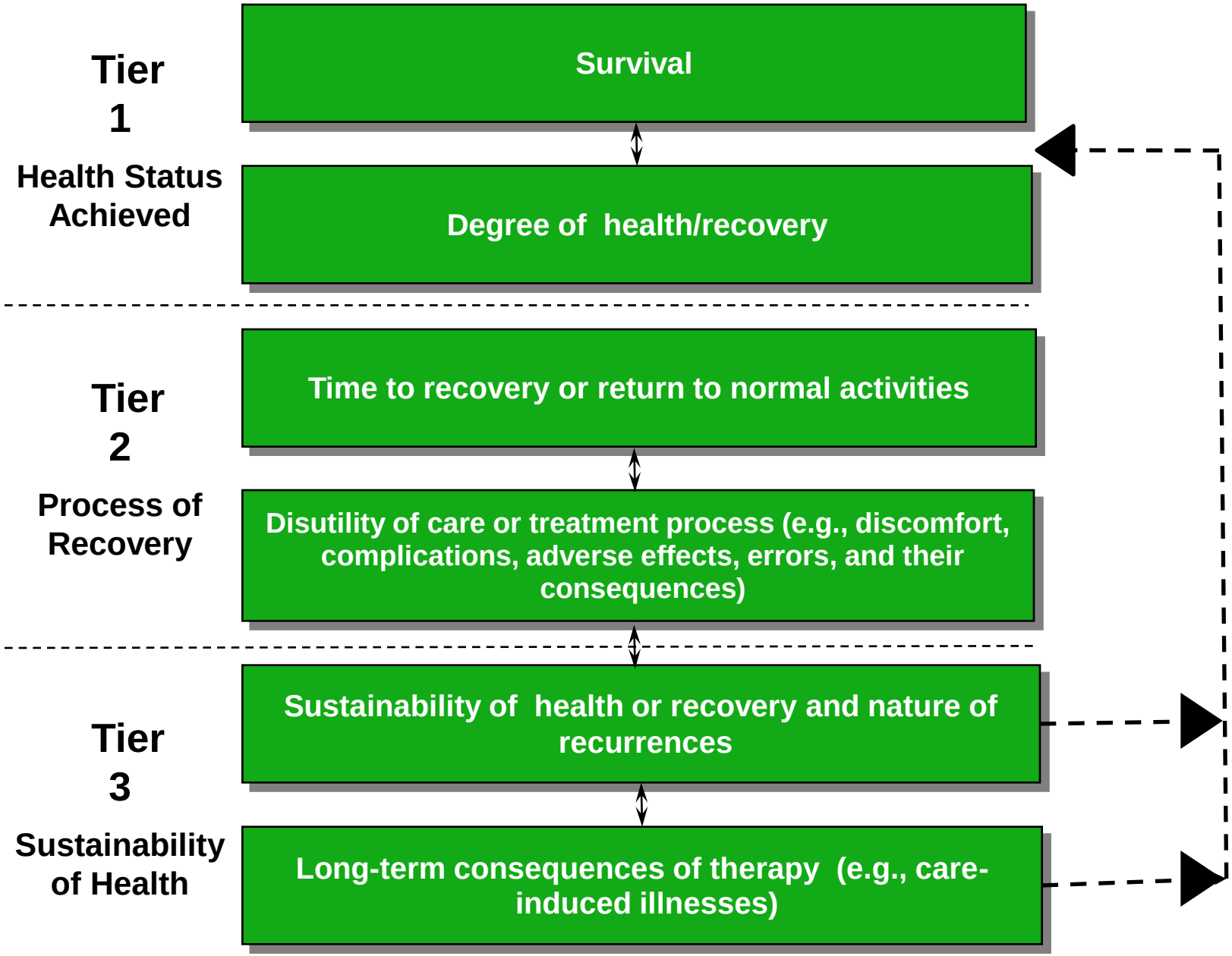
- Outcomes should be measured for each **medical condition** over the **cycle of care**
  - Not for interventions or short episodes
  - Not for practices, departments, clinics, or hospitals
  - Not separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)

- Results should be measured at **the level at which value is created**

Measuring Value in Health Care

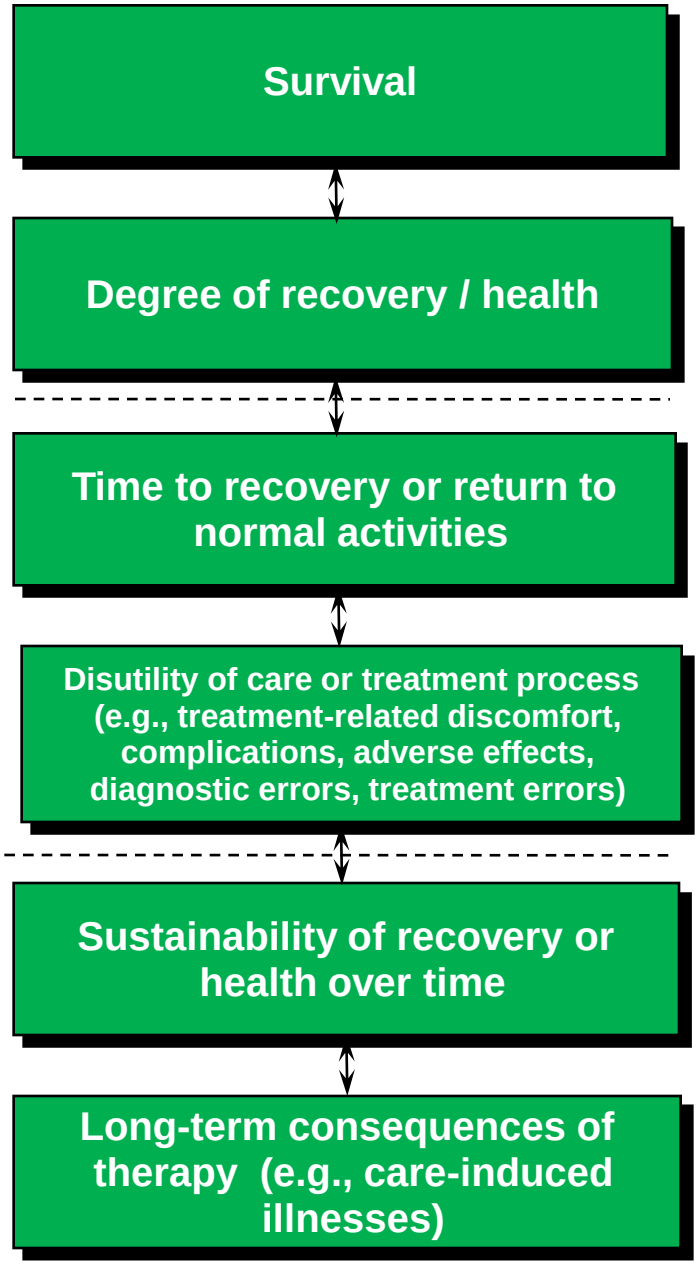


The Outcome Measures Hierarchy



The Outcome Measures Hierarchy

Breast Cancer



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

- **Remission**
- **Functional status**
- **Breast conservation outcome**

- **Time to remission**
- **Time to achieve functional status**

- **Nosocomial infection**
- **Nausea**
- **Vomiting**
- **Febrile neutropenia**
- **Limitation of motion**
- **Depression**

- **Cancer recurrence**
- **Sustainability of functional status**

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

Swedish Obesity Registry Indicators

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)

Surgery

- Background (Previous surgeries, anesthesia risk class)
- Operation type and concurrent operations (gall bladder removal, appendix removal, etc)
- Perioperative complications
- Surgery data (surgery/anesthesia times, blood loss, etc)
- 6 week follow-up

Source: SOReg: Swedish National Obesity Registry

6-week follow-up

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

1,2 & 5-year follow-up

- Anthropometrics and change from initial
- Labs (diabetes, triglycerides & cholesterol)
- 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)

Source: SOReg: Swedish National Obesity Registry

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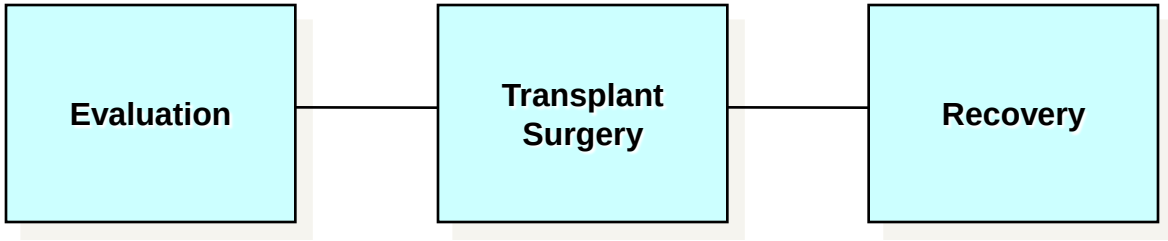
6. **Measure** and ultimately **report** value for every provider for every medical condition
7. Align reimbursement with **value** and reward **innovation**

- **Bundled reimbursement** for **care cycles**, not payment for discrete treatments or services
- Time-base bundled reimbursement for **managing chronic conditions**
- Reimbursement for **prevention, wellness, screening,** and **health maintenance** service bundles, not just treatment

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

Reimbursement for the Cycle of Care
Organ Transplantation



- **Addressing organ rejection**
- **Fine-tuning the drug regimen**
- **Adjustment and monitoring**

- Leading transplantation centers offer a **single bundled price**

- UCLA Medical Center was a pioneer
- In dividing the revenue from transplantation, some UCLA physicians **bear risk** and capture some of the value improvement, while others are compensated with conventional charges

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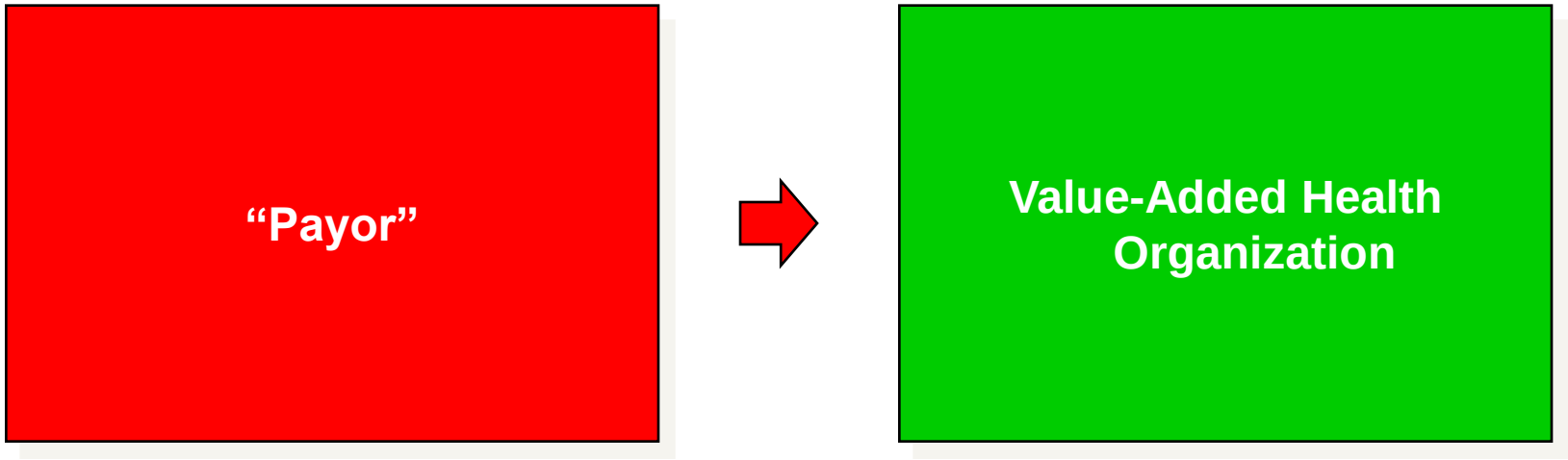
7. Align reimbursement with **value** and reward **innovation**
8. Utilize information technology to enable **restructuring of care delivery** and **measuring results**, rather than treat it as a solution itself

- Common data definitions
- Precise interoperability standards
- Architecture to combine all types of data (e.g. notes, images) for each patient
- Cover the full care cycle, including referring entities
- Templates for medical conditions to enhance the user interface
- Accessible to all involved parties

Value-Based Health Care Delivery: Implications for Providers

- Organize around **integrated practice units** (IPUs)
  - Employ formal **partnerships** and **alliances** with other organizations involved in the care cycle
- Measure **outcomes** and **costs** for every patient
- Lead the development of **new IPU reimbursement models**
- **Specialize** and **integrate** services across facilities
  - **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, need for convenience
  - Clinically integrate care **across facilities,** within an IPU structure
    - Common organizational unit across facilities
  - Link **preventative/primary care** to IPUs
- Grow high-performance practices **across regions**
- Implement an integrated **electronic medical record** system to support these functions

Value-Based Healthcare Delivery: Implications for Health Plans



Value-Based Health Care Delivery: 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
- Find ways to **expand insurance coverage** and advocate **reform of the insurance system**

- Measure and hold employee benefit staff accountable for the **health value achieved** by the company

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

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