

# Value-Based Health Care Delivery: Implications for Japan

Professor Michael E. Porter  
Harvard Business School

Presentation to the ACCJ  
*Tokyo, Japan*  
*December 3, 2008*

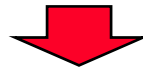
---

Dr. Yuji Yamamoto made substantial contributions to this presentation. The author also thanks Jennifer Baron, Senior Researcher, for her valuable assistance. 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, “How Physicians Can Change the Future of Health Care,” *Journal of the American Medical Association*, 2007; 297:1103:1111, and “What is Value in Health Care,” ISC working paper, 2008. No part of this presentation 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. 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>.

---

# Japan's Health Care Challenge

- Universal and Equitable Health Care System



**Creating a high-value health care  
delivery system**

# 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 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

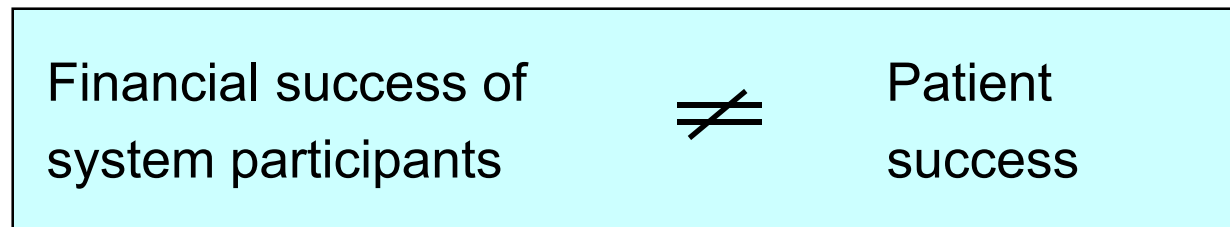
- Significant improvement in value will require **fundamental restructuring of health care delivery**, not incremental improvements

Today, 21<sup>st</sup> century medical technology is delivered with 19<sup>th</sup> century organization structures, management practices, and pricing models

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

# Creating a Value-Based Health Care System

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



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

# Zero-Sum Competition in U.S. Health Care

## Bad Competition

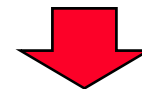
- Competition to **shift costs** or **capture more revenue**
- Competition to **increase bargaining power**
- Competition to **capture patients** and **restrict choice**
- Competition to **restrict services** in order to maximize revenue per visit or reduce costs



Zero or Negative Sum

## Good Competition

- Competition to **increase value for patients**



Positive Sum

# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**, not containing cost
  - Set policies and reimbursement to lower **overall cost**, not the cost of individual interventions or services
  - **Reduce the need** for services and administrative costs

# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**, not containing costs
2. The best way to **contain cost** is to **improve quality**, where quality is health **outcomes**

- Prevention of disease
- Early detection
- Right diagnosis
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Right treatment to the right patients
- Rapid care delivery process with fewer delays
- Fewer complications
- Fewer mistakes and repeats in treatment
- Less invasive treatment methods
- Faster recovery
- More complete recovery
- Less disability
- Fewer relapses or acute episodes
- Slower disease progression
- Less need for long term care



- **Better health** is the goal, not more treatment
- Better health is **inherently less expensive** than poor health



# Principles of Value-Based Health Care Delivery

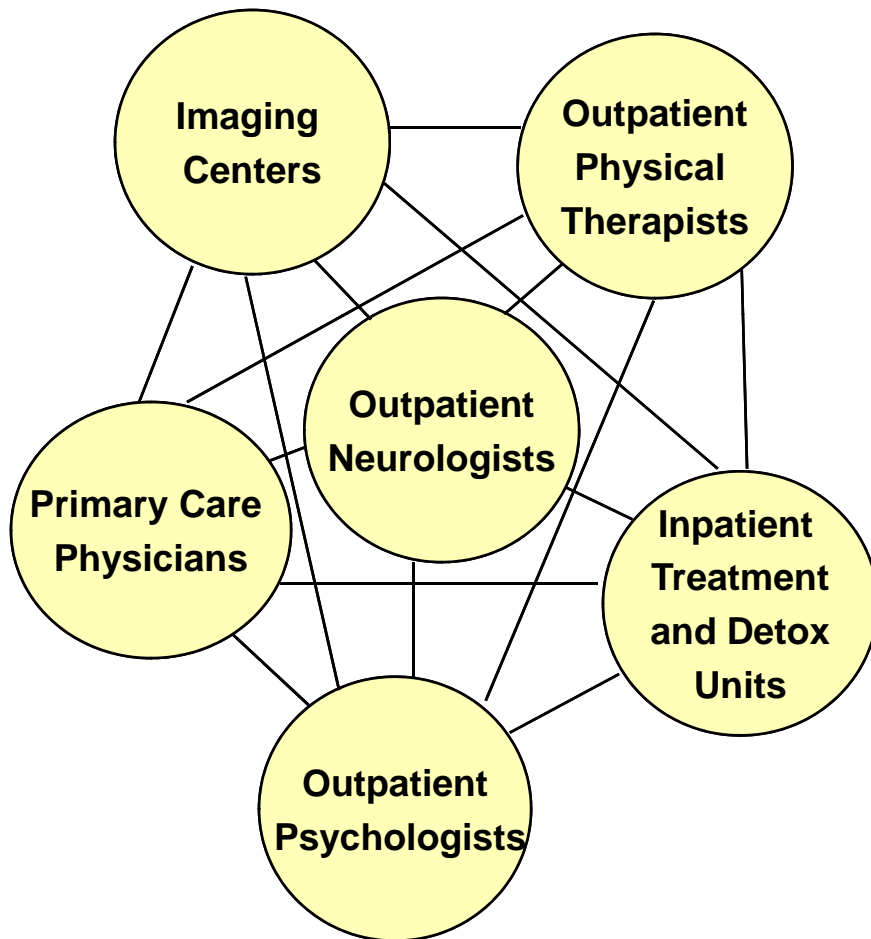
1. Set the goal as **value for patients**, not containing costs
2. The best way to **contain cost** is to **improve quality**, where quality is health **outcomes**
3. Reorganize health care delivery around **medical conditions** over the **full cycle of care**

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

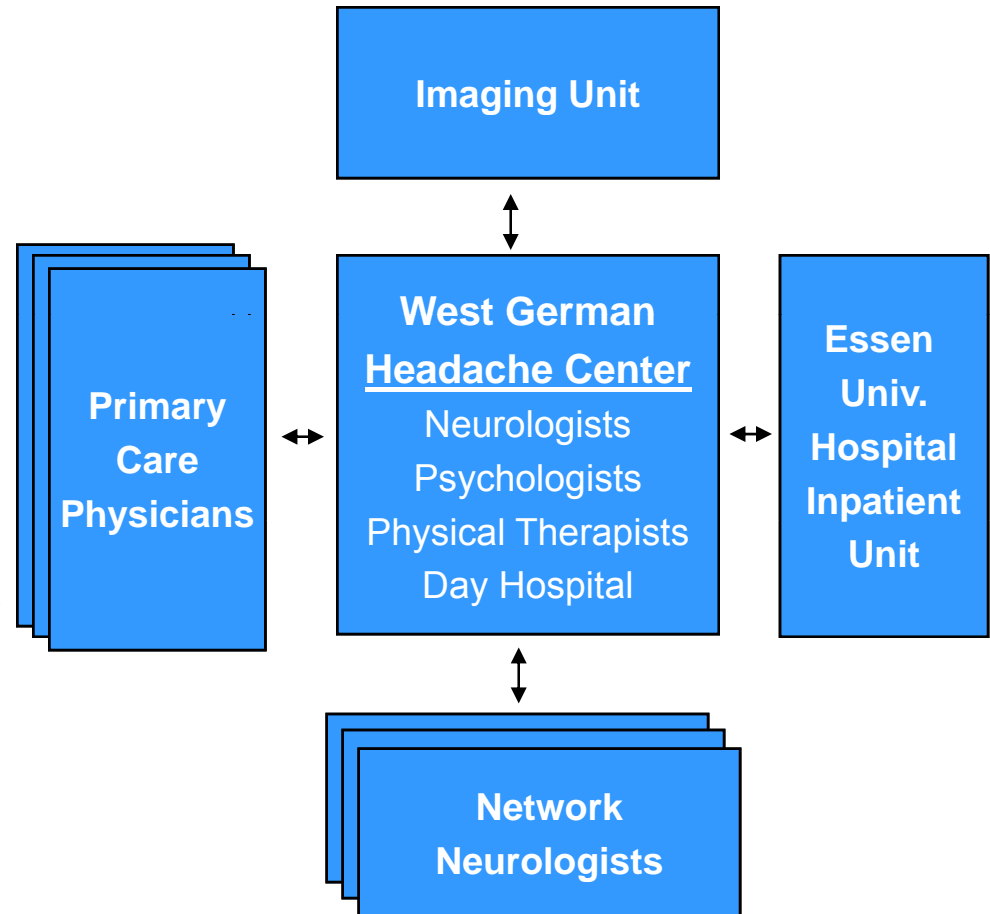
# Restructuring Care Delivery

## Migraine Care in Germany

### Existing Model: Organize by Specialty and Discrete Services



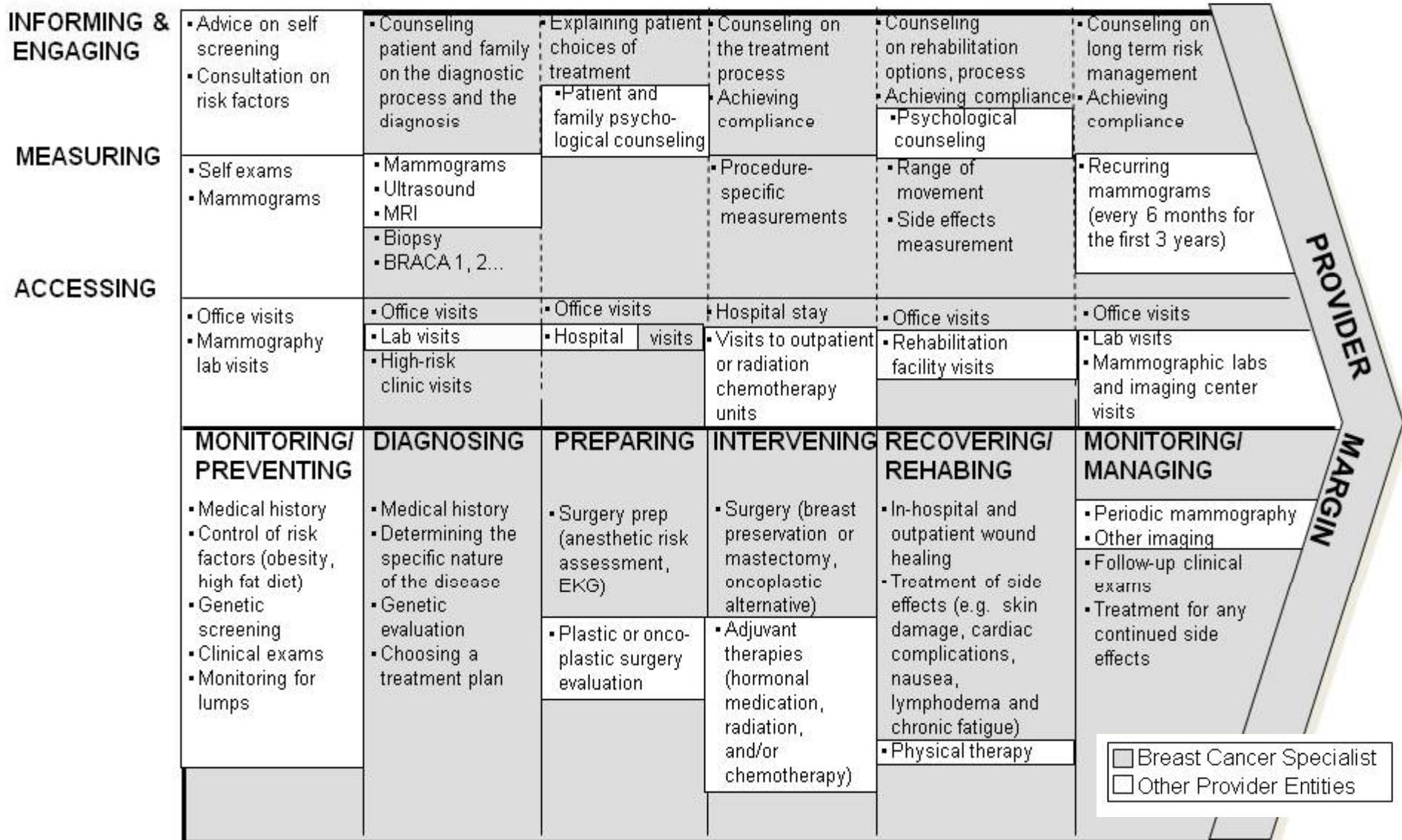
### New Model: Organize into Integrated Practice Units (IPUs)



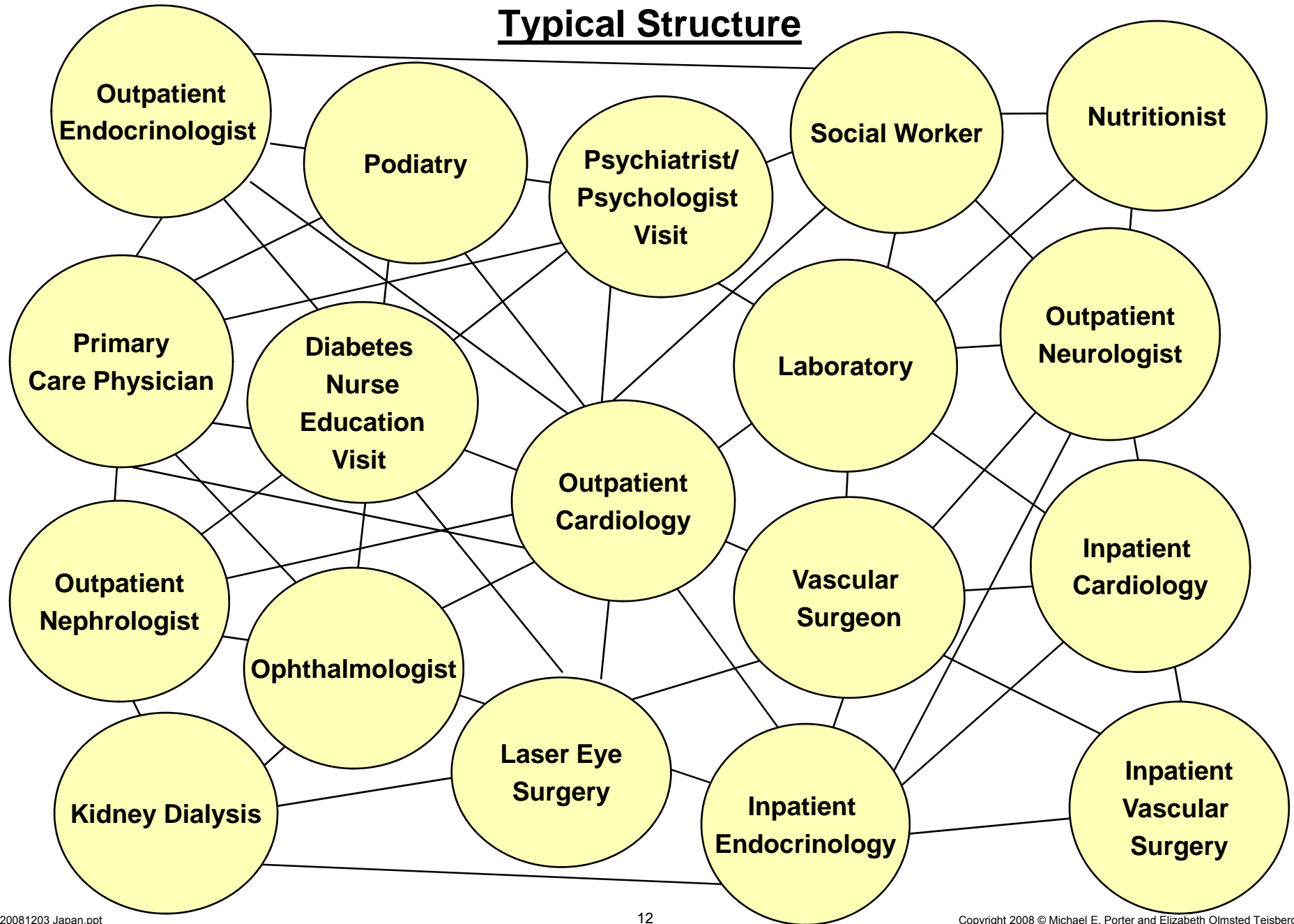
Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, *The West German Headache Center: Integrated Migraine Care*, Harvard Business School Case 9-707-559, September 13, 2007

# Integrating the Cycle of Care

## Care Delivery Value Chain for Breast Cancer

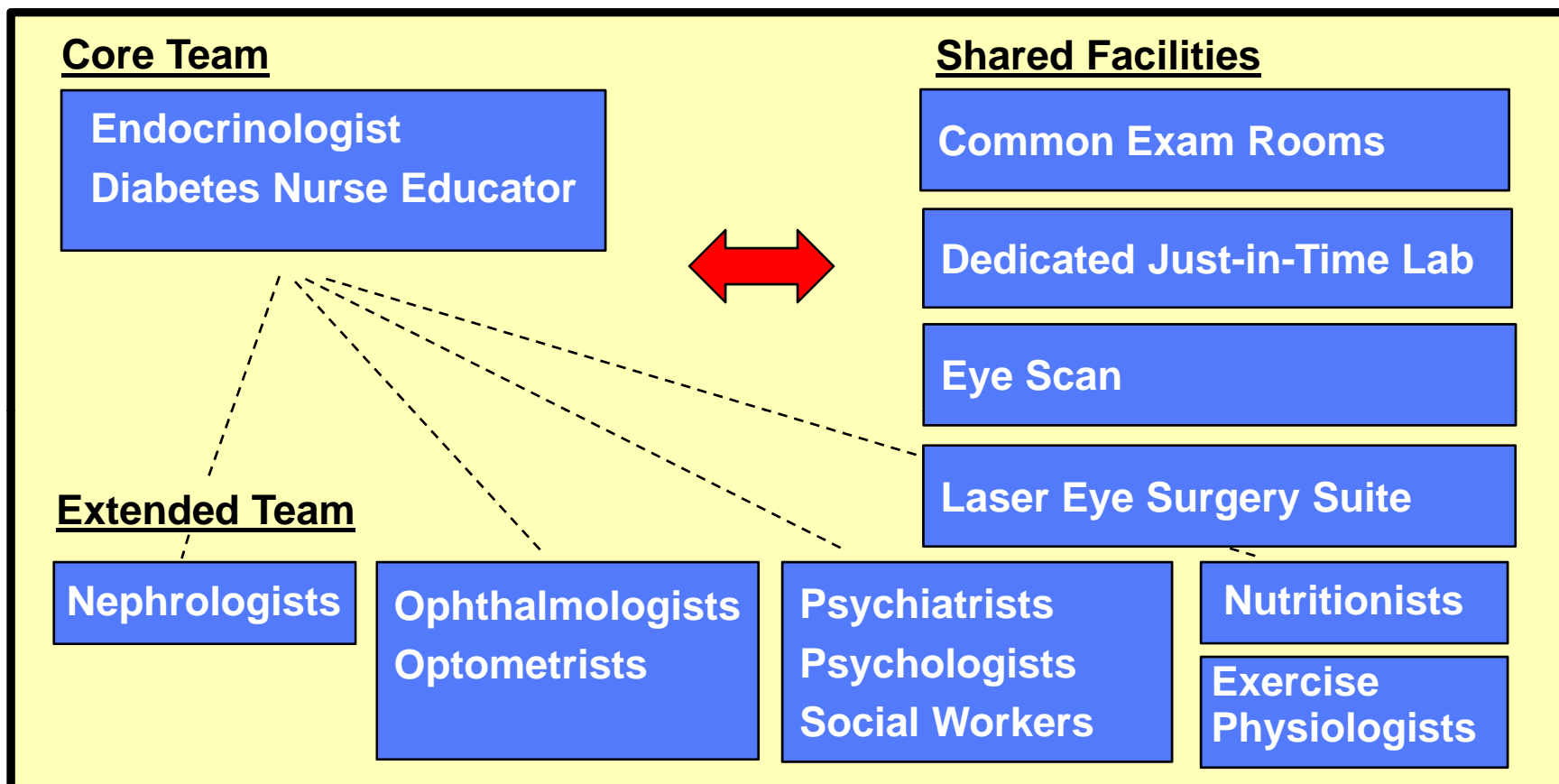


# Diabetes Care Typical Structure



# Integrated Diabetes Care

## Joslin Diabetes Center



### Acute Complications

Hyperglycemia  
Hypoglycemia

### Long-Term Complications

Cardiovascular Disease  
Cardiologist

Neuropathy  
Vascular Surgeon,  
Neurologist, Podiatrist

End Stage Renal Disease  
Dialysis

# What is Integrated Care?

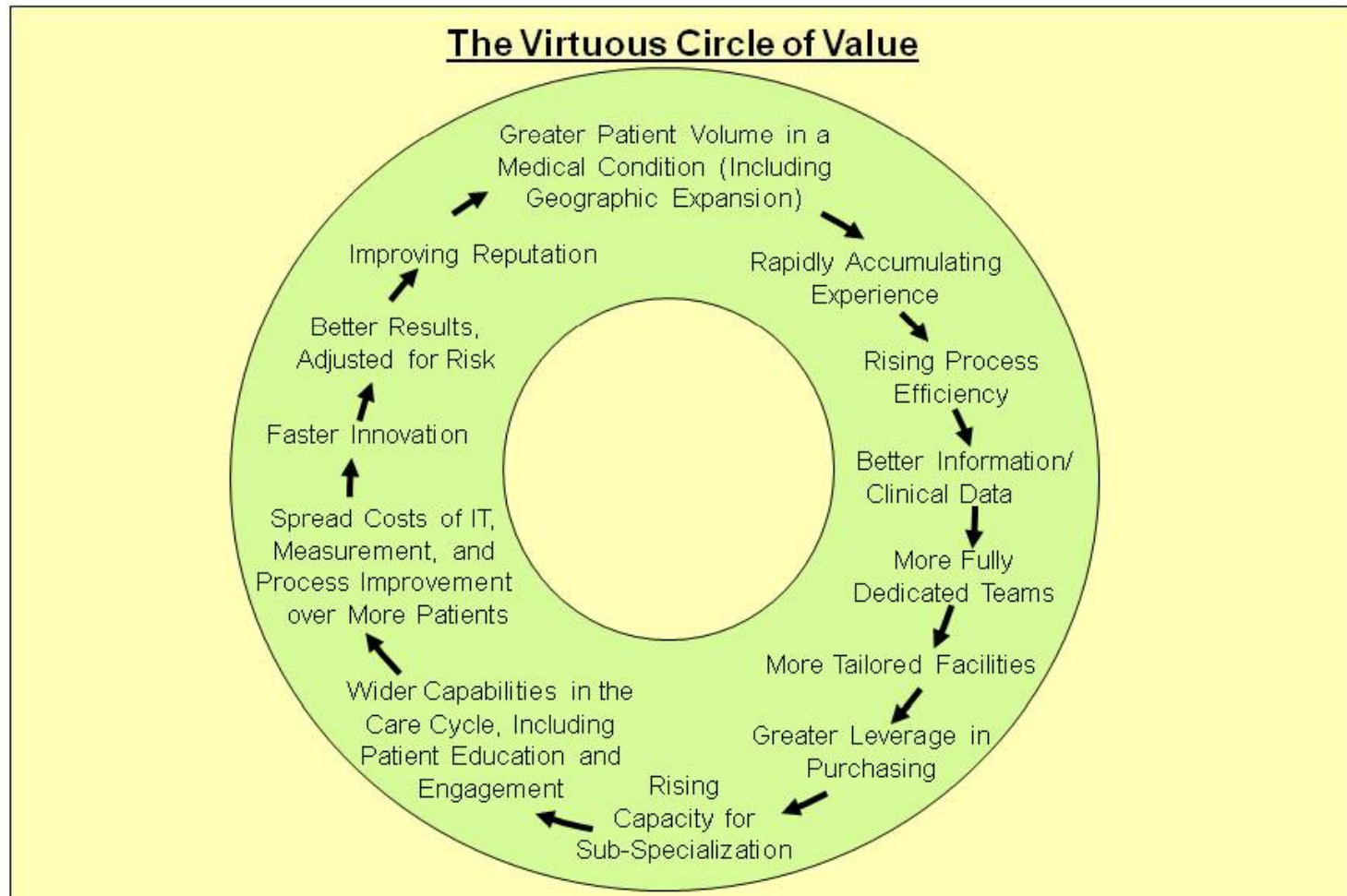
- Integration of specialties and services over the **care cycle for each medical condition (IPU)**
  - Optimize the whole versus the parts
  - Many providers will operate **multiple** IPUs, rather than specialize
- For some patients, coordination of care **across medical conditions**
  - A patient can be cared for by **more than one IPU**



- Integrated care is **not** just:
  - Co-location
  - Care delivered by the same organization
  - A multispecialty group practice
  - Freestanding focused factories
  - An Institute or Center
  - A Center of Excellence
  - A health plan/provider system (e.g. Kaiser)

# Principles of Value-Based Health Care Delivery

4. Drive value improvement by **increasing** provider **experience**, **scale**, and **learning** at the **medical condition level**



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



# Integrated Cancer Care

## MD Anderson Head and Neck Center

Dedicated	Shared		
<div style="border: 1px solid black; padding: 2px; margin-bottom: 10px;"><b>Dedicated MDs</b></div> <ul style="list-style-type: none"> <li>- 8 Medical Oncologists</li> <li>-12 Surgical Oncologists</li> <li>- 8 Radiation Oncologists</li> <li>- 5 Dentists</li> <li>- 1 Diagnostic Radiologist</li> <li>- 1 Pathologist</li> <li>- 4 Ophthalmologists</li> </ul> <div style="border: 1px solid black; padding: 2px; margin-bottom: 10px;"><b>Dedicated Skilled Staff</b></div> <ul style="list-style-type: none"> <li>-Nurses</li> <li>-1 Audiologist</li> <li>-1 Patient Advocate</li> </ul> <div style="border: 1px solid black; padding: 2px;"><b>Dedicated Facilities</b></div> <ul style="list-style-type: none"> <li>-Dedicated Outpatient Unit</li> </ul>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 10px;"><b>Shared MDs</b></div> <ul style="list-style-type: none"> <li>-Endocrinologists</li> <li>-Other specialists as needed (cardiologists, plastic surgeons, etc.)</li> </ul> <div style="border: 1px solid black; padding: 2px; margin-bottom: 10px;"><b>Shared Skilled Staff</b></div> <ul style="list-style-type: none"> <li>-Nutritionists</li> <li>-Social Workers</li> </ul> <div style="border: 1px solid black; padding: 2px; margin-bottom: 10px;"><b>Shared Facilities</b></div> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>-Radiation Therapy</li> <li>-Pathology Lab</li> <li>-Ambulatory Chemo Center</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>-Inpatient Wards</li> <li>→Medical Wards</li> <li>→Surgical Wards</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>-Radiation Therapy</li> <li>-Pathology Lab</li> <li>-Ambulatory Chemo Center</li> </ul>	<ul style="list-style-type: none"> <li>-Inpatient Wards</li> <li>→Medical Wards</li> <li>→Surgical Wards</li> </ul>
<ul style="list-style-type: none"> <li>-Radiation Therapy</li> <li>-Pathology Lab</li> <li>-Ambulatory Chemo Center</li> </ul>	<ul style="list-style-type: none"> <li>-Inpatient Wards</li> <li>→Medical Wards</li> <li>→Surgical Wards</li> </ul>		

Source: Jain, Sachin H. and Michael E. Porter, *The University of Texas MD Anderson Cancer Center: Interdisciplinary Cancer Care*, Harvard Business School Case 9-708-487, May1, 2008



# Fragmentation of Hospital Services

## Japan

<b>Procedure</b>	<b>Number of hospitals performing the procedure</b>	<b>Average number of procedures per provider per year</b>	<b>Average number of procedures per provider per month</b>
Craniotomy	1,098	71	6
Operation for gastric cancer	2,336	72	6
Operation for lung cancer	710	46	4
Joint replacement	1,680	50	4
Pacemaker implantation	1,248	40	3
Laparoscopic procedure	2,004	72	6
Endoscopic procedure	2,482	202	17
Percutaneous transluminal coronary angioplasty	1,013	133	11

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

# Fragmentation of Hospital Services

## Sweden

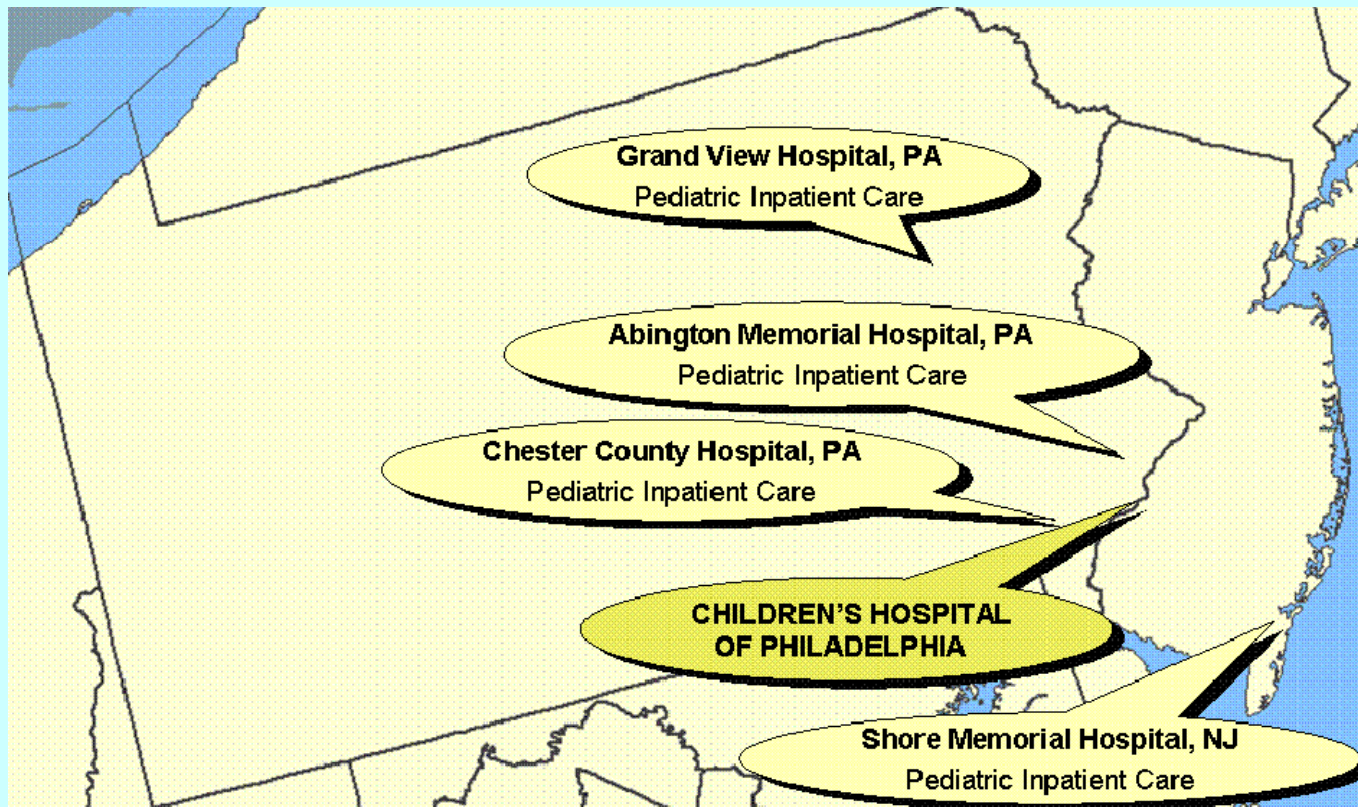
<b>Procedure</b>	<b>Number of hospitals performing the treatment (of 116)</b>	<b>Average number of procedures per provider per year</b>	<b>Average number of procedures per provider per month</b>
Heart transplants	3	13	1.1
Cardiac valve procedures with cardiac catheter	5	11	0.9
Coronary bypass with cardiac catheter	6	56	4.7
Cleft lip and palate repair	8	67	5.6
Splenectomy, Age >7	39	4	0.3
Total Mastectomy (without complications)	66	45	3.8
Inguinal & femoral hernia procedures, Age >17 (without complications)	67	47	3.9

Source: Compiled from The National Board of Health and Welfare Statistical Databases – DRG Statistics, Accessed September 27, 2007.

# Principles of Value-Based Health Care Delivery

5. Integrate health care delivery **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**

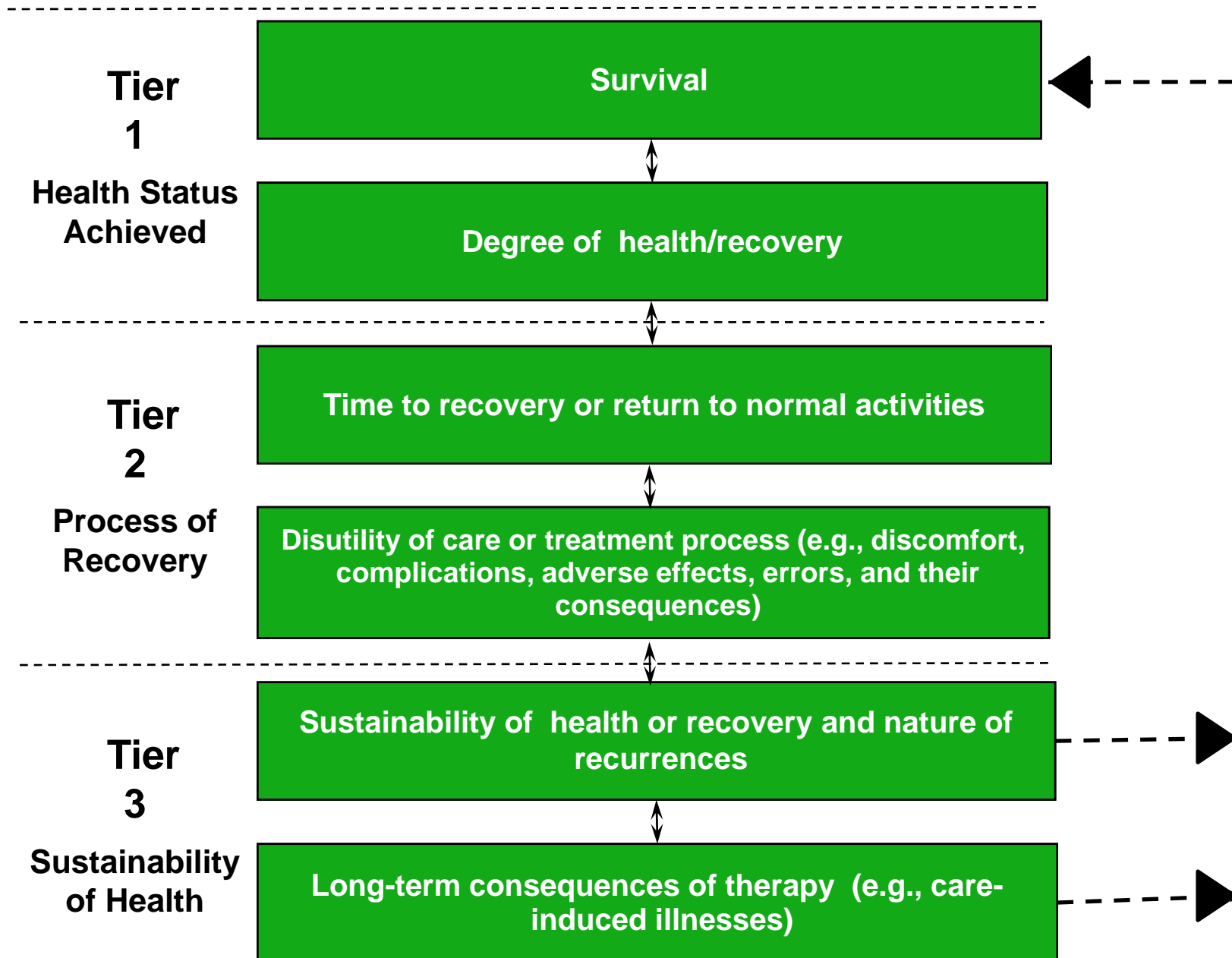
# Principles of Value-Based Health Care Delivery

1. Set the goal as **value for patients**, not containing costs
2. The best way to **contain cost** is to **improve quality**, where quality is health **outcomes**
3. Reorganize health care delivery around **medical conditions** over the **full cycle of care**
4. Drive value improvement by **increasing** provider **experience**, **scale**, and **learning** at the **medical condition level**
5. Integrate health care delivery **across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. **Measure** and **report value** for every provider by medical condition
  - Results should be measured at **the level at which value is created** for patients

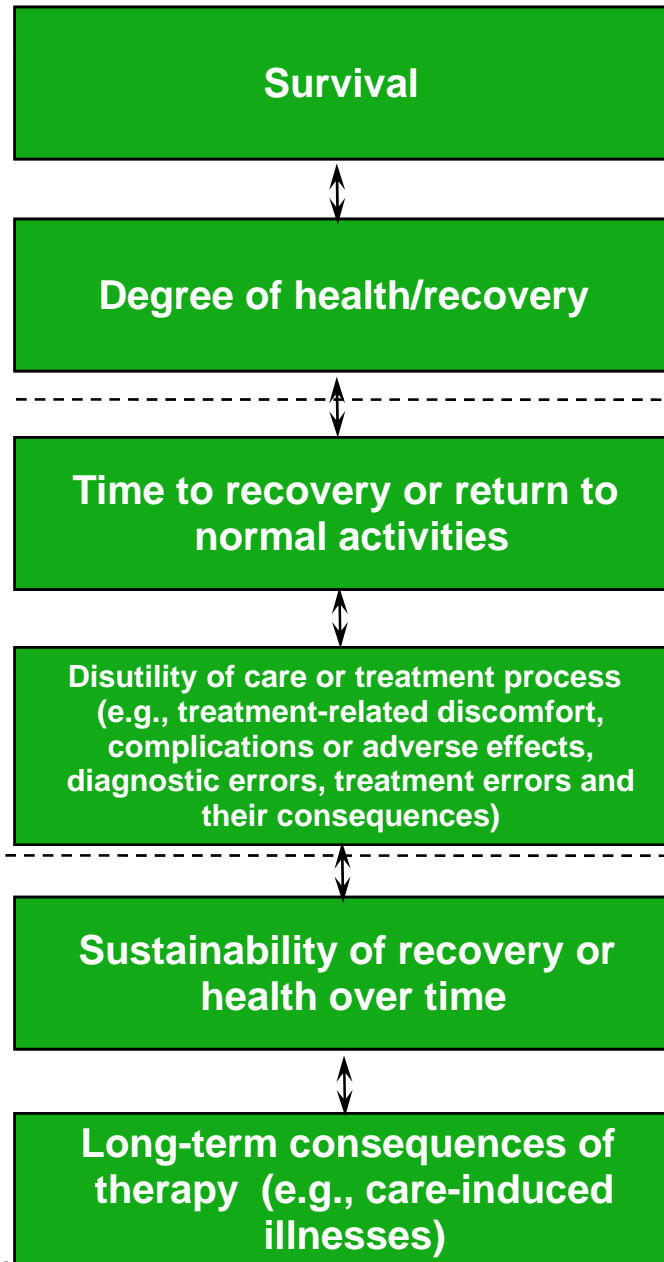


- **For** medical conditions over the cycle of care
  - Not for interventions or short episodes
  - Not for practices, departments, clinics, or hospitals
  - Not separately for types of service (e.g. inpatient, outpatient, tests, rehabilitation)

# The Outcome Measures Hierarchy



# Illustrative Breast Cancer Outcomes



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

- **Remission**
- **Functional status**

- **Breast preservation**
- **Breast conservation surgery outcomes**

- **Time to remission**

- **Time to achieve functional and cosmetic status**

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

- **Limitation of motion**
- **Breast reconstruction discomfort and complications**
- **Depression**

- **Cancer recurrence**
- **Consequences of recurrence**

- **Sustainability of functional status**

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

- **Premature osteoporosis**

# Principles of Value-Based Health Care Delivery

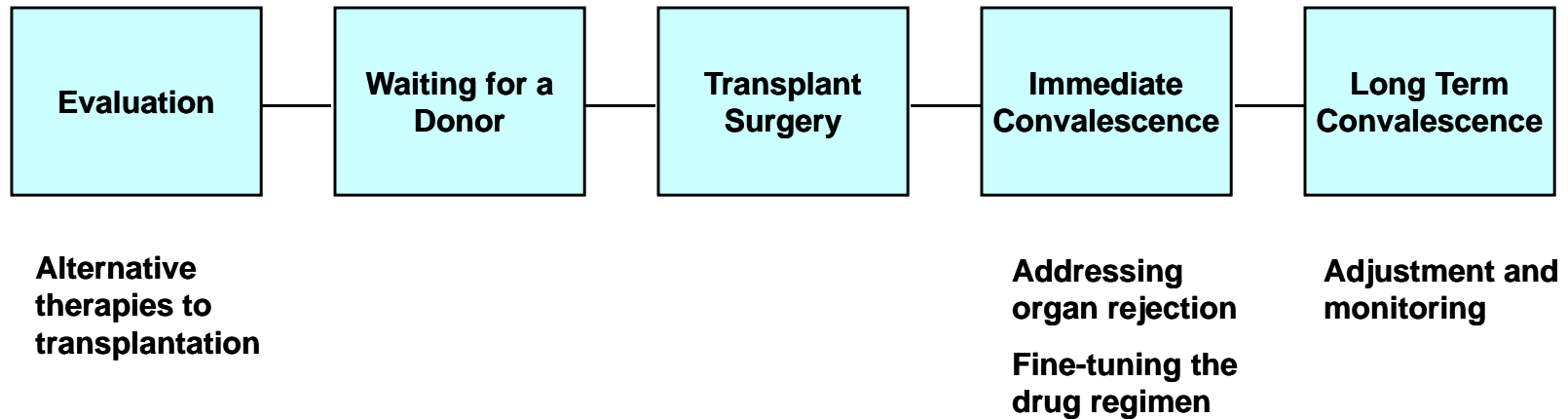
1. Set the goal as **value for patients**, not containing costs
2. The best way to **contain cost** is to **improve quality**, where quality is health **outcomes**
3. Reorganize health care delivery around **medical conditions** over the **full cycle of care**
4. Drive value improvement by **increasing** provider **experience**, **scale**, and **learning** at the **medical condition level**
5. Integrate health care delivery **across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. **Measure** and **report value** for every provider by medical condition
7. Align reimbursement with **value** and reward **innovation**

- Bundled reimbursement for **care cycles**, not payment for discrete treatments or services
  - Adjusted for **patient complexity**
  - Most DRG systems are **too narrow**
- Reimbursement for **overall management of chronic conditions**
- Reimbursement for **prevention** and **screening**, not just treatment



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

# The Organ Transplantation Care Cycle



- Leading transplantation centers quote a **single price**



# Principles of Value-Based Health Care Delivery

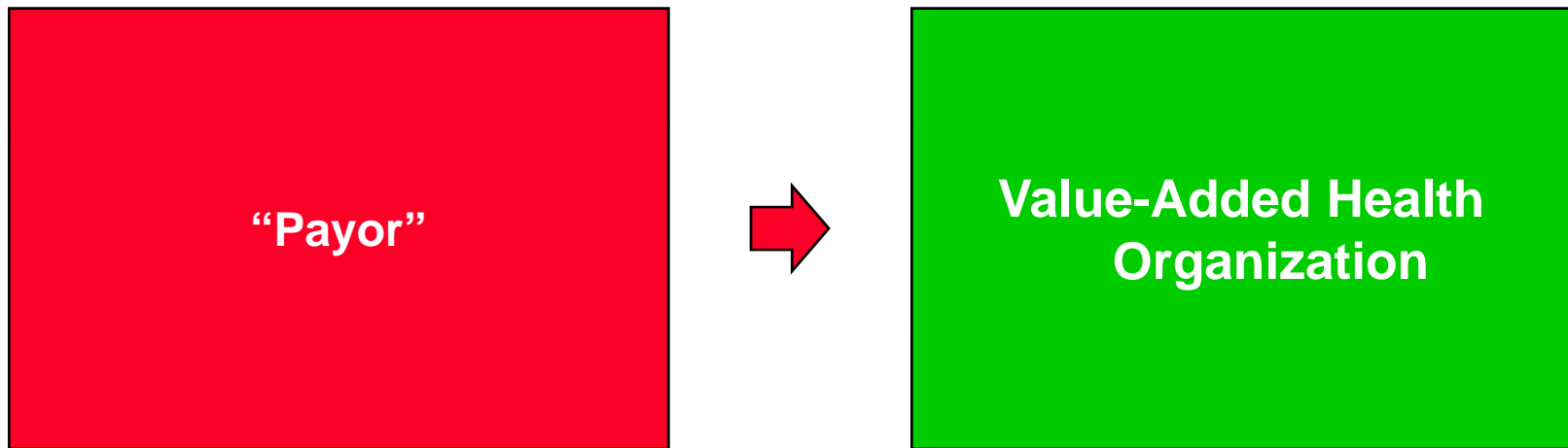
1. Set the goal as **value for patients**, not containing costs
2. The best way to **contain cost** is to **improve quality**, where quality is health **outcomes**
3. Reorganize health care delivery around **medical conditions** over the **full cycle of care**
4. Drive value improvement by **increasing** provider **experience**, **scale**, and **learning** at the **medical condition level**
5. Integrate health care delivery **across facilities** and **across regions**, rather than duplicate services in stand-alone units
6. **Measure** and **report value** for every provider by medical condition
7. Align reimbursement with **value** and reward **innovation**
8. Employ information technology to enable **restructuring of care delivery** and **measuring of results**, not as a solution by itself

- Common data definitions
- Interoperability standards
- Patient-centered database
- Include all types of data warehouse
- Cover the full care cycle, including referring entities
- Accessible to all involved parties


# Value-Based Health Care Delivery: Implications for Providers

- **Choose service lines** based on excellence in patient value
- Organize around **integrated practice units** (IPUs)
- Integrate care for each IPU **across geographic locations**
- Employ formal **partnerships** and **alliances** with other organizations involved in care
- Expand high-performance practices **across regions**
- Measure **outcomes** and **costs** for every patient
- Lead the development of **new contracting models**
- Implement a single, integrated, patient centric **electronic medical record system**

# 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 **prevention, screening, and chronic 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

# Value-Based Health Care Delivery: Implications for Government

- Establish **universal measurement** and **reporting** of provider **health outcomes**
- Require universal reporting by health plans of **health outcomes for members**
- Create mandatory IT standards including **data architecture and definitions**, **interoperability standards**, and **deadlines for system implementation**
- Remove obstacles to the **restructuring of health care delivery** around the integrated care of medical conditions
- **Open up competition** among providers and across geography
- Shift reimbursement systems to **bundled prices for cycles of care** instead of payments for discrete treatments or services
- Limit **provider price discrimination** across patients based on group membership
- Encourage greater **responsibility of individuals** for their health and their health care

# Strengths of the Japanese System

- Universal, mandatory insurance
- Income-based premiums
- National payment schedule eliminates price discrimination across patients and groups of patients
- Partial risk pooling among plans to adjust for health differences
- Coverage and reimbursement beginning for some preventative care
- Japanese citizens follow some healthy living practices
- Health care expenditures per capita are low relative to other OECD countries
- Well trained and hardworking physicians and medical personnel

# Weaknesses of the Japanese System

- Inadequate risk adjustment by plans leads to cross subsidy favoring employment based plans
- Focuses on short term cost constraint rather than value for patients
- Concentrates on driving down prices for individual interventions rather than reducing total cost or improving value
- Encourages inefficient use of physicians and inability to coordinate care
- Oriented towards restricting services and slowing innovation
- No mechanisms for getting patients to appropriate and excellent providers
- Fails to provide for preventative care, screening, and disease management

## Weaknesses of the Japanese System, cont'd

- Reimbursement structure misaligned with value, encouraging unnecessary services and longer than necessary hospital stays
- Much care is not well integrated and coordinated
- Promotes duplication and fragmentation of services and almost a total absence of measurement of outcomes or value
- Fails to engage consumers in their health and their health care
- Health plans are passive and do not contribute to member health
- Leads to inadequate access to services in rural areas
- Ironically fails to follow the principles of total quality management pioneered by Japan and adhered to in other areas of the economy



# Moving to a High Value Japanese Healthcare System

## Recommendations

### I. ACCESS

- Enforce the national health insurance mandate by **imposing penalties on free riders**
- Institute **partial subsidies** on a sliding scale for those individuals who are genuinely unable to pay
- Improve the **risk adjustment** system for member health differences to improve **equity** among health plans, including employer based plans

### II. COVERAGE

- Create reimbursement models for **preventive care** and **screening**
- **Reimburse** for the **covered portions** of “mixed treatment” to allow the efficient delivery of services and encourage innovation
- Set co-payments to **encourage adherence** to high value drugs and preventative services

# Recommendations for Japan, cont'd

## III. DELIVERY SYSTEM

### Goals

- Shift the goal from short term cost containment to improving **patient value**

### Information and Measurement

- Require mandatory measurement and reporting of **health outcomes** for every medical condition, beginning with complex or prevalent diseases
- Move rapidly to set **IT standards** covering data definitions, data architecture, and interoperability, and set a fixed deadline within which all medical information systems must be compliant
- Create a national plan for rollout of integrated **EMRs** with government co-funding

# Recommendations for Japan, cont'd.

## Providers

- Enable **integrated care delivery structures** for medical conditions, involving the full care cycle
  - **Eliminate** the requirement for physician visits to refill prescriptions
  - Remove obstacles to use of **non-physician skilled staff**
  - Eliminate the artificial separation between **inpatient and outpatient care**
  - Allow **marketing of integrated care models**
- Establish **primary care practices** as entry points for prevention, screening, health maintenance, and ongoing disease management
  - Consider **lower co-payments** for accessing services, initial diagnosis, and referrals at qualifying primary care practices
- Open competition among providers on **value**
  - Consider minimum volume standards for **certification** in more complex medical conditions, pending universal outcome measurement and full introduction of competition

## Recommendations for Japan, cont'd.

- Encourage **competition across geography** to encourage expansion by excellent providers and more capacity in under-served regions
  - Reduce barriers and create incentives for excellent providers to **expand across multiple locations**, including local feeder facilities with telemedicine support in rural areas
- Shift reimbursement to **bundled prices for cycles of care** instead of payment for discrete services
  - Expand, broaden, and migrate DPC codes towards the bundled payment model
- Set **prices** for high value care which reflects cost, not arbitrary comparisons to other services
  - Prices should encourage high value care and eliminate cross-subsidies that distort care delivery choice
  - e.g. Pay for patient education and adequate physician time for diagnosis and care coordination
- Move to **price caps instead of fixed prices** once universal outcome measurement is in place
- Set drug and device reimbursement based on **value compared to alternative therapies**

# Recommendations for Japan, cont'd.

## Medical Personnel

- Improve **physician compensation** and **working conditions** in return for restructuring reimbursement, measuring outcomes, modifying organizational approaches away from stand alone specialties, and giving greater authority to non-physician staff (e.g. advanced practice nurses)
- **Expand the role of nurses and other skilled personnel** in the care delivery process to improve value in delivery
  - This will also make physicians more productive and improve physician working conditions
- **Expand the pool** of physicians and medical professionals

## Health Plans

- Move from a passive payor model to a **true health plan model** in which payors assist members in managing their health
  - Remove health plan obstacles to playing this role
- Allow **consolidation of health plans** within regions
- Open **competition among health plans** after improvements in the risk-adjustment mechanism
  - Over time, plans should be allowed to compete in multiple regions

## Recommendations for Japan, cont'd.

- Require health plans to measure and report the **health status of members** by medical conditions, stratified by risk
- Designate health plans, or an independent health information agency, as the location where **member medical records are aggregated**, with strong privacy protections
- Add **permanent professional staff** in mandatory plans to improve capabilities and management effectiveness

### Consumers

- Consider incentives (such as lower co-payments) for **patient adherence** with care (e.g. adherence to drug therapy), adoption of healthy lifestyles (e.g. smoking cessation), and **compliance with disease management programs**
- Create reimbursement structures which allow patient education and encourage screening, preventative care, and disease management

### Suppliers

- **Open up competition** for distributors of medical devices
- Professionalize and speed up the **approval process** for new drugs and devices