

Value-Based Health Care Delivery

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Japanese Health Care Strategy
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Japan's Health Care Challenge

**Creating a universal
and equitable health
care system**

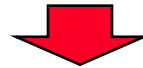


**Creating a high-value
health care system**

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 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

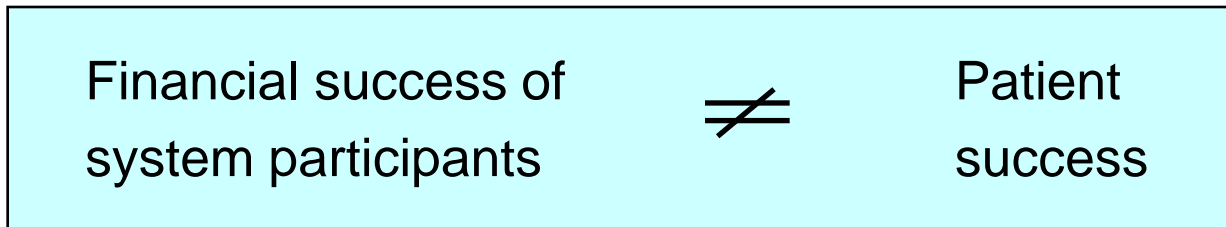
- Significant improvement in value will require **fundamental restructuring of health care delivery**, not incremental improvements

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**



- 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 cost of a single provider or single service

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

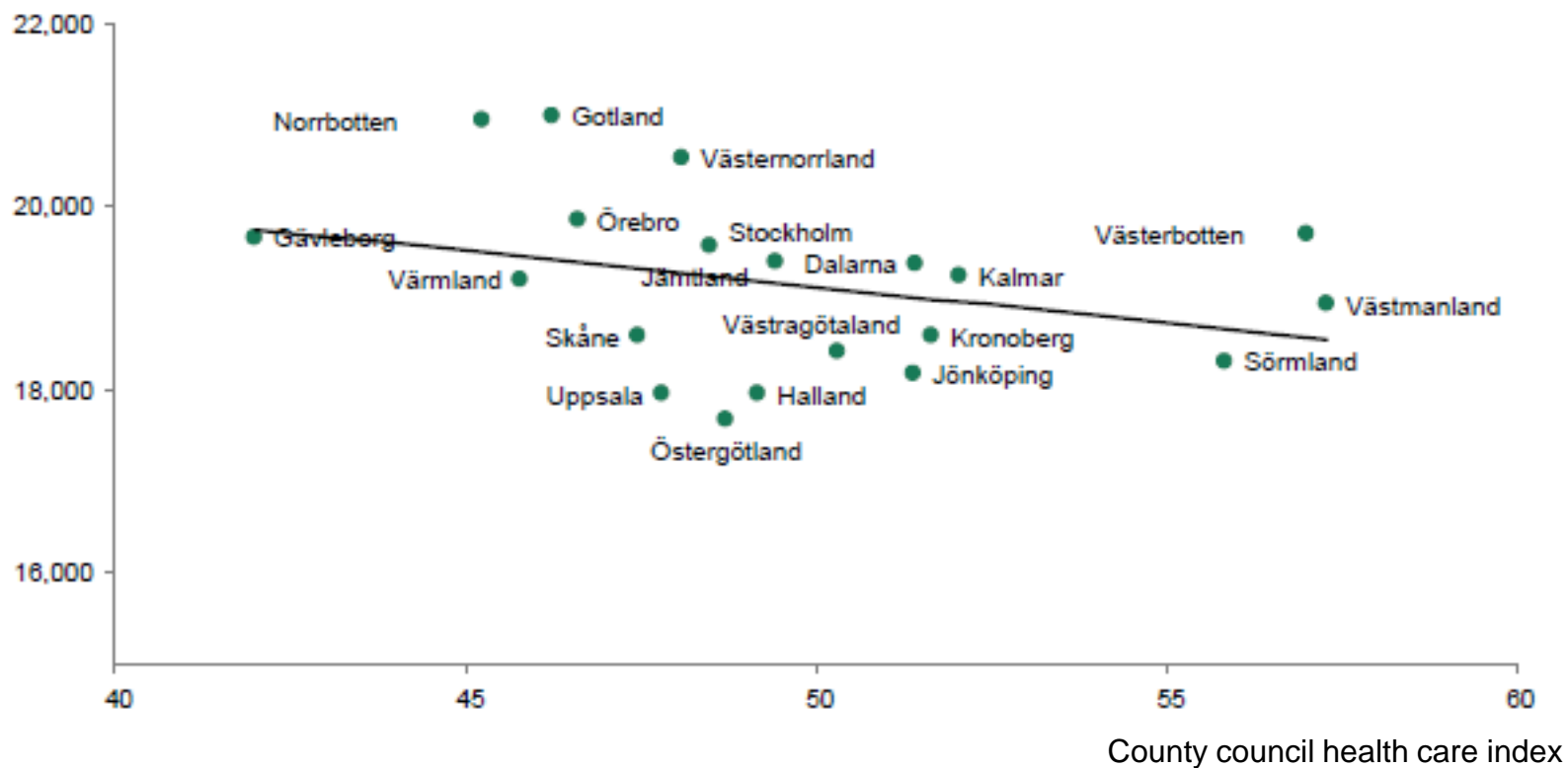


- **Better health** is the goal, not more treatment
- Better health is **inherently less expensive** than poor health

Cost versus Quality Sweden

Health Care Spending by County, 2008

Health care
cost/capita (SEK)



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

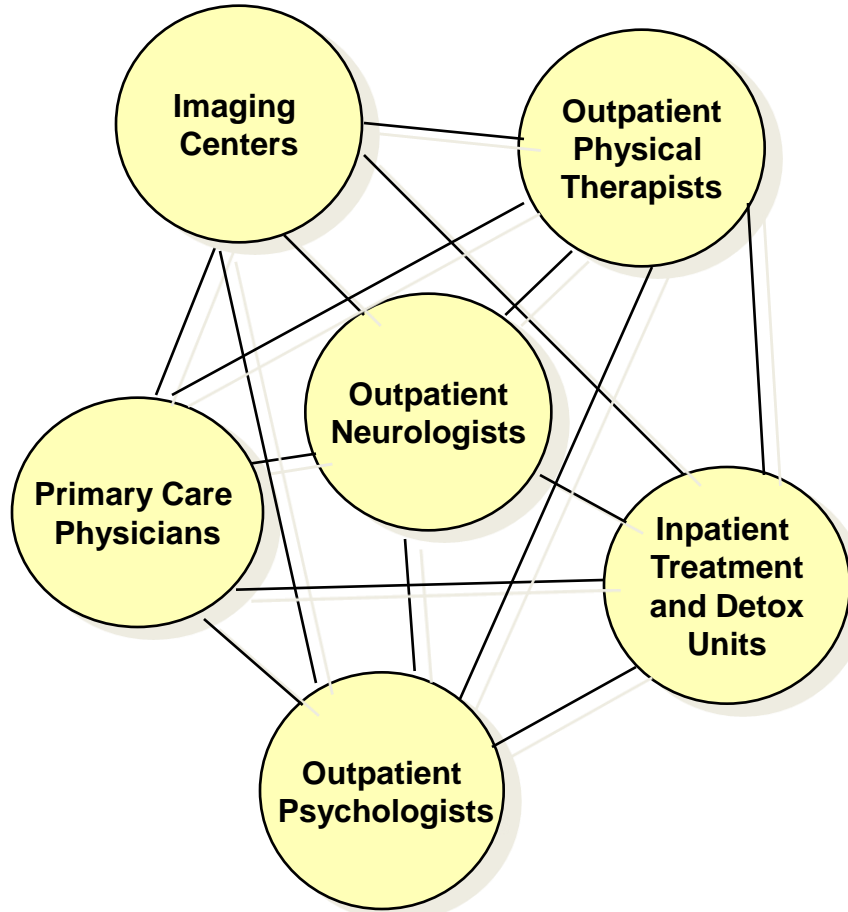


- The patient's medical condition is the **unit of value creation** in health care delivery

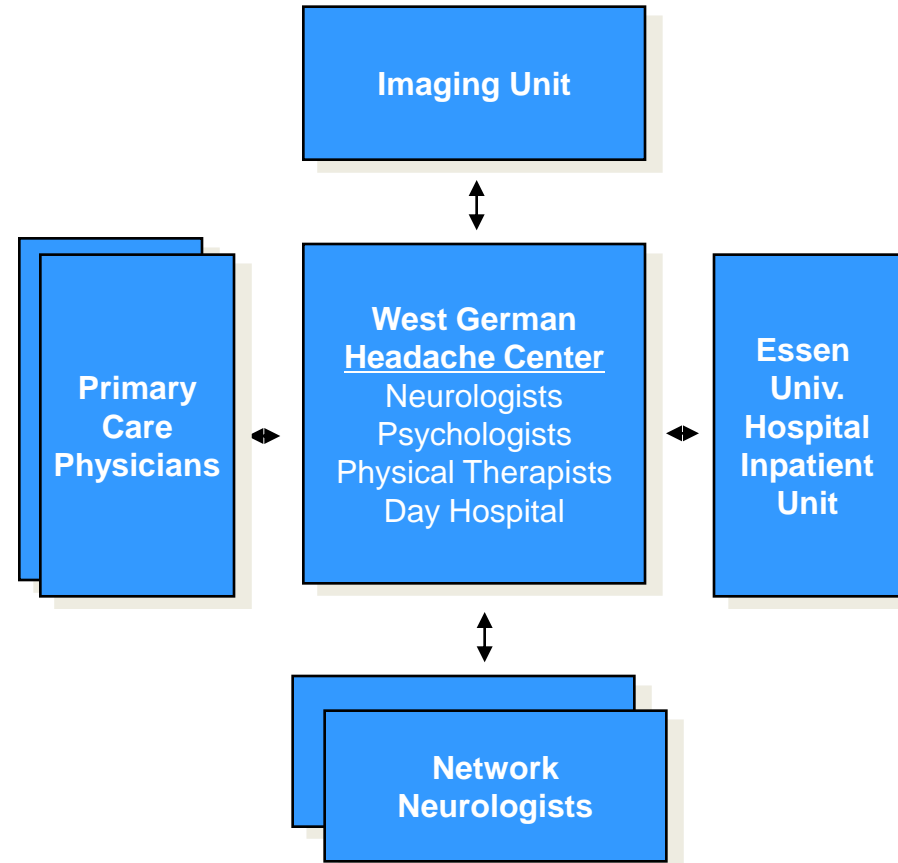
Restructuring Care Delivery

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

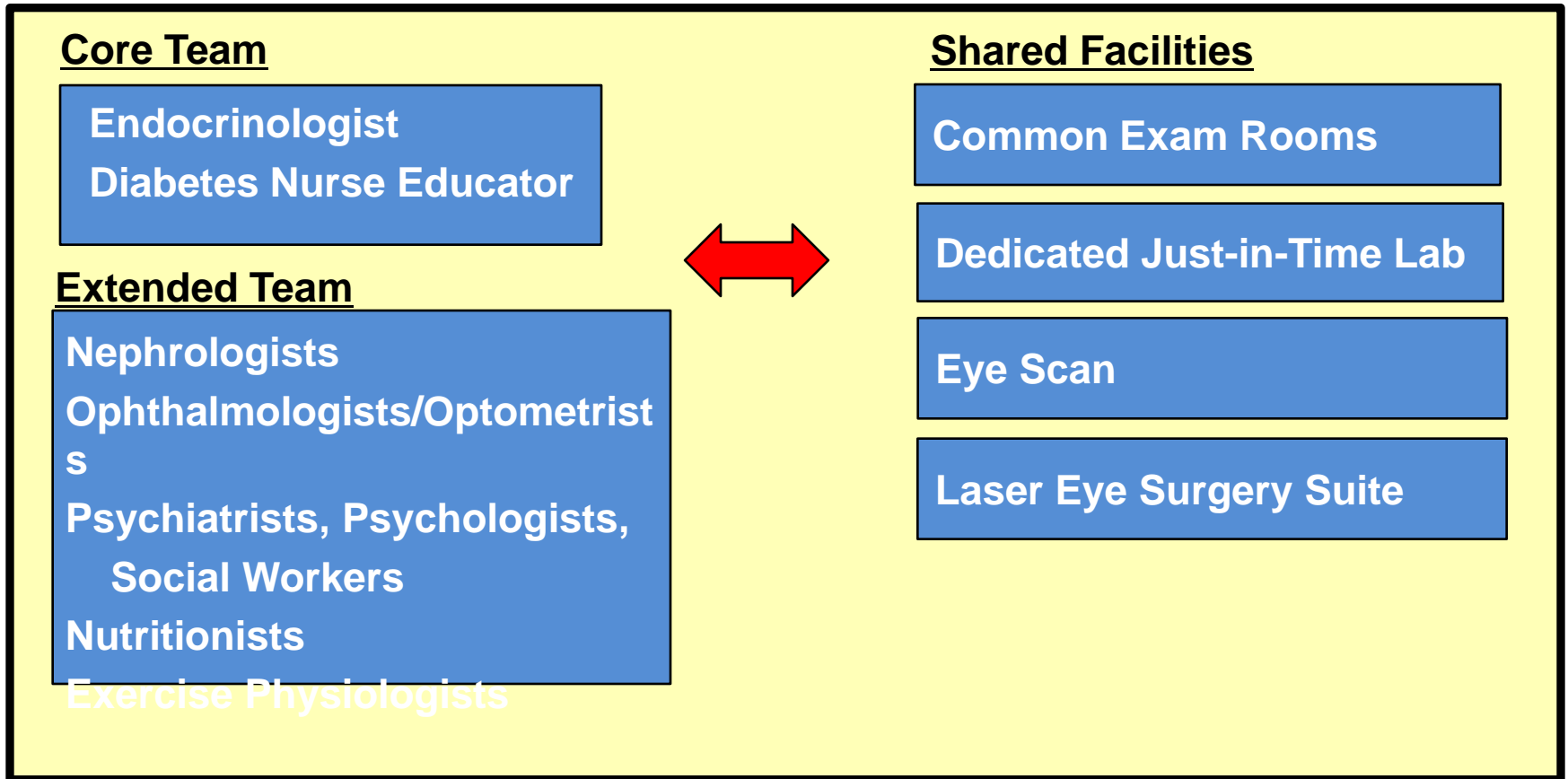
Breast Cancer

Informing and Engaging	<ul style="list-style-type: none"> Advice on self screening Consultations on risk factors 	<ul style="list-style-type: none"> Counseling patient and family on the diagnostic process and the diagnosis 	<ul style="list-style-type: none"> Explaining patient treatment options/shared decision making 	<ul style="list-style-type: none"> Counseling on the treatment process Education on managing side effects and avoiding complications of treatment Achieving compliance 	<ul style="list-style-type: none"> Counseling on rehabilitation options, process Achieving compliance Psychological counseling 	<ul style="list-style-type: none"> Counseling on long term risk management Achieving Compliance
			<ul style="list-style-type: none"> Patient and family psychological counseling 			
Measuring	<ul style="list-style-type: none"> Self exams Mammograms 	<ul style="list-style-type: none"> Mammograms Ultrasound MRI Labs (CBC, Blood chems, etc.) Biopsy BRACA 1, 2... CT Bone Scans 	<ul style="list-style-type: none"> Labs 	<ul style="list-style-type: none"> Procedure-specific measurements 	<ul style="list-style-type: none"> Range of movement Side effects measurement 	<ul style="list-style-type: none"> MRI, CT Recurring mammograms (every six months for the first 3 years)
Accessing	<ul style="list-style-type: none"> Office visits Mammography lab visits 	<ul style="list-style-type: none"> Office visits 	<ul style="list-style-type: none"> Office visits 	<ul style="list-style-type: none"> Hospital stays 	<ul style="list-style-type: none"> Office visits 	<ul style="list-style-type: none"> Office visits
		<ul style="list-style-type: none"> Lab visits 	<ul style="list-style-type: none"> Hospital visits Lab visits 	<ul style="list-style-type: none"> Visits to outpatient radiation or chemotherapy units Pharmacy 	<ul style="list-style-type: none"> Rehabilitation facility visits Pharmacy 	<ul style="list-style-type: none"> Lab visits Mammographic labs and imaging center visits
		<ul style="list-style-type: none"> High risk clinic visits 				
MONITORING/PREVENTING DIAGNOSING PREPARING INTERVENING RECOVERING/REHABING MONITORING/MANAGING						
<ul style="list-style-type: none"> Medical history Control of risk factors (obesity, high fat diet) Genetic screening Clinical exams Monitoring for lumps 	<ul style="list-style-type: none"> Medical history Determining the specific nature of the disease (mammograms, pathology, biopsy results) Genetic evaluation Labs 	<ul style="list-style-type: none"> Choosing a treatment plan Surgery prep (anesthetic risk assessment, EKG) Plastic or onco-plastic surgery evaluation Neo-adjuvant chemotherapy 	<ul style="list-style-type: none"> Surgery (breast preservation or mastectomy, oncoplastic alternative) Adjuvant therapies (hormonal medication, radiation, and/or chemotherapy) 	<ul style="list-style-type: none"> In-hospital and outpatient wound healing Treatment of side effects (e.g. skin damage, cardiac complications, nausea, lymphedema and chronic fatigue) Physical therapy 	<ul style="list-style-type: none"> Periodic mammography Other imaging Follow-up clinical exams Treatment for any continued or later onset side effects or complications 	

Breast Cancer Specialist
 Other Provider Entities

Integrated Chronic Care

Joslin Diabetes Center



Acute Complications

Hyperglycemia
Hypoglycemia

Long-Term Complications

Cardiovascular
Disease
Cardiologist

Neuropathy
Vascular Surgeon,
Neurologist, Podiatrist

End Stage
Renal Disease
Dialysis
Transplantation

Integrated Care Delivery Includes the Patient

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



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

Integrated Models of Primary Care

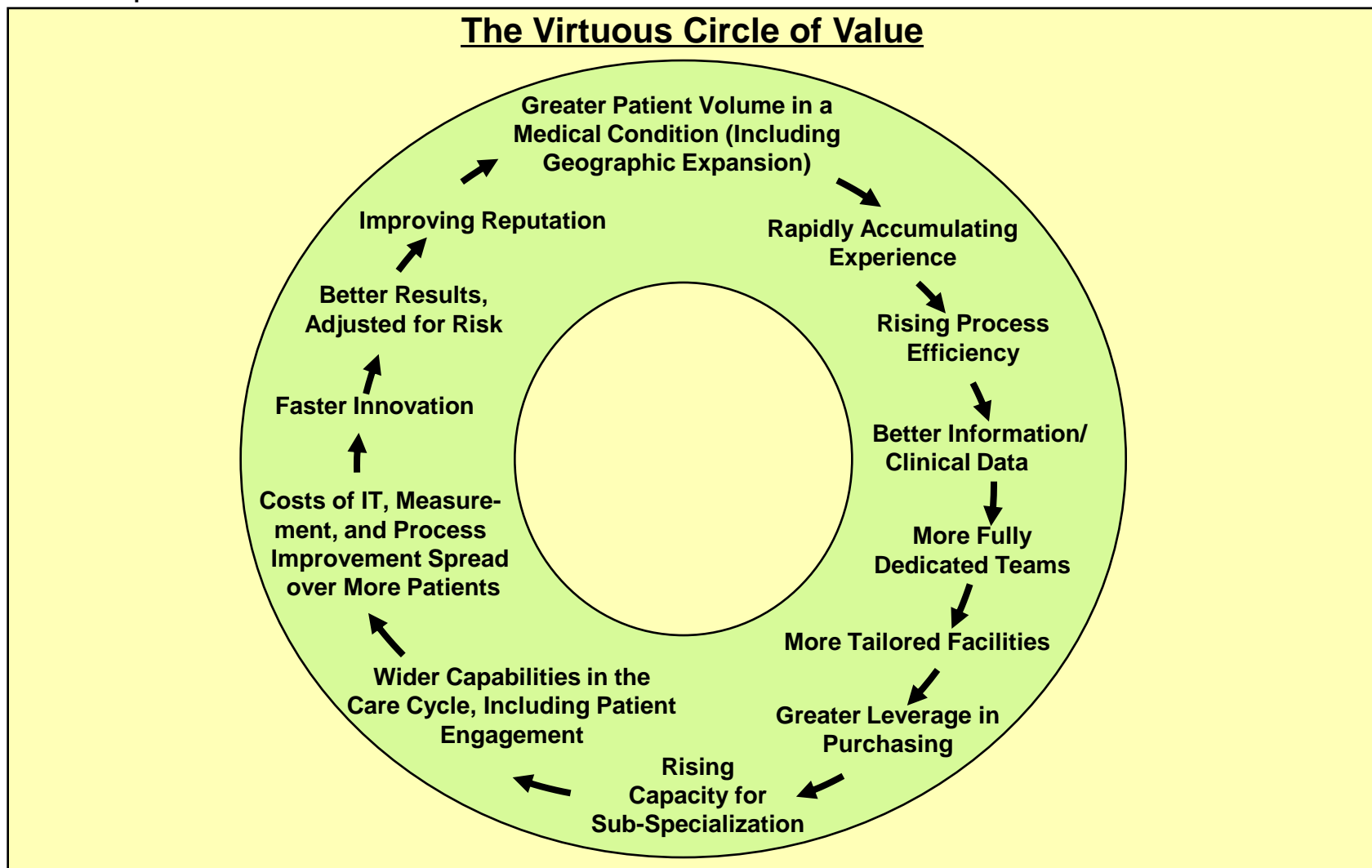
- Today's primary care is **fragmented** and attempts to address **overly broad** needs with limited resources



- 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

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 an **even 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

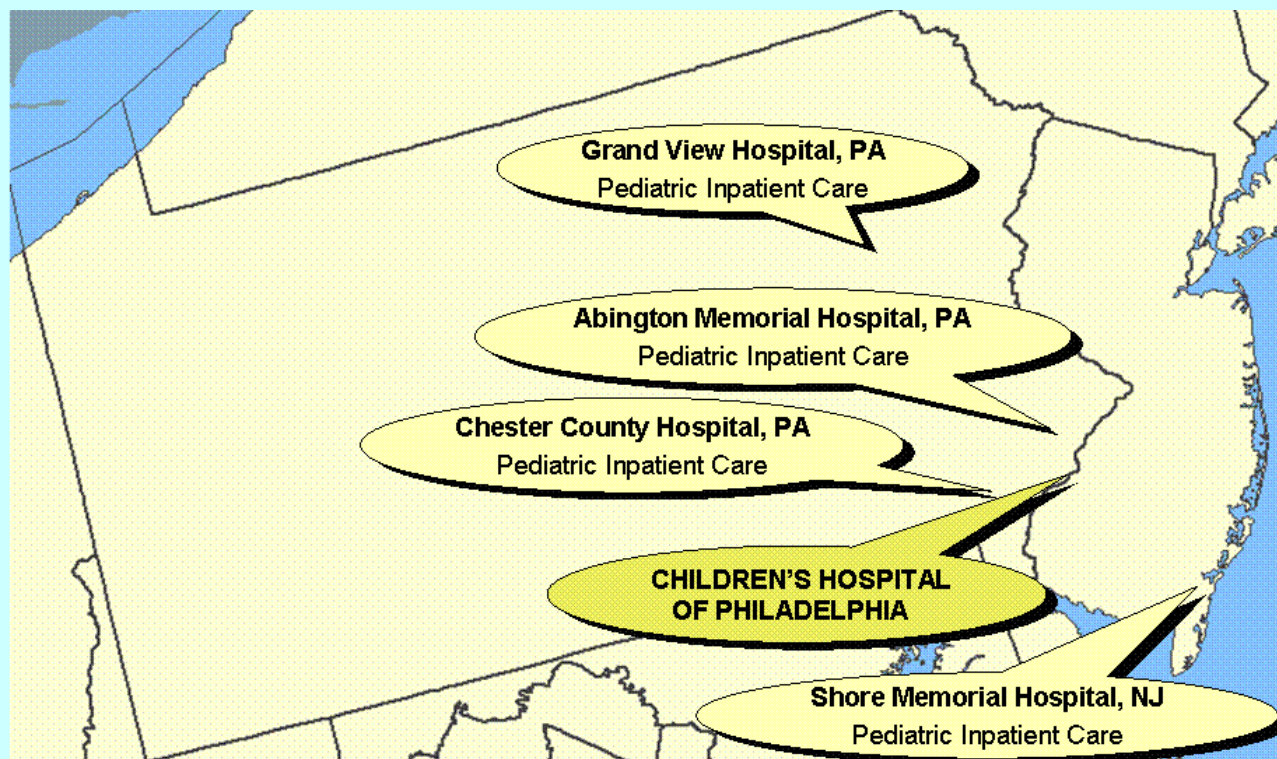
Procedure	Number of hospitals performing the procedure	Average number of procedures per provider per year	Average number of procedures per provider per week
Craniotomy	1,098	71	1.4
Operation for gastric cancer	2,336	72	1.4
Operation for lung cancer	710	46	0.9
Joint replacement	1,680	50	1.0
Pacemaker implantation	1,248	40	0.8
Laparoscopic procedure	2,004	72	1.4
Endoscopic procedure	2,482	201	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

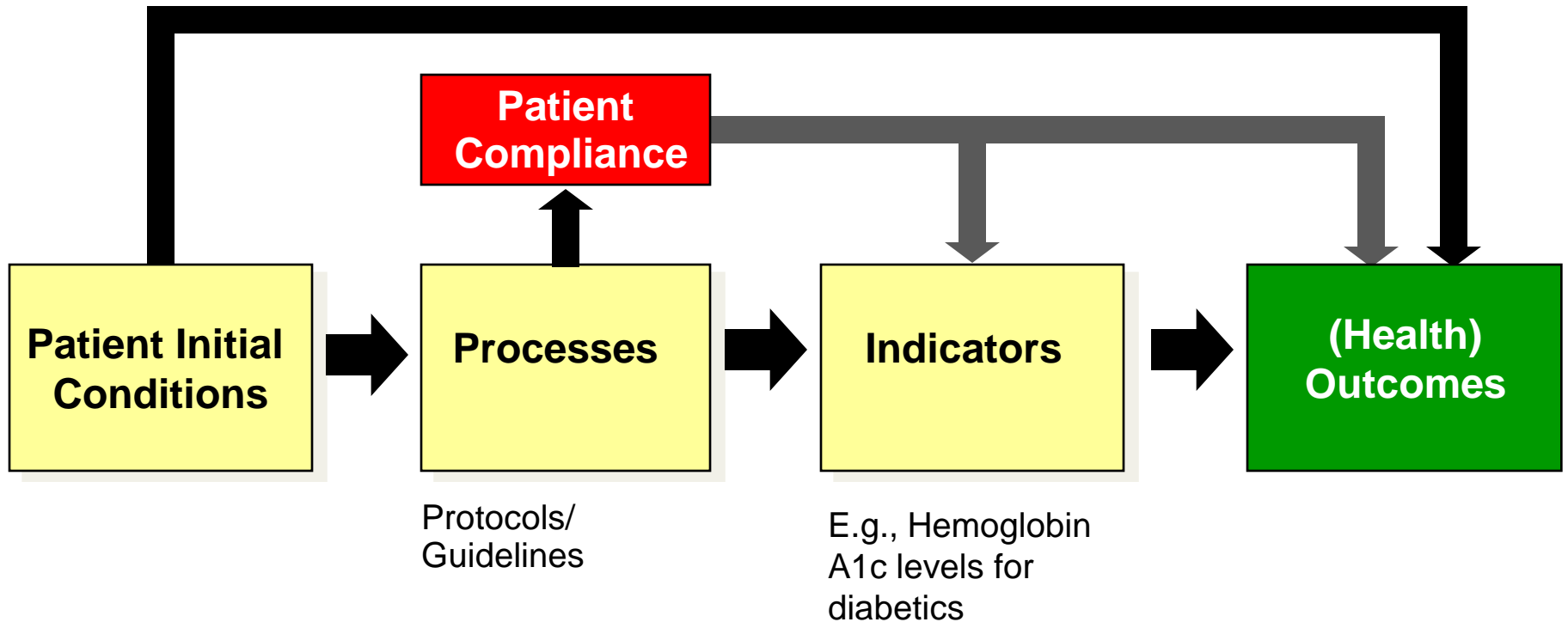


- Deliver services in the **appropriate** facility, not every facility
- Excellent providers can manage care delivery across **multiple geographic areas**

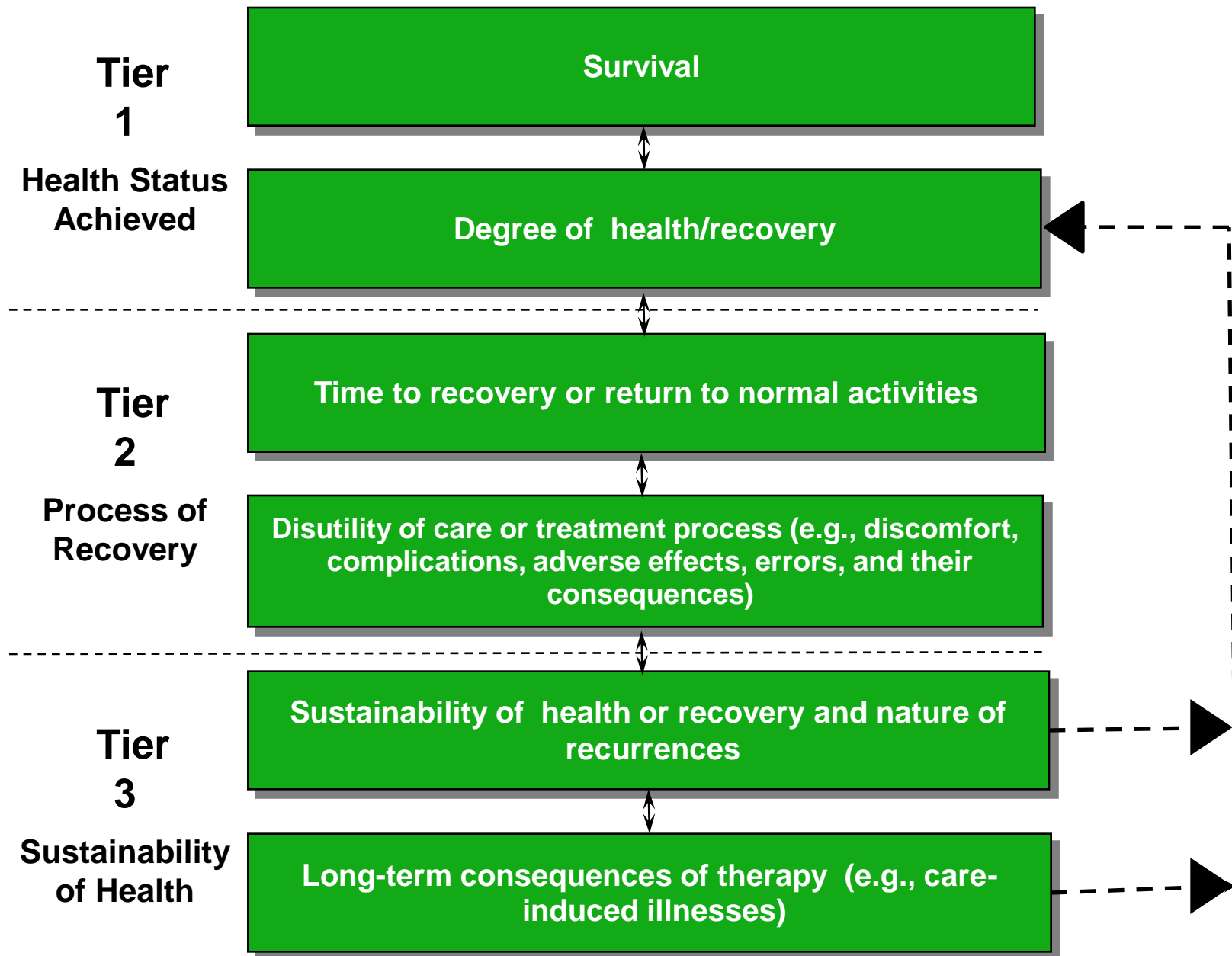
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4. Provider **experience**, **scale**, and **learning** at the medical condition level drive value improvement
5. **Integrate care across facilities** and **geography**, rather than duplicating services in stand-alone units
6. Measure and report **outcomes** and **costs**, by medical condition, for every provider and every patient
 - **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

Measuring Value in Health Care



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
- Depression
- Breast conservation

Time to recovery or return to normal activities

- Time to remission
- Time to achieve 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
- Limitation of motion
- Suspension of therapy
- Failed therapies
- Depression

Sustainability of recovery or health over time

- Cancer recurrence
- Sustainability of functional status

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

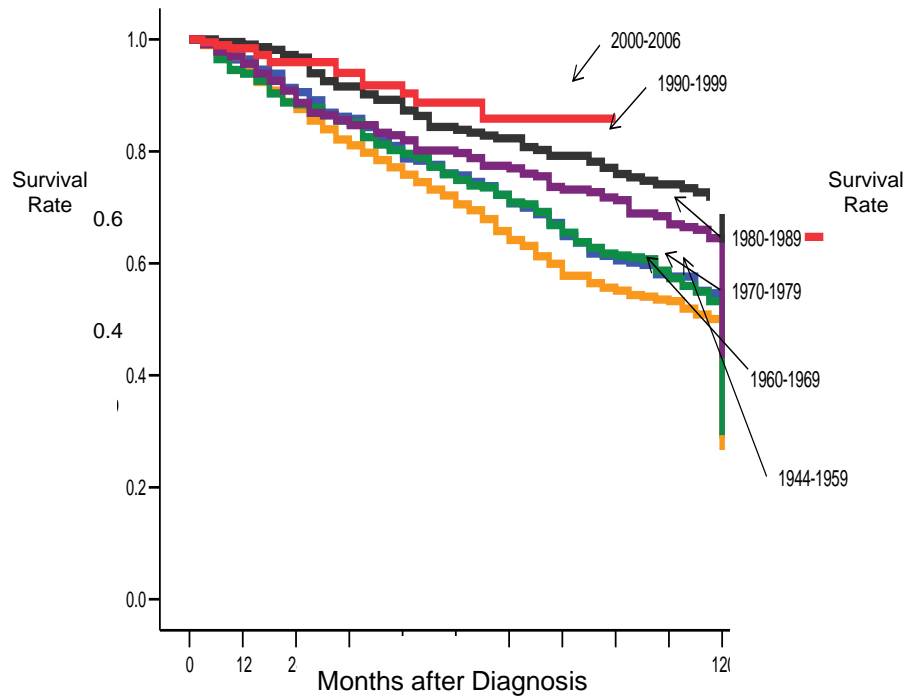
- Incidence of secondary cancers
- Brachial plexopathy
- Fertility/pregnancy complications
- Premature osteoporosis

Initial Conditions/Risk Factors

- Stage of disease
- 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

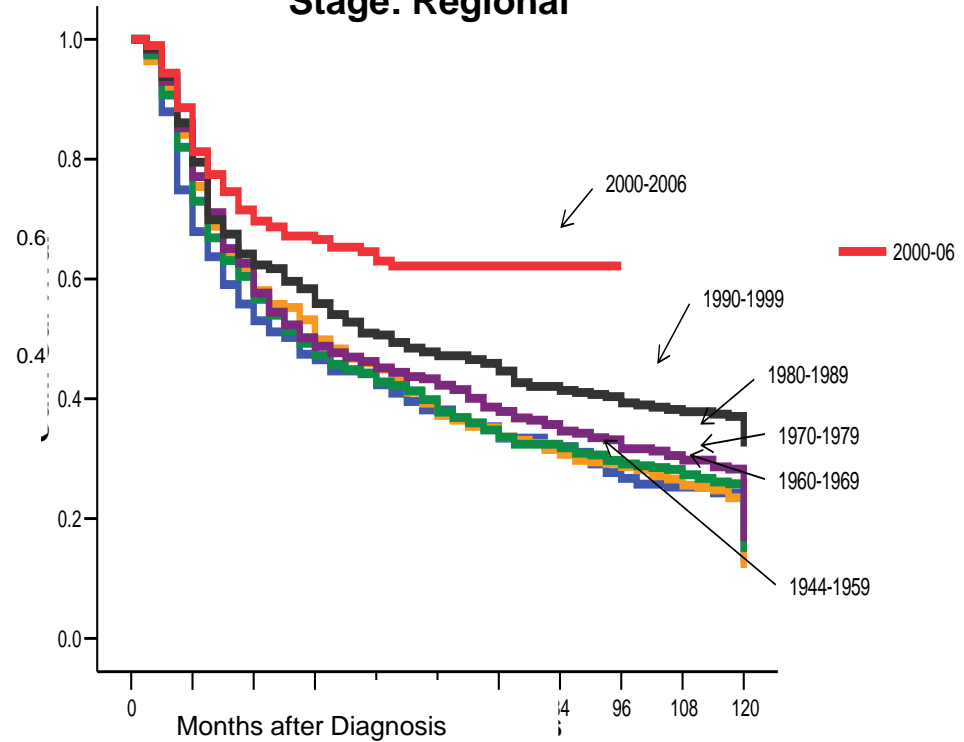
MD Anderson Oral Cavity Cancer Survival by Registration Year

Stage: Local



staer = REGIONAL

Stage: Regional



Source: MD Anderson Cancer Center

Swedish National Quality Registers, 2007*

Respiratory Diseases

- Respiratory Failure Register (Swedevox)
- Swedish Quality Register of Otorhinolaryngology

Childhood and Adolescence

- The Swedish Childhood Diabetes Registry (SWEDIABKIDS)
- Childhood Obesity Registry in Sweden (BORIS)
- Perinatal Quality Registry/Neonatology (PNQn)
- National Registry of Suspected/Confirmed Sexual Abuse in Children and Adolescents (SÖK)

Circulatory Diseases

- Swedish Coronary Angiography and Angioplasty Registry (SCAAR)
- Registry on Cardiac Intensive Care (RIKS-HIA)
- Registry on Secondary Prevention in Cardiac Intensive Care (SEPHIA)
- Swedish Heart Surgery Registry
- Grown-Up Congenital Heart Disease Registry (GUCH)
- National Registry on Out-of-Hospital Cardiac Arrest
- Heart Failure Registry (RiksSvikt)
- National Catheter Ablation Registry
- Vascular Registry in Sweden (Swedvasc)

- National Quality Registry for Stroke (Riks-Stroke)
- National Registry of Atrial Fibrillation and Anticoagulation (Auricula)

Endocrine Diseases

- National Diabetes Registry (NDR)
- Swedish Obesity Surgery Registry (SOReg)
- Scandinavian Quality Register for Thyroid and Parathyroid Surgery

Gastrointestinal Disorders

- Swedish Hernia Registry
- Swedish Quality Registry on Gallstone Surgery (GallRiks)
- Swedish Quality Registry for Vertical Hernia

Musculoskeletal Diseases

- Swedish Shoulder Arthroplasty Registry
- National Hip Fracture Registry (RIKSHÖFT)
- Swedish National Hip Arthroplasty Register
- Swedish Knee Arthroplasty Register
- Swedish Rheumatoid Arthritis Registry
- National Pain Rehabilitation Registry
- Follow-Up in Back Surgery
- Swedish Cruciate Ligament Registry – X-Base
- Swedish National Elbow Arthroplasty Register (SAAR)

* Registers Receiving Funding from the Executive Committee for National Quality Registries in 2007

Swedish National Quality Registers*, continued

Diseases of the Nervous System

- Swedish Multiple Sclerosis Registry (SMS)
- Quality Registry for Children with Cerebral Palsy (CPUP)
- Quality Registry in Rehabilitation Medicine (WebRehab Sweden)
- Swedish Dementia Registry (SveDem)

Genitourinary Disorders

- National Quality Registry for Gynecological Surgery (GYNOP)
- Swedish Renal Registry (SRR)

Cancer

- National Breast Cancer Registry
- National Quality Registry for Esophageal and Stomach Cancer (NREV)
- National Prostate Cancer Registry
- Swedish Rectal Cancer Registry
- Swedish Gyn-Oncology Registry
- Swedish Colon Cancer Registry

Eye Diseases

- Swedish Corneal Transplant Register
- Swedish National Cataract Register
- Macula Register

Other Areas

- National Quality Registry for Specialized Treatment for Eating Disorders (RIKSÄT)
- Swedish Intensive Care Registry (SIR)
- Swedish Psoriasis Registry (PsoReg)
- InfCare HIV
- Swedish Therapeutic Apheresis Registry
- Swedish Quality Register in Caries and Periodontitis
- Swedish National Registry of Palliative Care
- National Registry on Nutrition, Fall Prevention, and Pressure Sores (Senior Alert)
- Quality Registry for Emergent Care

* Registers Receiving Funding from the Executive Committee for National Quality Registries in 2007

Swedish National Quality Registers, continued

Other Registries**

- National Quality Registry for Bladder Cancer
- National Gynecological Cell Testing Register (preventive examinations for uterine cancer)
- National Register of Treatment Follow-up for Severe ADHD (BUSA)
- National Quality Register for Bipolar Affective Disorder (Bipolär)
- Schizophrenia
- Swedish Anesthesiology Registry
- Swedish Dental Implant Register
- Swedish Quality Register for General Thoracic Surgery
- National Register for In-Hospital Cardiac Arrest
- National Quality Register for IVF
- Enhanced Recovery After Surgery (ERAS)
- Drug-Assisted Rehabilitation of Opiate Dependence (LAROS)
- Metabolic Effects of Antipsychotic Drug Treatment
- National Primary Care Database
- National Quality Registry for Primary Care

** Register applicants that did not receive funding from the Executive Committee for National Quality Registries in 2007

Principles of Value-Based Health Care Delivery

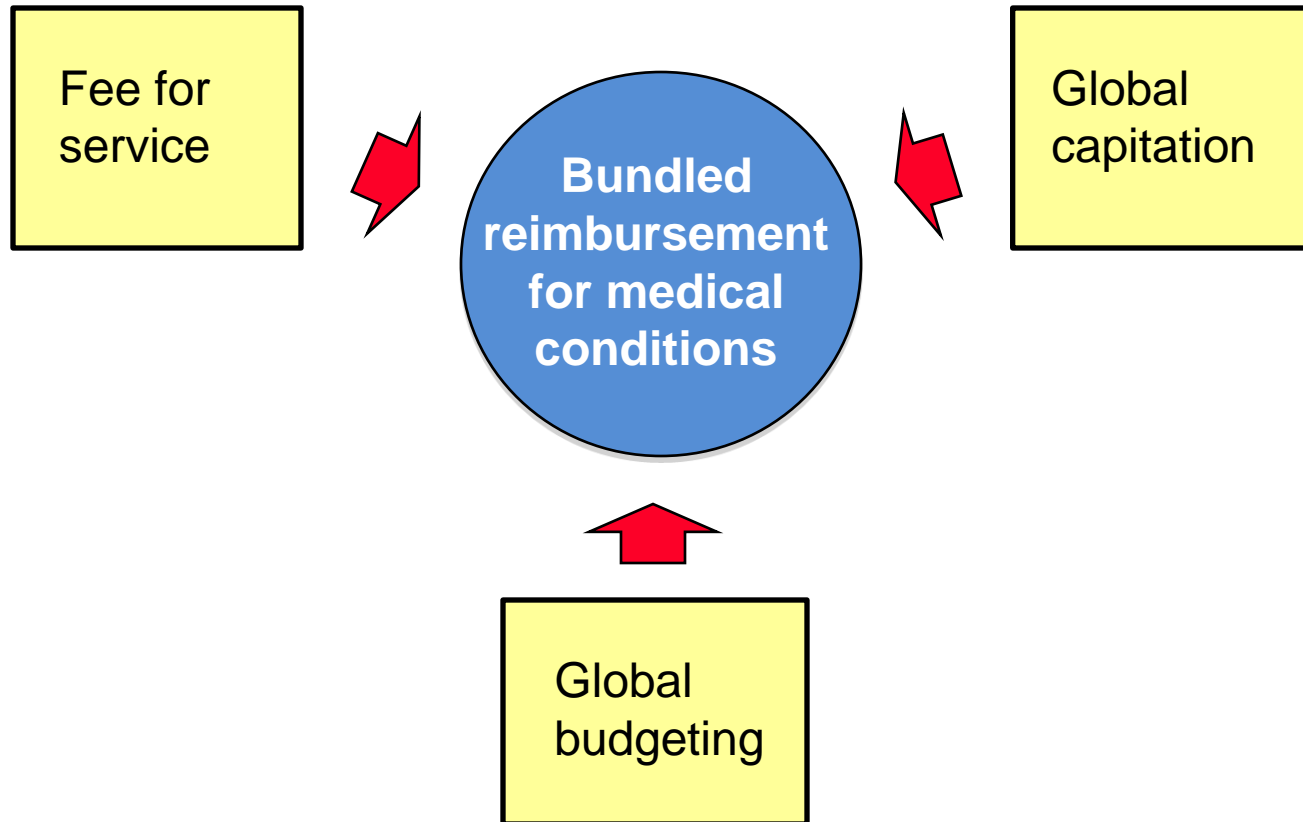
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4. Provider **experience**, **scale**, and **learning** at the medical condition level drive value improvement
5. **Integrate care across facilities** and **geography**, rather than duplicating services in stand-alone units
6. Measure and report **outcomes** and **costs**, by medical condition, for every provider 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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6. Measure and report **outcomes** and **costs**, by medical condition, for every provider and every patient
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

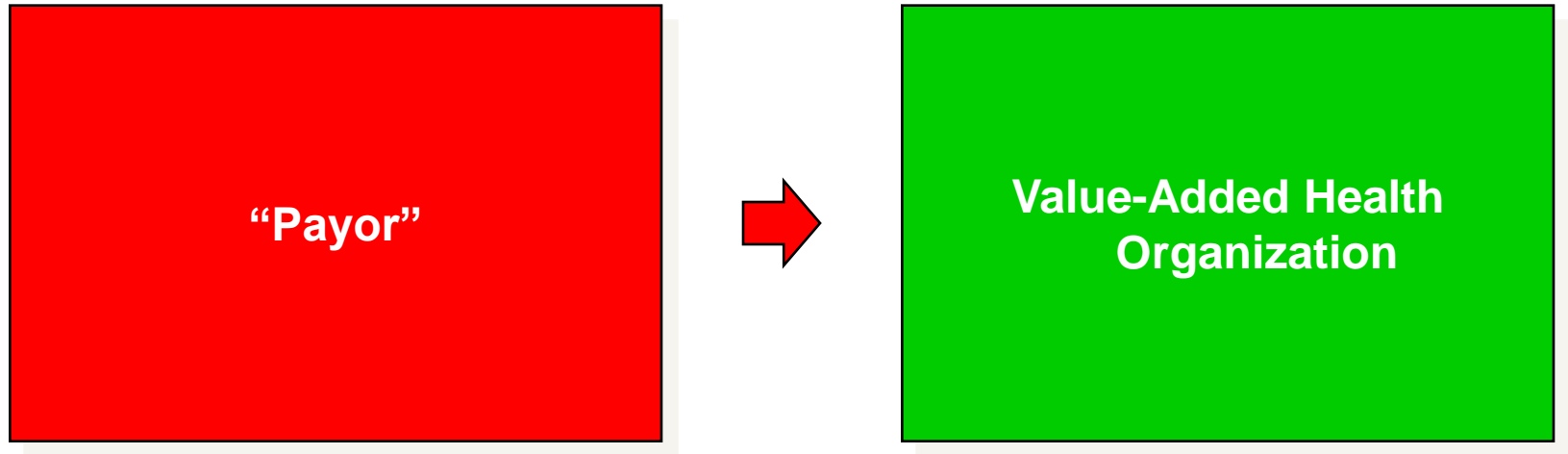
- Common data definitions
- “Structured” data vs. free text
- Data encompasses the full care cycle, including referring entities
- Structure for combining all types of data (e.g. notes, images) for each patient over time
- Templates for medical conditions to enhance the user interface
- Accessible by,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

Value-Based Health Care Delivery

The Strategic Agenda for Providers

- 1. Organize into Integrated Practice Units (IPUs)**
 - Including primary care
- 2. Measure Outcomes and Cost for Every Patient**
- 3. Lead the Development of 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. Grow Excellent IPUs Across Geography**
- 6. Create an Enabling Information Technology Platform**

Value-Based Healthcare Delivery: Implications for Health Plans



Value-Based Health Care Delivery: Implications for Suppliers

- Compete on delivering **unique value** measured over the **full care cycle**
- **Demonstrate value** based on careful study of long term outcomes and costs versus alternative approaches
- Ensure that the products are **used by the right patients**
- Work to embed drugs/devices in the **right care delivery processes**
- Market products based on **value, information, provider** support and **patient** support
- Offer services that **contribute to value** rather than reinforce cost shifting
- Move to **value-based pricing** approaches
 - e.g. price for success, guarantees

Moving to a High Value Japanese Health System

Strengths

- 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 for preventative care
- Well trained and hardworking physicians and medical personnel
- Many Japanese citizens follow healthy living practices



- Health care expenditures per capita are **low** relative to other OECD countries

Moving to a High Value Japanese Health System

Weaknesses

- Focus is on **short term cost control** rather than **value improvements for patients**
 - Reducing prices for individual interventions rather than reducing the total cost or improving value over the care cycle
 - Oriented towards restricting services and slowing innovation
- Focus is on **interventions rather than integrated care** across the care cycle
- **Duplication** and **fragmentation** of services across hospitals
- **Inefficient use of physicians** and **poor coordination** of care
- Inadequate provision for **preventative care**, **screening**, and **disease management**
- Capacity for acute services limited by chronically ill patients **without alternative care**
- Near total absence of **outcomes measures**
- Health plans are **passive** and do not contribute to member health
- No mechanisms for directing patients to **appropriate and excellent providers**
- Reimbursement structure **misaligned with value**, encouraging unnecessary services and longer than necessary hospital stays
- Limited involvement of **patients** in their health and health care

Moving to a High Value Japanese Healthcare System

Recommendations

Insurance and Coverage

- Enforce the national health insurance mandate by **imposing penalties on free riders**
- Improve the **risk adjustment** system for member health differences to improve **equity** among health plans, including employer based 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
- Add **permanent professional staff** in mandatory plans to improve capabilities and management effectiveness
- Require health plans to **measure and report the health status of members** by medical condition, stratified by risk

Moving to a High Value Japanese Healthcare System- 2

Insurance and Coverage, continued

- After improving the risk-adjustment mechanism, open **competition among health plans**
 - Over time, plans should be allowed to compete in multiple regions
- Continue to allow **consolidation of health plans** within regions
- Designate health plans, or an independent health information agency, as the location where **member medical records are aggregated** with strong privacy protections
- Encourage **responsibility of individuals** for their health through incentives for healthy behavior and copayments that encourage adherence to necessary medicines and use of high value services

Moving to a High Value Japanese Healthcare System- 3

Delivery System

- Require **mandatory measurement of patient health outcomes** by medical condition by provider, beginning with complex or prevalent diseases
- 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 mode**
 - Prices should encourage **high value care** and eliminate cross-subsidies that distort care delivery choice (e.g. pay for patient education, adequate physician time for diagnosis, care coordination and screening)
 - Reimburse for covered portions of “mixed treatment”
 - Move to **price caps** instead of fixed prices once universal outcome measurement is in place
- Enable **integrated care delivery structures** for medical conditions, which encompass the full care cycle
 - Eliminate the **artificial separation** between **inpatient and outpatient care**
 - Eliminate the **requirement for physician visits** to refill prescriptions
 - Remove obstacles to use of **non-physician skilled staff**

Moving to a High Value Japanese Healthcare System- 4

Delivery System, continued

- Create new **integrated primary and preventive care models** for defined patient groups
- Open **competition on value** among providers
 - Consider **minimum volume standards** for certification in more complex medical conditions, pending universal outcome measurement
- Reduce barriers and create incentives for excellent providers to **expand across multiple locations**, including local feeder facilities with telemedicine support in rural areas
- Mandate **national EMR adoption** enabling integrated care and supporting outcome measurement
 - Set **IT standards** covering data definitions, data architecture, and interoperability, and set a fixed deadline within which all medical information systems must be compliant
 - Software as service model for smaller providers
- Encourage **responsibility of individuals** for their health through patient education and coordination