

Value Based Health Care Delivery: Strategy For Health Care Leaders

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Setting the Right Goal

- The core purpose of health care is **value for patients**

$$\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering those outcomes}}$$

- Delivering high value for patients must be the **central goal** of every health care organization
 - financial success is the **result** of delivering value, not the end in itself



- Health care delivery must shift from **volume** to **value**

Principles of Value-Based Health Care Delivery

- Value is created in caring for a patient's **medical condition** over the full cycle of care
 - not by a hospital, a site, a specialty, an episode, or an intervention

$$\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering the outcomes}}$$

- Outcomes are the **full set of health results that matter** for the patient's condition
- Costs are the **total costs of care** for the patient's condition over the care cycle



- The most powerful single lever for reducing cost is **improving outcomes**

Creating a Value-Based Health Care Delivery Organization

The Strategic Agenda

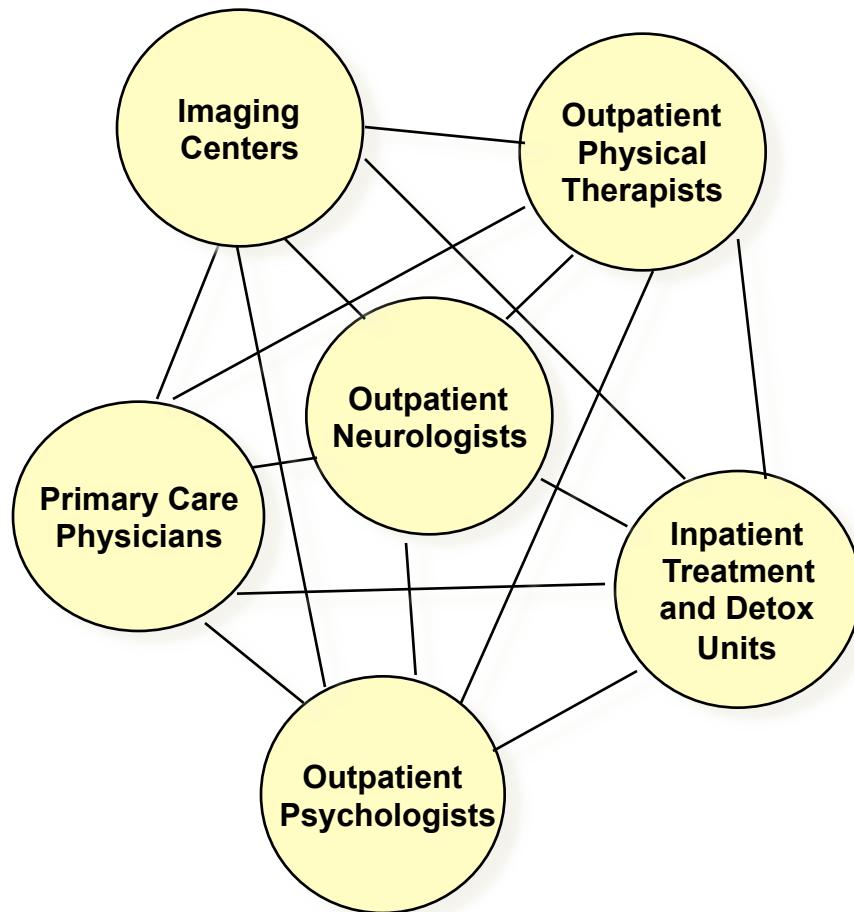
- 1. Re-organize Care around Patient Conditions, into Integrated Practice Units (IPUs)**
 - For primary and preventive care, IPUs serve distinct patient segments
- 2. Measure Outcomes and Costs for Every Patient**
- 3. Move to Bundled Payments for Care Cycles**
- 4. Integrate Multi-site Care Delivery Systems**
- 5. Expand Geographic Reach To Drive Excellence**
- 6. Build an Enabling Information Technology Platform**

1. Organize Care Around Patient Medical Conditions

Headache Care in Germany

Existing Model:

Organize by Specialty and
Discrete Service



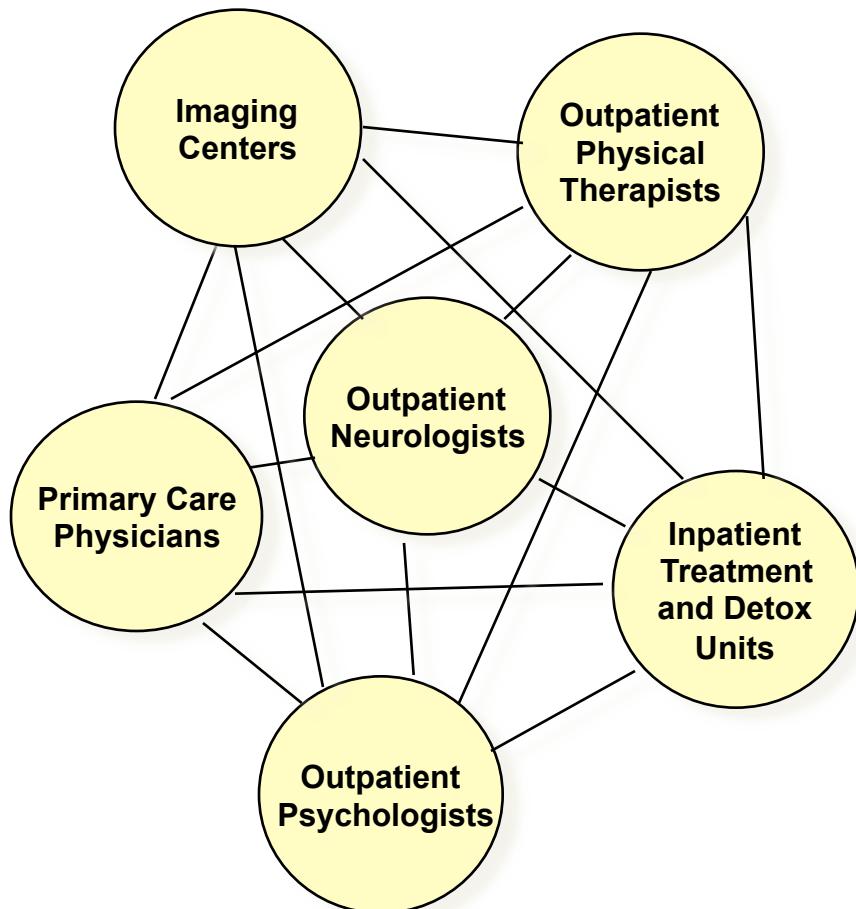
Source: Porter, Michael E., Clemens Guth, and Elisa Dannemiller, *The West German Headache Center: Integrated Migraine Care*, Harvard Business School Case 9-707-559, September 13, 2007

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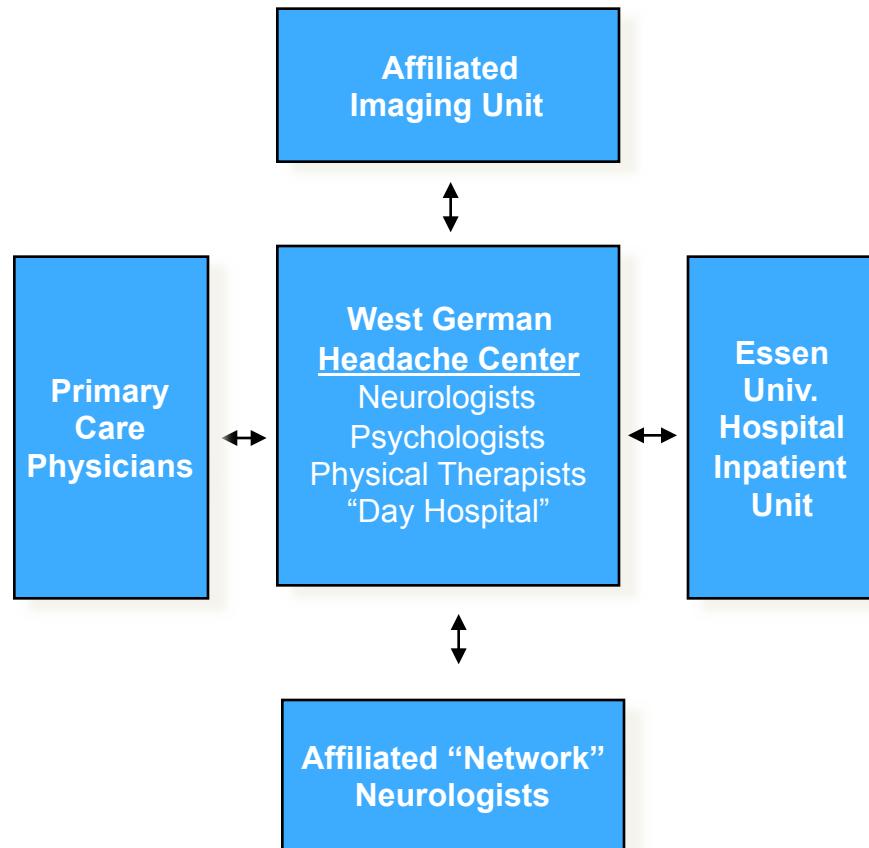
Existing Model:

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New Model:

Organize into Integrated Practice Units (IPUs) Around Conditions



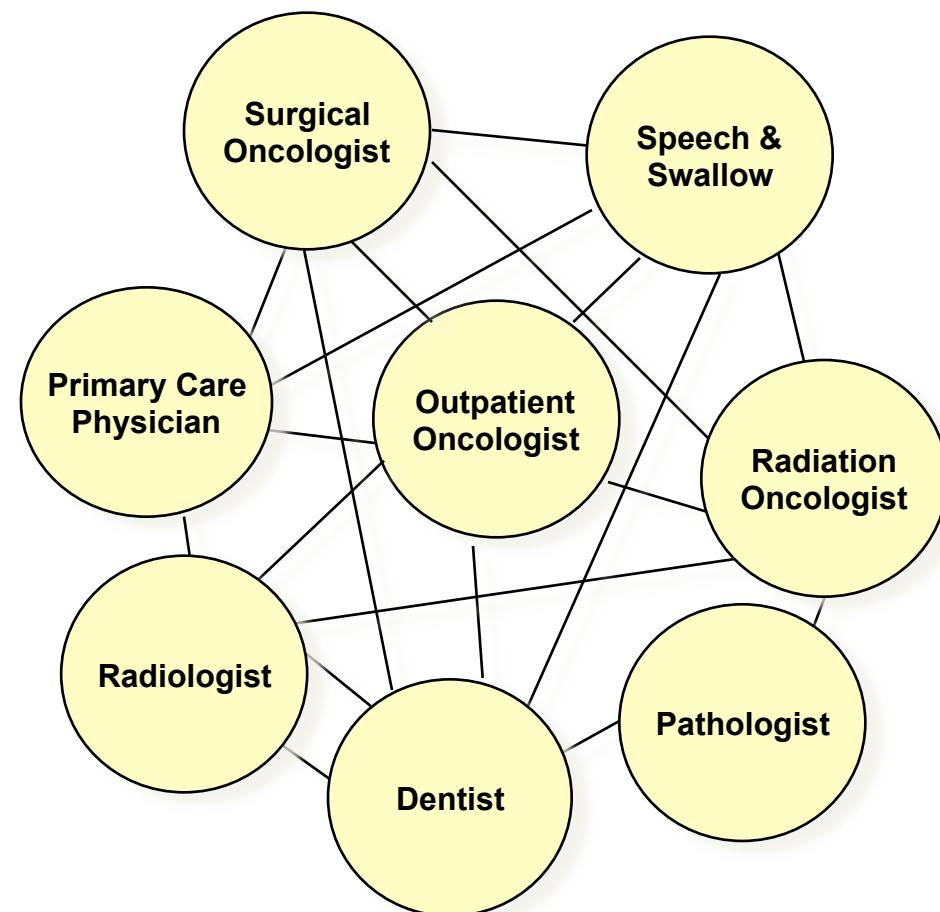
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1. Organize Care Around Patient Medical Conditions

Head & Neck Cancer Care at MD Anderson

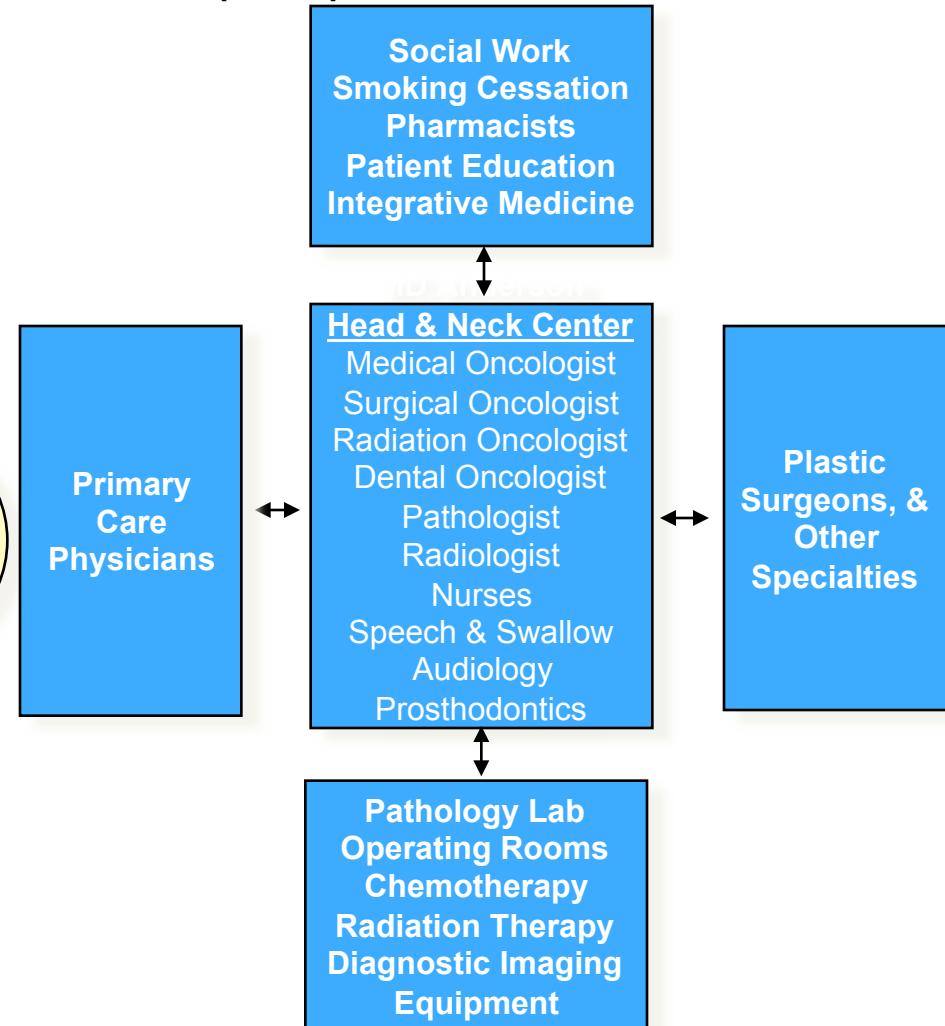
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Integrating Across the Care Cycle

A Surgeon Teaches Independent Physical Therapists

About Rehabilitation



The Playbook for Integrated Practice Units (IPUs)

1. Organized around a **medical condition** or **set of closely related conditions** (or around defined patient segments for primary care)
 2. Care is delivered by a **dedicated, multidisciplinary team** who devote a significant portion of their time to the medical condition
 3. Providers see themselves as part of or affiliated with a **common integrated unit**
 4. The team takes responsibility for the **full cycle of care** for the condition
 5. **Patient education, engagement, adherence, and follow-up** are integrated into care
 6. The unit has a **single administrative and scheduling structure**
 7. To the extent feasible, **the team is co-located** in **dedicated facilities**
-
8. A **physician team captain** or a **clinical care manager** (or both) oversees each patient's care process
 9. **The team accepts joint accountability** for outcomes and costs
 10. The team **measures** outcomes, costs, processes, and experiences for each patient using a **common measurement platform**
 11. The team **meets formally and informally** on a regular basis to discuss patients, processes, and how to improve results

Volume in a Medical Condition Enables Value

Fragmentation of U.S. Care

Procedure / Specialty	Est. Number of Inpatient Procedures	% of Procedures at Hospitals Performing <10 Cases per Year	% of Procedures Performed at Below Minimum Adequate Volume
Coronary stenting	558,349	<1%	38%
CABG	427,380	1%	38%
Radical prostatectomy	77,030	3%	47%
AAA repair	54,819	17%	50%
Bariatric surgery	48,672	28%	51%
Breast cancer surgery	120,704	23%	61%
Rectal cancer surgery	26,692	45%	65%

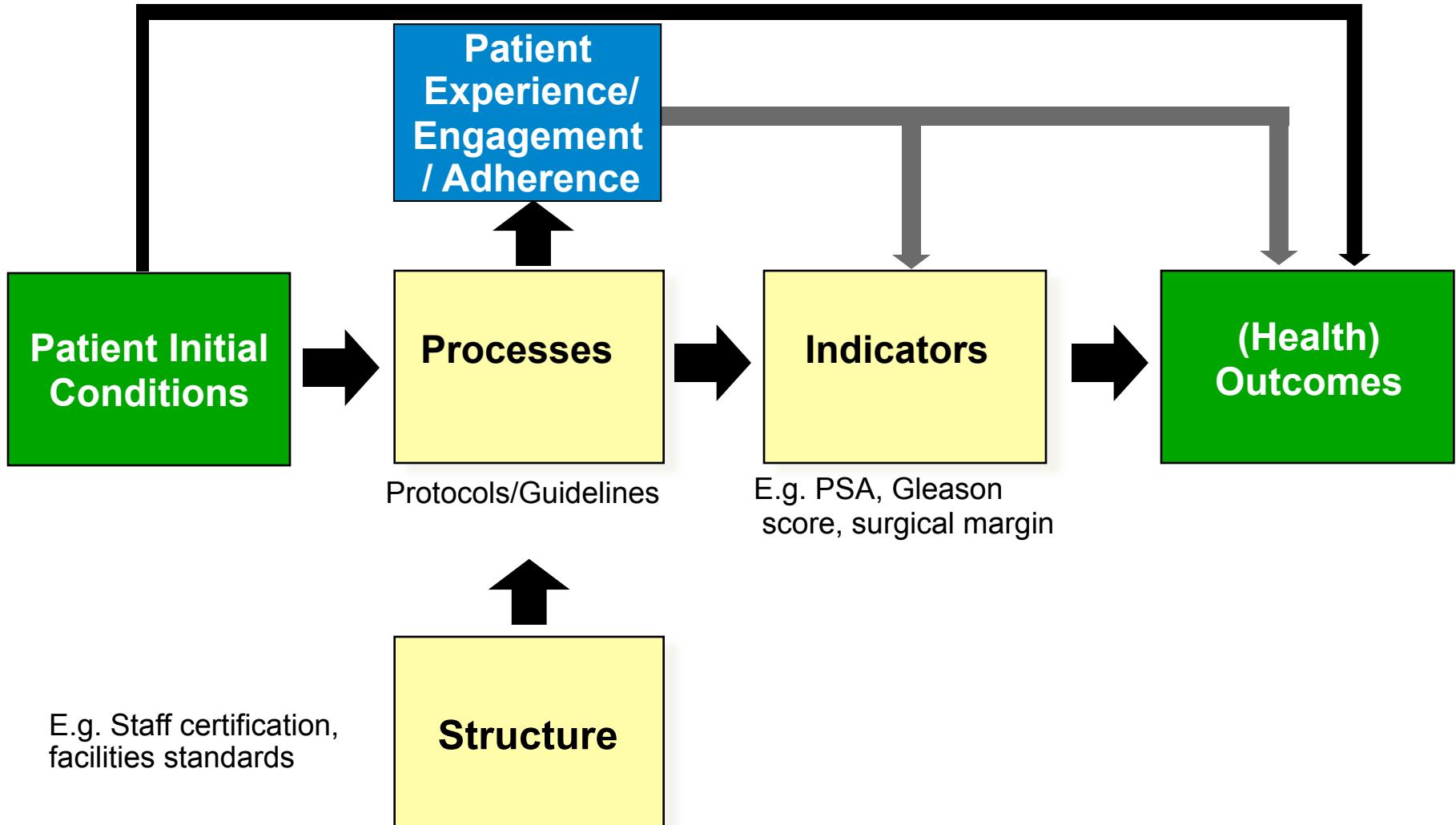
Moving to IPU Certification

Specialist Breast Centres in Europe*

- Minimum overall **volume requirement** of 150 new cases annually
- **Dedicated teams of specialists** working with a **multidisciplinary approach**
 - Includes surgery, oncology, radiation, pathology, radiology, nursing, psychology, genetics
 - Specialists each must spend a **minimum % of time** on breast care to qualify
 - Surgeons, radiologists, and pathologists meet **individual volume minimums** to maintain experience
- Led by a **Clinical Director**
 - Mandatory, weekly multidisciplinary case management meetings including all key team members
 - Meetings address care management decisions for at least 90% of patients
 - Centers agree on written protocols for diagnosis, treatment and follow-up
- Centers **provide or direct all services** throughout the patient's pathway
 - Affiliations with other needed services – e.g. plastic surgery, palliative care
- Collect and audit **clinical data**
 - Formally identify a data manager responsible for collecting and analyzing data on diagnosis, pathology, treatment, and outcomes
 - Participate in benchmarking and annual performance review

2. Measure Outcomes and Costs for Every Patient

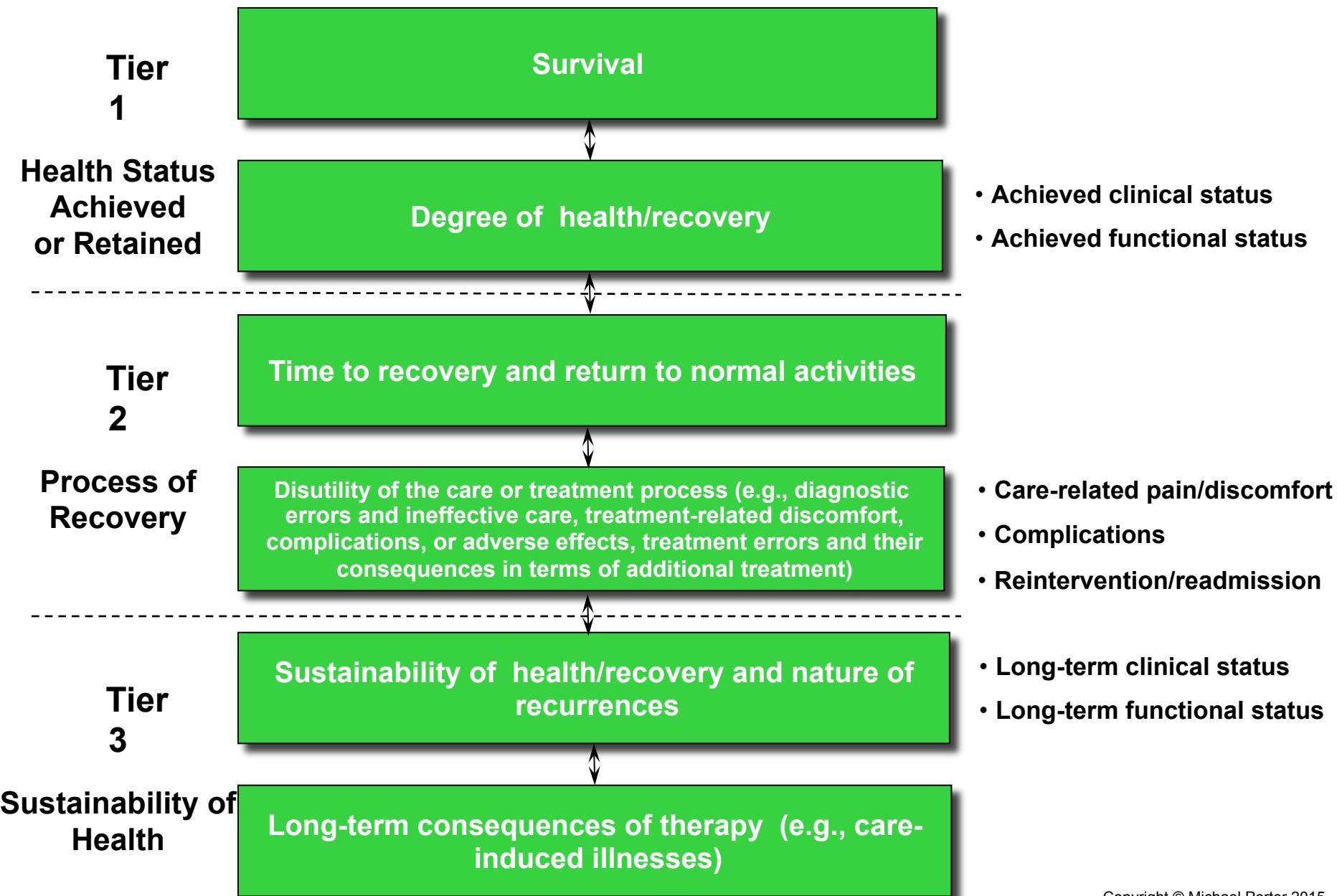
The Quality Measurement Landscape



E.g. Staff certification,
facilities standards

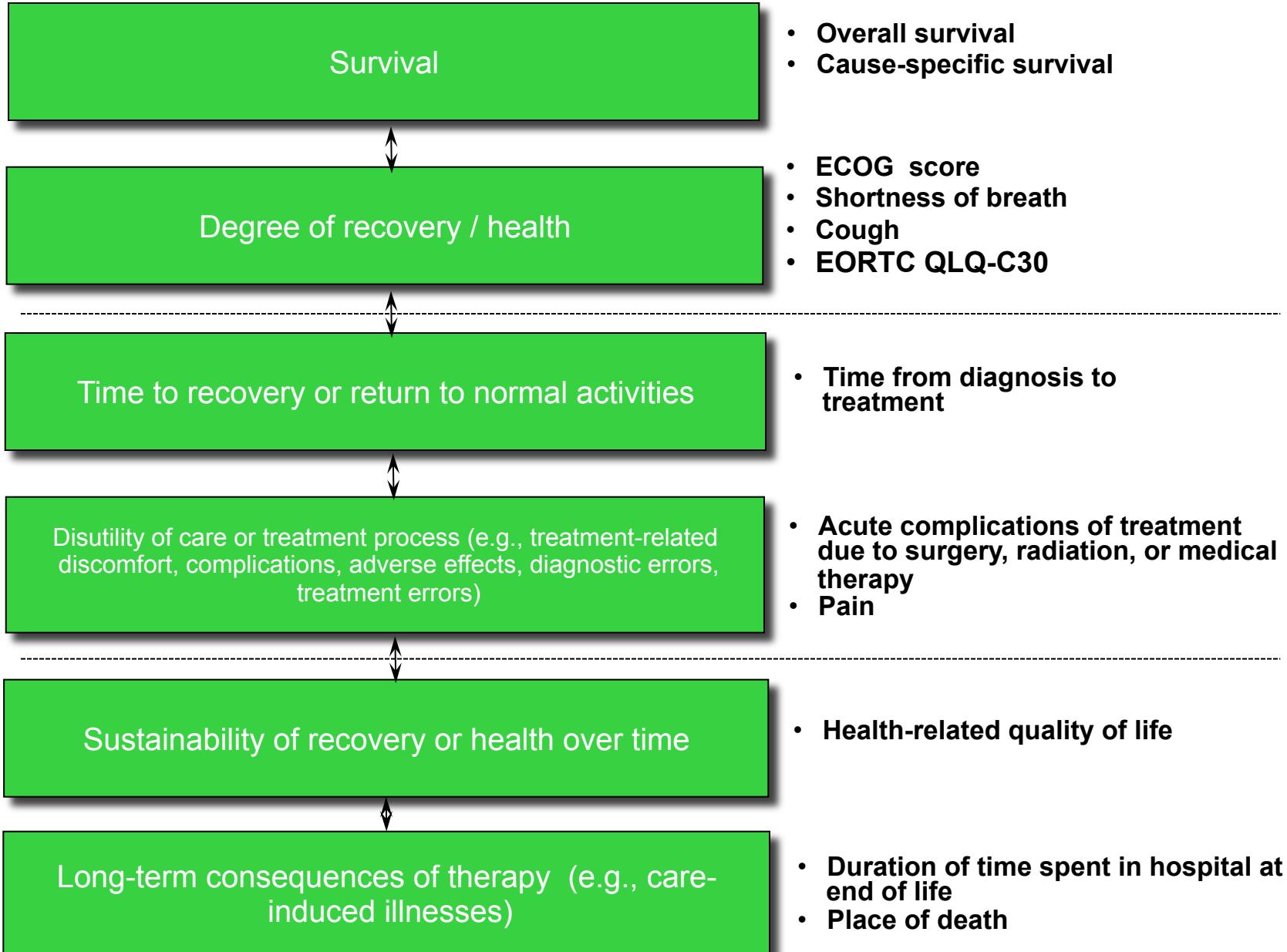
Structure

The Outcome Measures Hierarchy



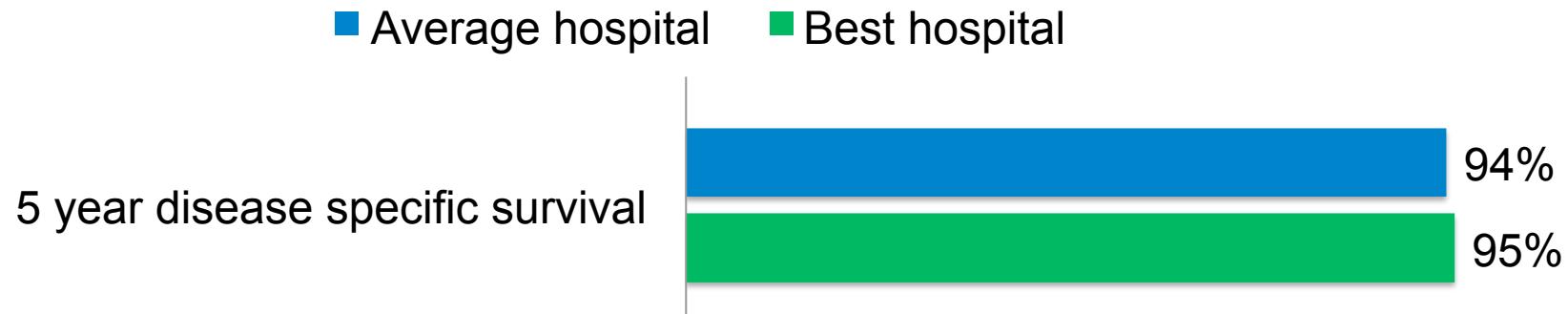
The Outcome Measures Hierarchy

Lung Cancer Standard Set



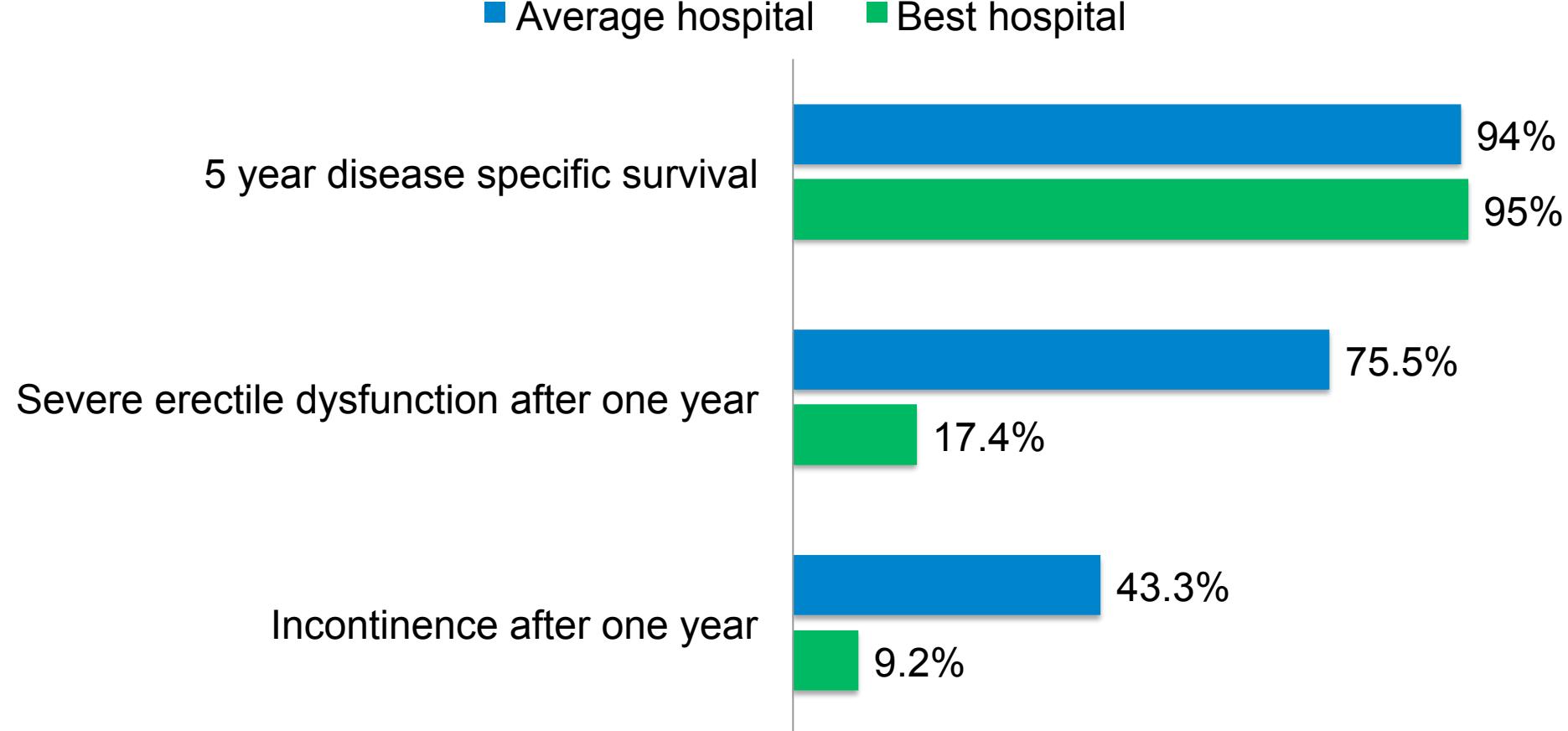
Measuring Multiple Outcomes

Prostate Cancer Care in Germany



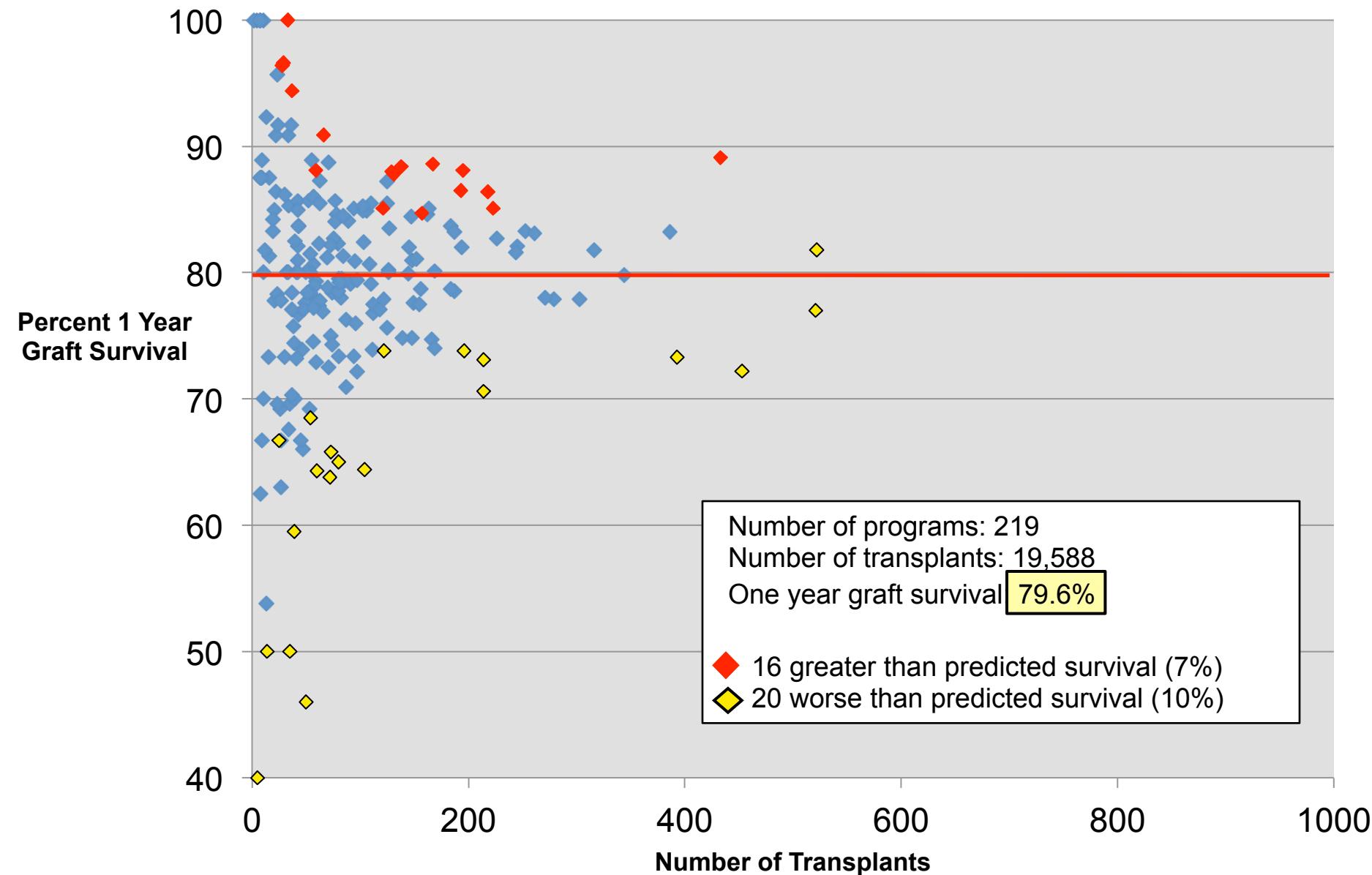
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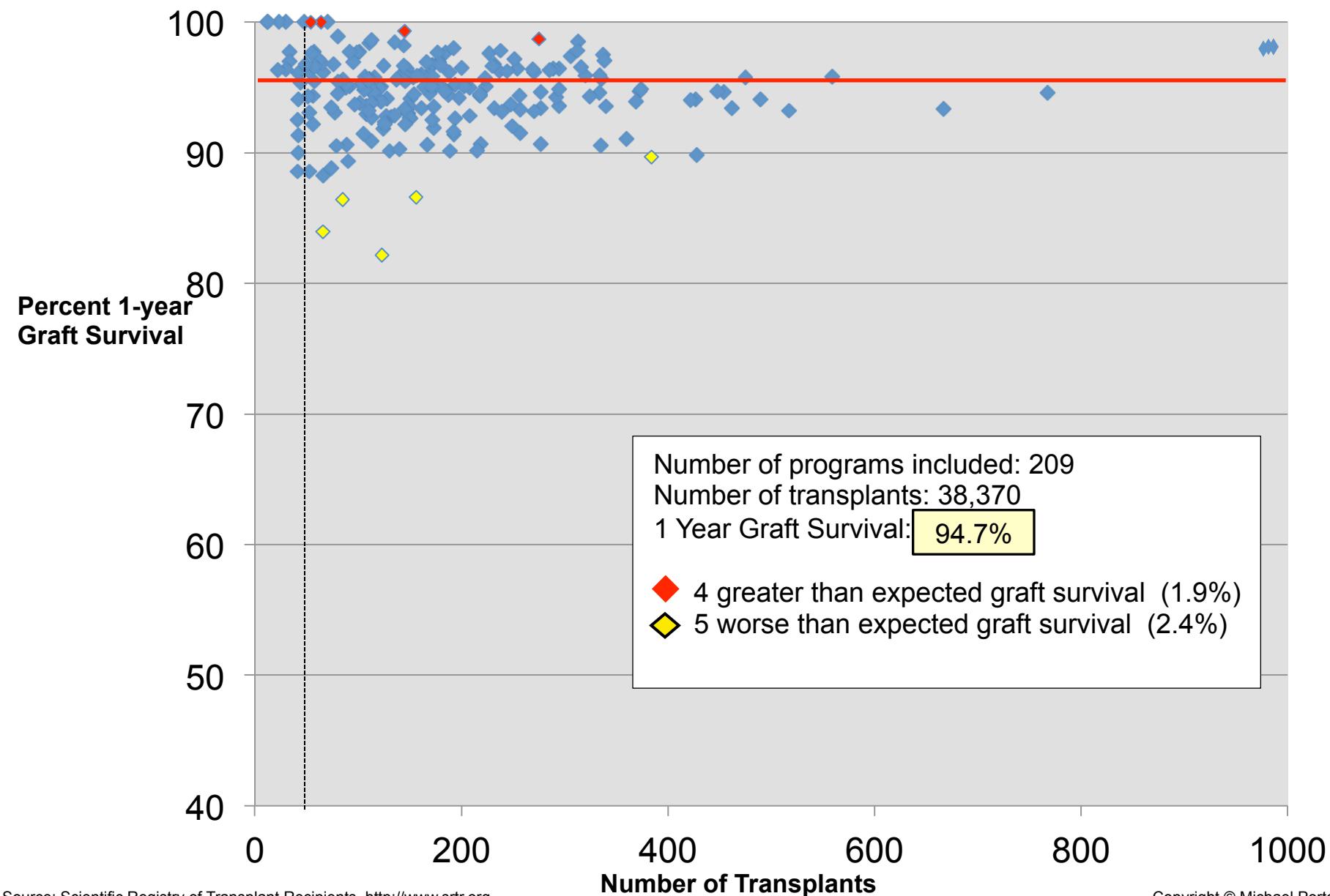
Adult Kidney Transplant Outcomes

U.S. Centers, 1987-1989



Adult Kidney Transplant Outcomes

U.S. Centers, 2011-2013



Measuring the Cost of Care Delivery: Principles

- Cost is the **actual expense** of patient care, not the **charges** billed or collected

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- Understanding costs requires **mapping the care process**

Mapping Resource Utilization

MD Anderson Cancer Center – New Patient Visit

Registration and Verification

Receptionist, Patient Access Specialist, Interpreter

Check in patient; communicate arrival
RCPT

2

Verify patient information; complete consent forms
PAS

40

Intake

Nurse, Receptionist

Assess patient; assemble paperwork; place patient in room
RN

20

Clinician Visit

MD, mid-level provider, medical assistant, patient service coordinator, RN

Initiate patient workup; review patient history; conduct physical exam
MLP

45

Discuss plan of care
MD

30

Plan of Care Discussion

RN/LVN, MD, mid-level provider, patient service coordinator

Review plan of care; introduce team; review schedule for return visit
RN

15

Clean room; complete paperwork; check email and voicemail for updates or changes to plan of care
RN

10

Changes to Plan of Care?
RN

5-10%

Notify patient of changes
RN

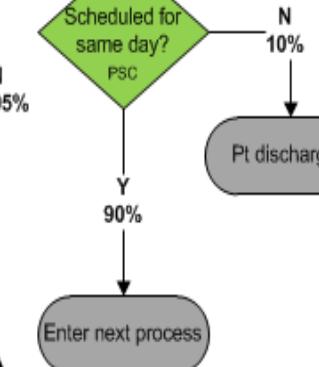
30

Plan of Care Scheduling

Patient Service Coordinator

Schedule tests and consults; communicate schedule to patient
PSC

5



Decision Point



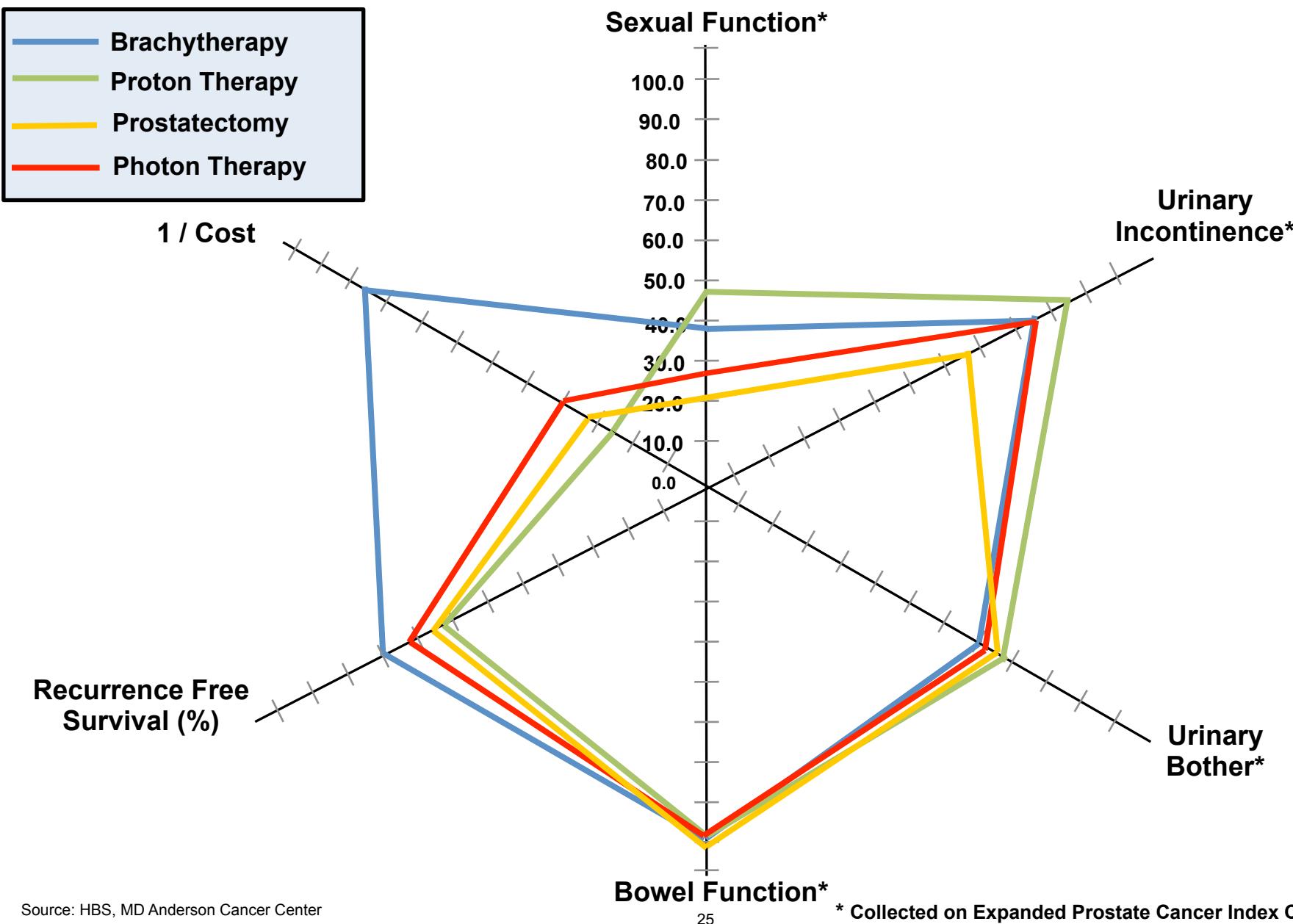
Time (minutes)

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- Cost should be measured by **condition**, with costs aggregated over the **full cycle of care**
- Understanding costs requires **mapping care process**
- Cost depends on the **actual use of resources** involved in a patient's care process (personnel, facilities, supplies, and support services)
- “Overhead” costs should be **associated with the patient-facing resources and services** (e.g. IT, billing, HR, space)

Putting Cost and Outcomes Together

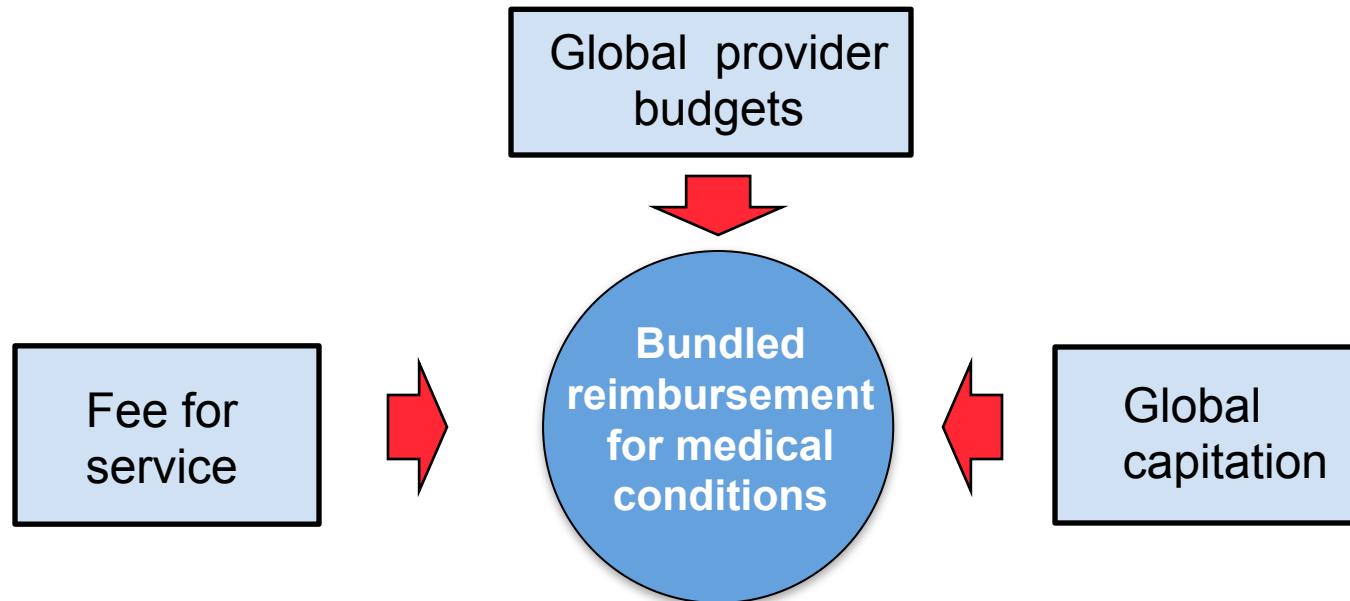
Comparing Overall Value in Localized Prostate Cancer Care



Major Cost Reduction Opportunities in Health Care

- Reduce **process variation** that lowers efficiency and increases complexity of supplies without improving outcomes
 - Eliminate **low- or non-value added** services or tests
 - Sometimes driven by protocols or to justify billing
 - Minimize use of **physician and skilled staff** for less skilled activities
 - Move routine or uncomplicated services out of **highly-resourced** facilities
 - **Improve utilization** of expensive physicians, staff, clinical space, and facilities through reducing **duplication and service fragmentation**
 - Rationalize redundant **administrative** and **scheduling** units
 - **Reduce cycle times** across the care cycle
 - Add services that **lower total care cycle cost**
 - Increase **cost awareness** in clinical teams
- 
- Many cost reduction opportunities will actually **improve outcomes**

3. Move to Bundled Payments for Care Cycles



Bundled Reimbursement

- A single price covering the **full care cycle for an acute medical condition**
- Time-based reimbursement for overall care of a **chronic condition**
- Time-based reimbursement for **primary/preventive care** for a **defined patient segment**

Principles of a Value-Based Bundle

- **Condition** based, not specialty, procedure, episode or care site based
- **Risk** adjusted, or covering a **defined patient group** in terms of complexity
 - 80/20 rule
- **Contingent on outcomes**, including care guarantees
- Payment based on the **cost of efficient and effective care**, not sum of past charges
- Specified **limits of responsibility** for unrelated care needs, and **stop loss** provisions to mitigate against outliers
- A level of **price stability**

Bundled Payment in Practice

Hip and Knee Replacement in Stockholm, Sweden

- **Components** of OrthoChoice bundle

- Pre-op evaluation
- Lab tests
- All Radiology
- Surgery & related admissions
- Prosthesis
- Drugs
- Inpatient rehab
- All physician and staff fees and costs
- 1 follow-up visit within 3 months
- Responsible for complications and any additional surgery to the joint within 2 years
- If post-op deep infection requiring antibiotics occurs, guarantee extends to 5 years

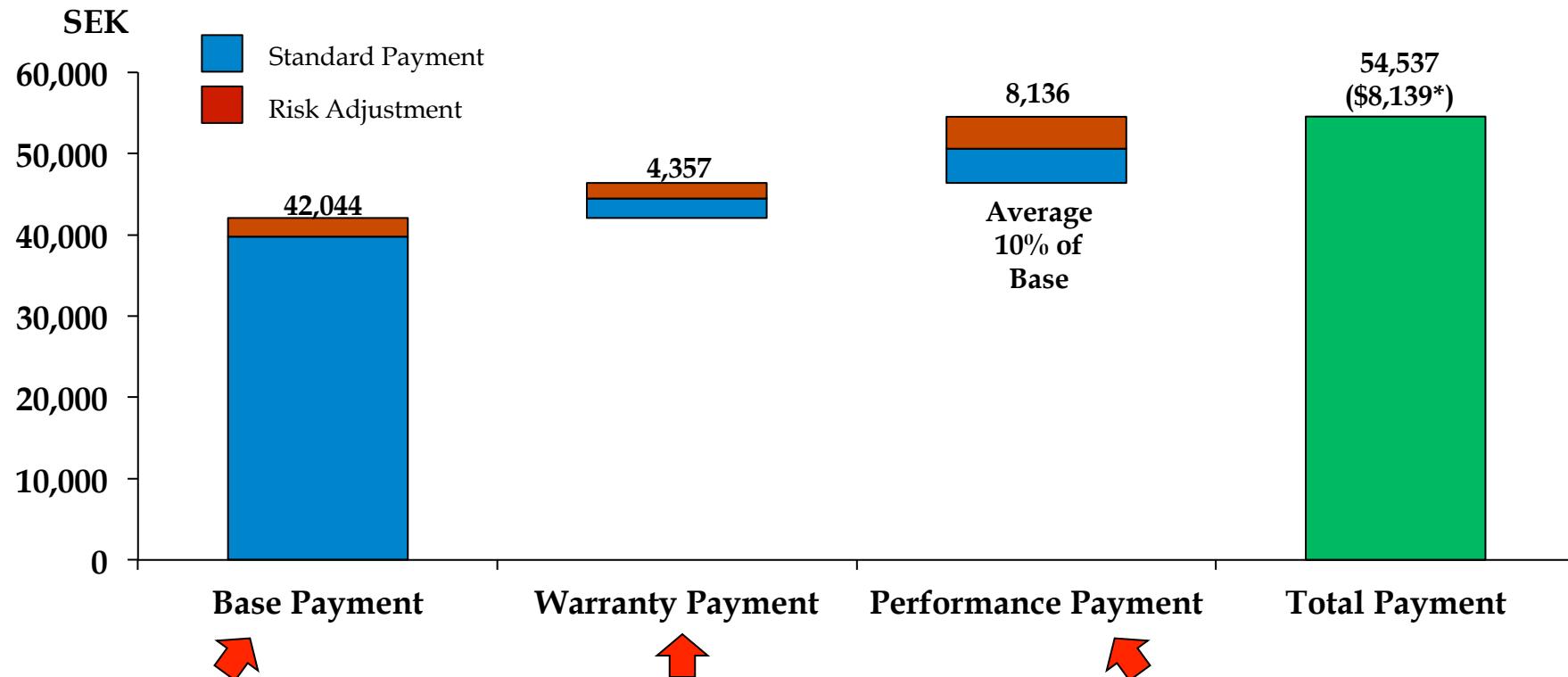
- Initially applied to all **relatively healthy patients** (i.e. ASA scores of 1 or 2)
- **Mandatory reporting** by providers to the joint registry plus supplementary reporting
- The Stockholm bundled price for a knee or hip replacement is about **US \$8,300**

Results:

- Complications fell 18% after 2 years
- Functional outcomes remained constant
- Length of stay fell 16%
- Volume shifted toward specialty hospitals and away from full service acute hospitals
- Standardization and improvement of care processes and efficiency took place
- Patients were exceptionally satisfied

The Swedish Spine Bundle

Condition: Spinal Stenosis Requiring Decompression



Base Payment

Covered: Preoperative consultation, surgery, inpatient stay, implants, medications, laboratories, radiology, physical therapy, and follow-up care.

Risk adjustment: Age, gender, patient-reported pre-operative pain measured by Visual Analog Scale (VAS)

Warranty Payment

Covered:

- Surgery wrong side/level
- Disk herniation
- Re-stenosis
- Mechanical complication
- Pseudoarthrosis
- Cerebrospinal fluid leak
- Ongoing Bleeding
- Infection
- Pain in neck/arm/back
- Wound dehiscence
- Implant related pain

Risk adjustments: Age, gender, preoperative VAS, pain duration, smoking, comorbidities, operative treatment, employment status

Performance Payment

Amount: Average of 10 percent of base reimbursement

Criteria: Based on the **actual** improvement in pain at 1 year after surgery (Global Assessment Scale) versus **expected** pain outcome based on registry data for similar patients

4. Integrate Multi-site Care Delivery Systems

Children's Hospital of Philadelphia Care Network

Main Campus



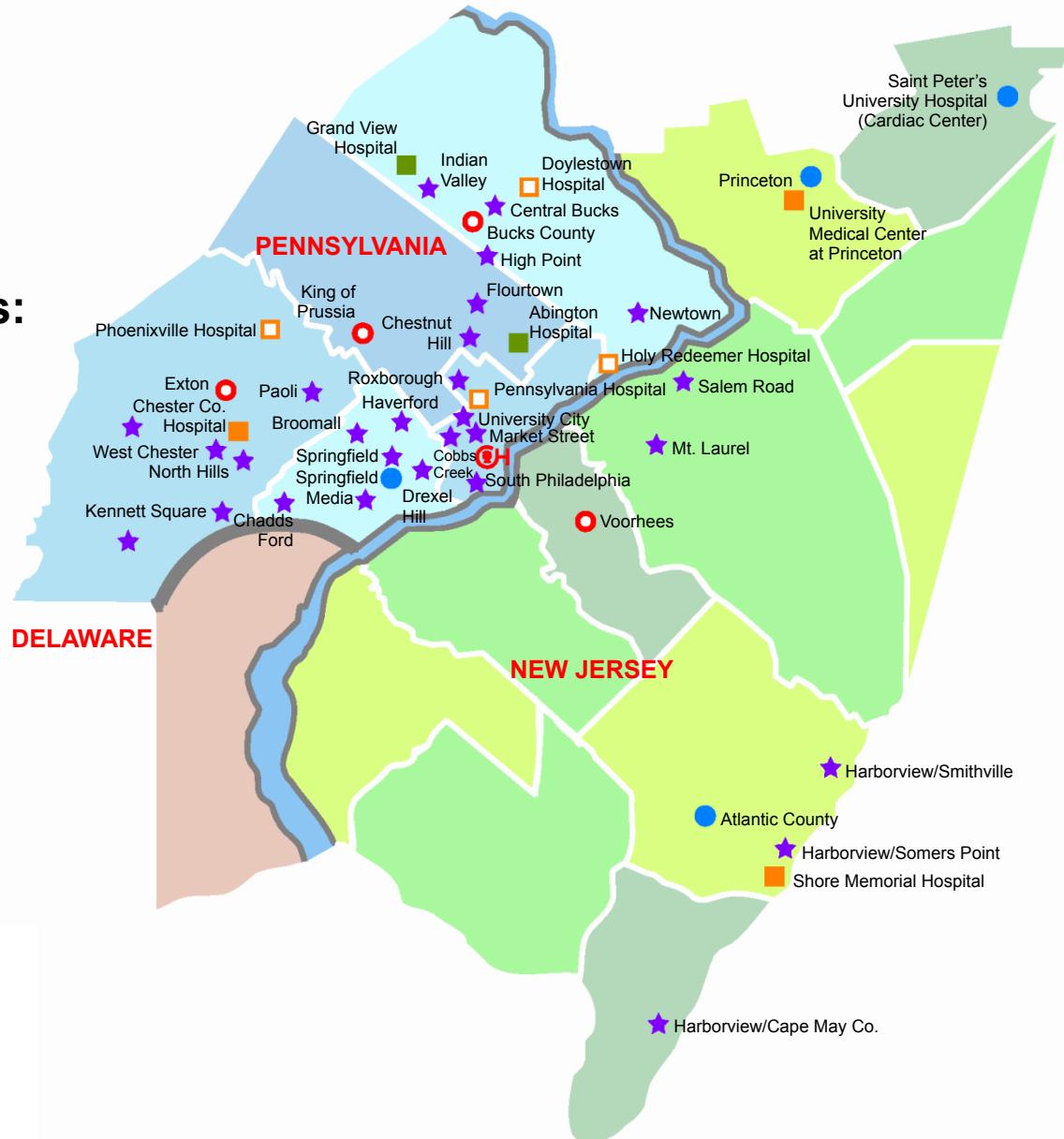
The Children's Hospital
of Philadelphia

Wholly-Owned Outpatient Units:

- ★ Pediatric & Adolescent Primary Care
- Pediatric & Adolescent Specialty Care Center
- Pediatric & Adolescent Specialty Care Center & Surgery Center
- Pediatric & Adolescent Specialty Care Center & Home Care

Network Hospitals:

- CHOP Newborn Care
- CHOP Pediatric Care
- CHOP Newborn & Pediatric Care

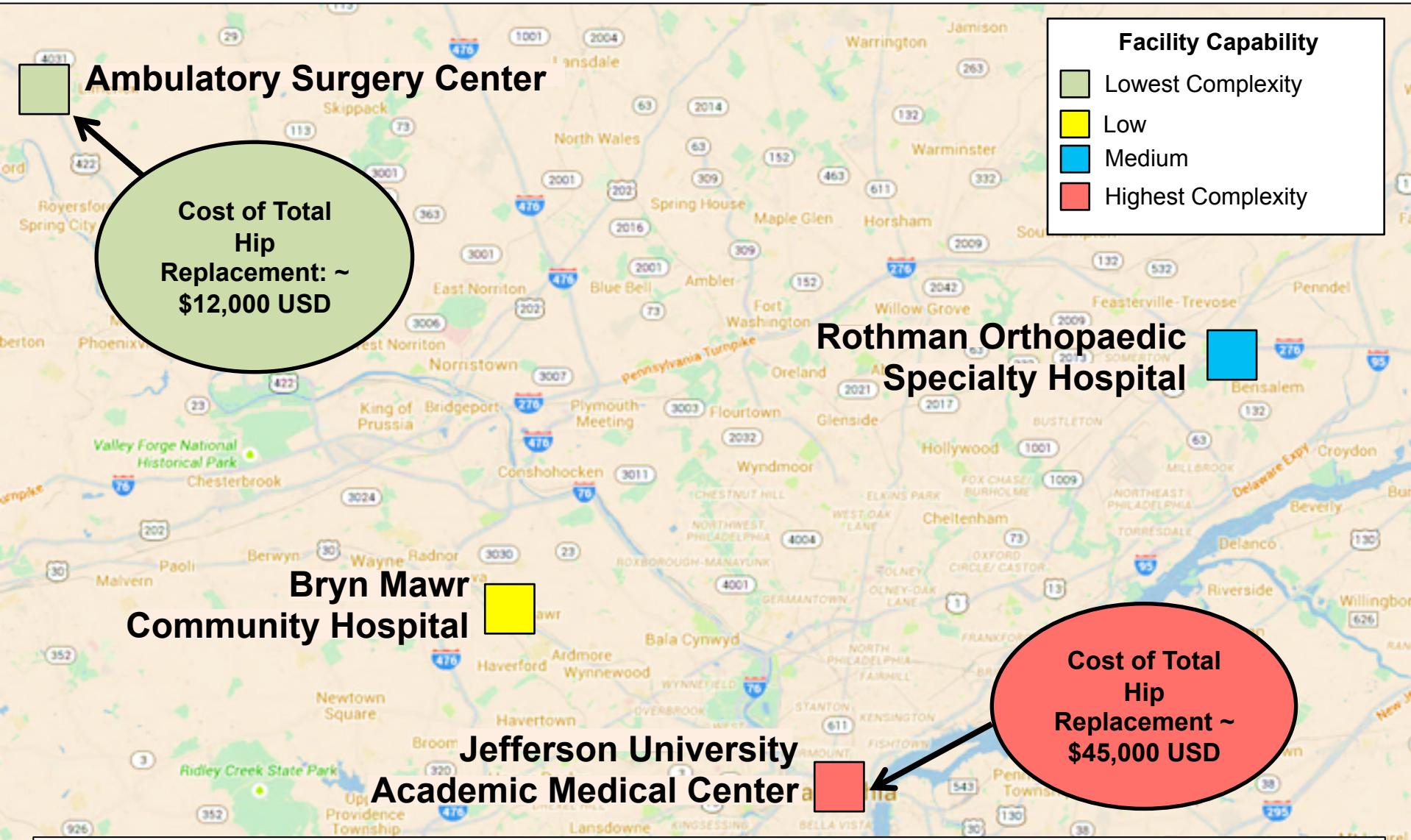


Four Levels of Provider System Integration

1. Define the overall scope of services where each unit can achieve high value
2. Concentrate volume in fewer locations in the conditions that providers treat
3. Choose the right location for each service based on medical condition, acuity level, resource intensity, cost level and need for convenience
 - E.g., shift routine surgeries out of tertiary hospitals to smaller, more specialized facilities
4. Integrate care across appropriate locations through IPU structures

Delivering the Right Care at the Right Location

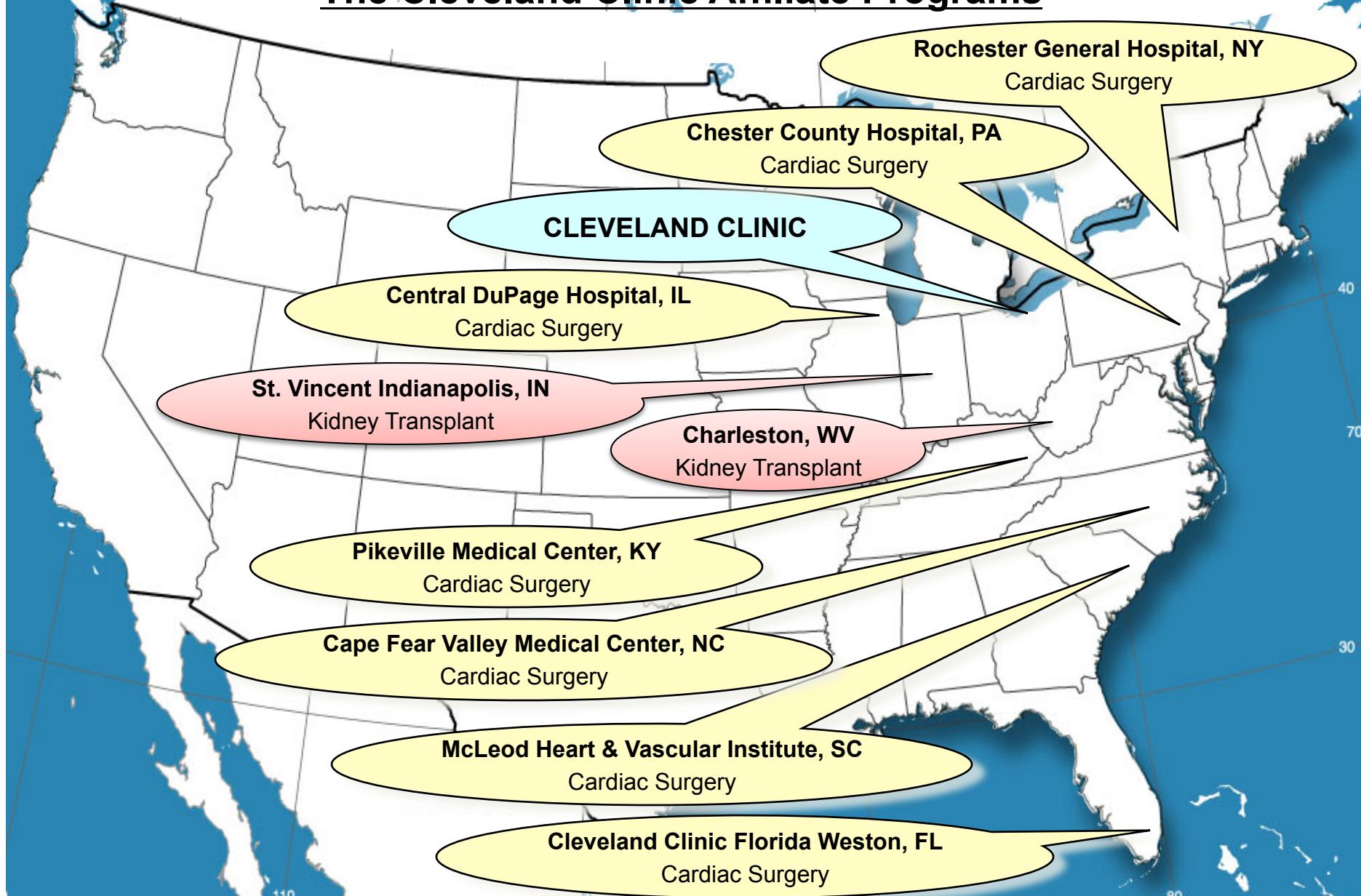
Rothman Institute, Philadelphia



Patient Risk Factors: Age, Weight, Expected Activity, General Health, and Bone Quality

5. Expand Geographic Reach

The Cleveland Clinic Affiliate Programs



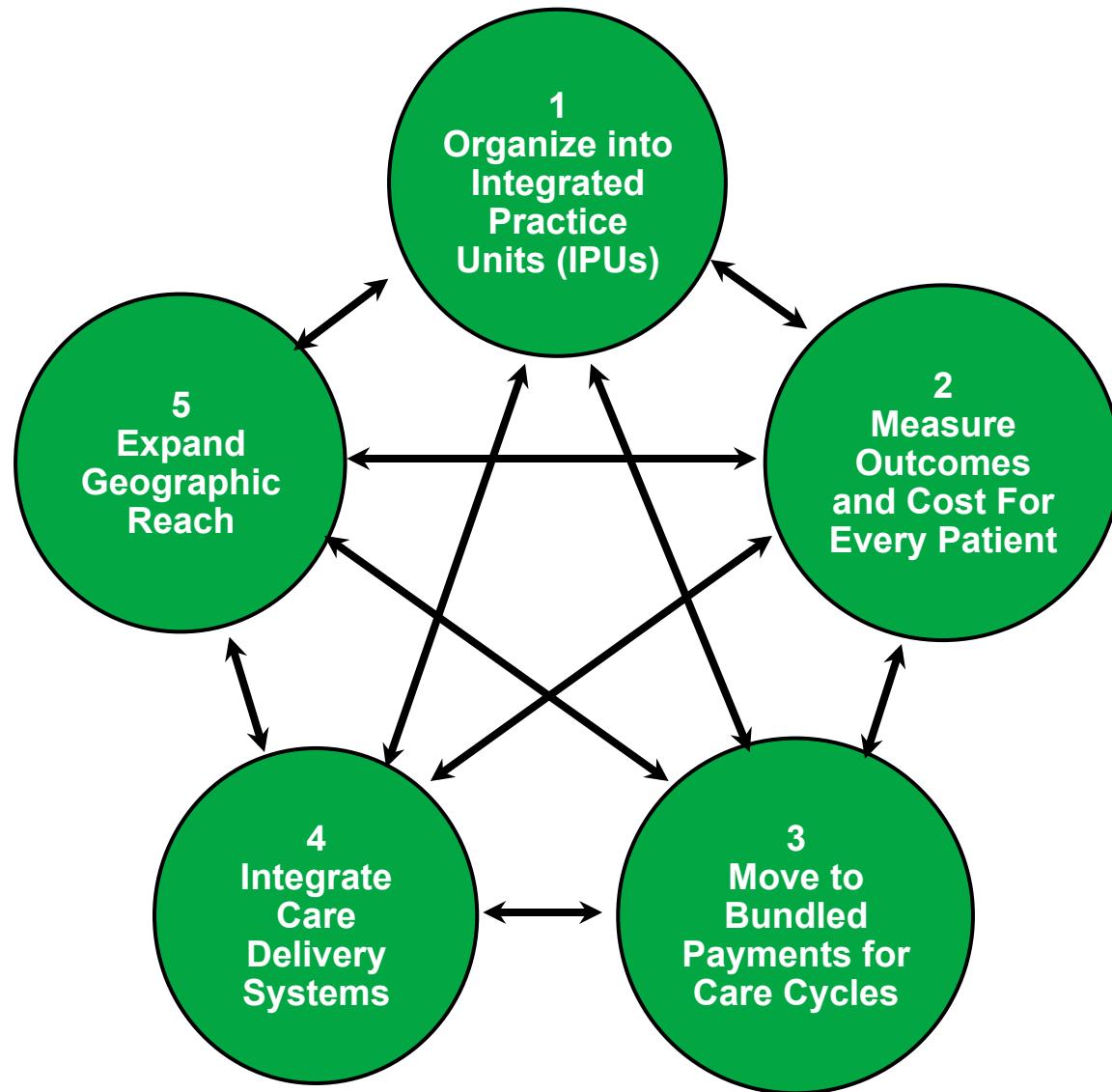
6. Build an Enabling Integrated IT Platform

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

Attributes of a Value-Based IT Platform

- Combines **all types of data** (e.g. notes, images) for each patient
- Uses common **data definitions**
- Data encompasses the **full care cycle**
- Allows access and communication among **all involved parties**, including patients and referring entities
- Enables data exchange and aggregation among the **different provider organizations** involved with each patient
- Provides **views and templates by medical condition** to enhance the user interface for IPU teams
- Creates searchable “**structured**” data vs. free text
- The architecture allows easy extraction of **outcome measures, process measures**, and **activity-based costing metrics** for each patient /medical condition

A Mutually Reinforcing Strategic Agenda



6 Build an Integrated Information
Technology Platform

Measuring Internationally Standardized Outcomes

ICHOM Standard Sets

Standard Sets Complete (2013)

- 1. Localized Prostate Cancer*
- 2. Lower Back Pain*
- 3. Coronary Artery Disease*
- 4. Cataracts

Standard Sets Complete (2014)

- 1. Parkinson's Disease
- 2. Cleft Lip and Palate
- 3. Stroke
- 4. Hip and Knee Osteoarthritis
- 5. Macular Degeneration
- 6. Lung Cancer
- 7. Depression and Anxiety
- 8. Advanced Prostate Cancer

Conditions in Process (2015-16)

- 1. Heart Failure*
- 2. Dementia*
- 3. Craniofacial Microsomia*
- 4. Burns
- 5. Congenital Heart Anomalies
- 6. Pregnancy and Childbirth
- 7. Peptic Ulcer Disease
- 8. Inflammatory Bowel Disease
- 9. Epilepsy
- 10. Overactive Bladder
- 11. End-stage Renal Disease
- 12. Diabetes
- 13. Bipolar Disorder
- 14. Acute Lymphoblastic Leukemia
- 15. Brain Cancers
- 16. Colorectal Cancer
- 17. Breast Cancer
- 18. Preventative health
- 19. Frail Elderly

* Sets Published in Peer-Reviewed Journals

Burden of
Disease
Covered

18%

35%

45%

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- Websites Including Videos
 - <http://www.isc.hbs.edu/>
 - <https://www.ichom.org/>
 - Case studies and curriculum guide available at:
<http://www.isc.hbs.edu/resources/courses/health-care-courses/Pages/health-care-curriculum.aspx>