Value-Based Health Care Delivery: Core Concepts

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Harvard Business School

Partners HealthCare Residents and Fellows Course
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Disclosure

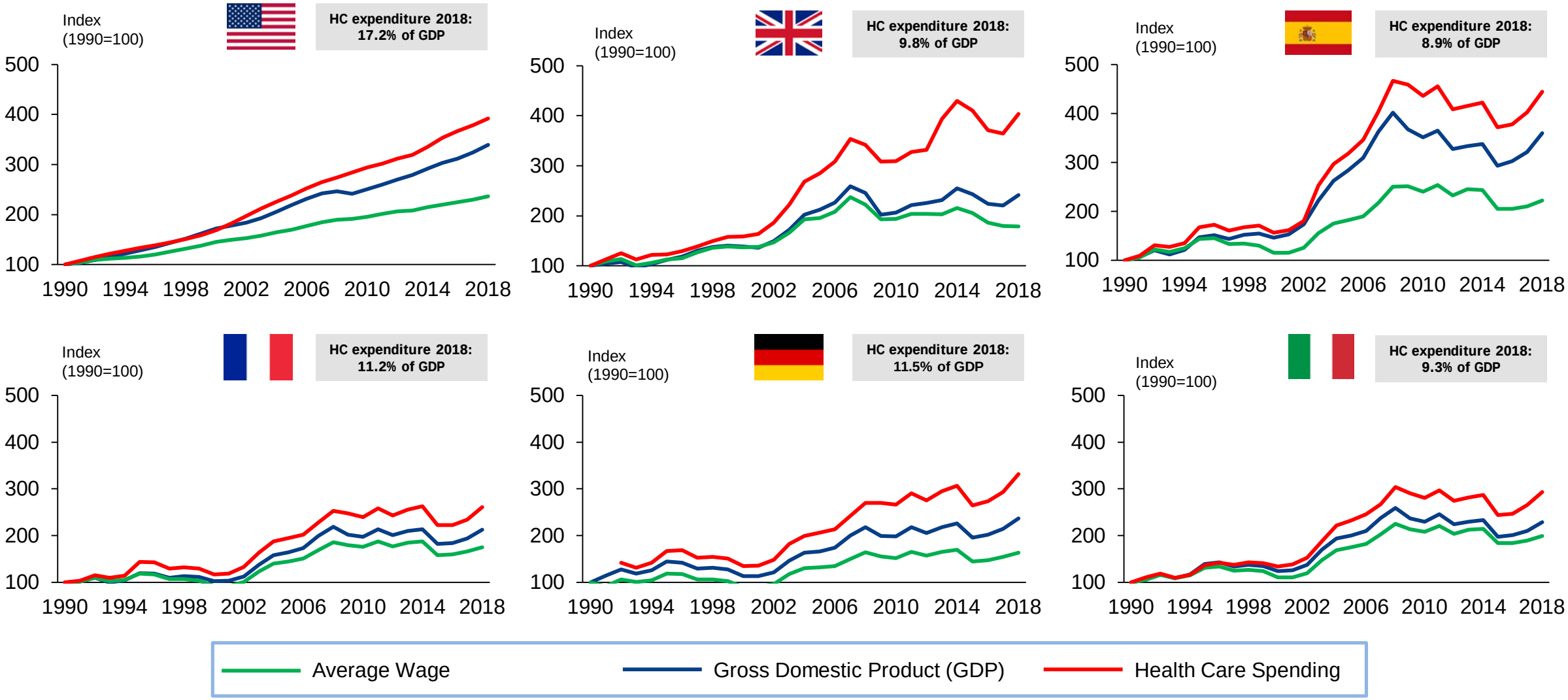
Michael Porter

I have a relevant financial relationship with the following companies:

Company	Role
Allscripts	Advisor
AZTherapies	Advisor, Investor
American College of Surgeons	Speaker, Honorarium
Ascent Biomedical Ventures	Investor
Biopharma Credit Investments	Investor
Advanced Aesthetic Tech.	Investor
Merck & Co.	Investor
Merrimack Pharmaceuticals	Former Board Member, Investor
Molina Healthcare	Advisor, Investor
Royalty Pharma	Investor
Thermo Fisher Scientific	Former Board Member, Investor

Health Care Problem Remains a Global Issue

Health Care Spending vs GDP and Income



Wages: Average annual wages per full-time and full-year equivalent employee in the total economy
Source: EIU GDP (USD), Average Wages (USD) and Healthcare expenditure (USD) from 1990-2018; ECIPE Article 2011

Incremental “Solutions” Have Had Limited Impact

- Evidence-based medicine
- Accountability for process metrics
- Safety/eliminating errors
- Prior authorization
- Patients as paying customers
- Electronic medical records
- “Lean” process improvements
- Care coordinators
- Retail clinics / urgent care
- Programs to address high cost areas
- Mergers and consolidation
- Personalized medicine
- Population health
- Analytics and big data

Restructuring health care delivery is needed, not incremental improvements

Solving the Health Care Problem

- The fundamental **goal and purpose** of health care is to deliver high and rising **value for patients**

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

- Delivering high value health care is the **definition of success**
- Value is the only goal that can **unite the interests** of all system participants
- Improving value is the **only real solution** to reducing the burden of health care on citizens and governments

- The questions are how to design a health care delivery system that **substantially improves patient value**, and to shift competition to **competing on value**

Creating a Value-Based Health Care Delivery System

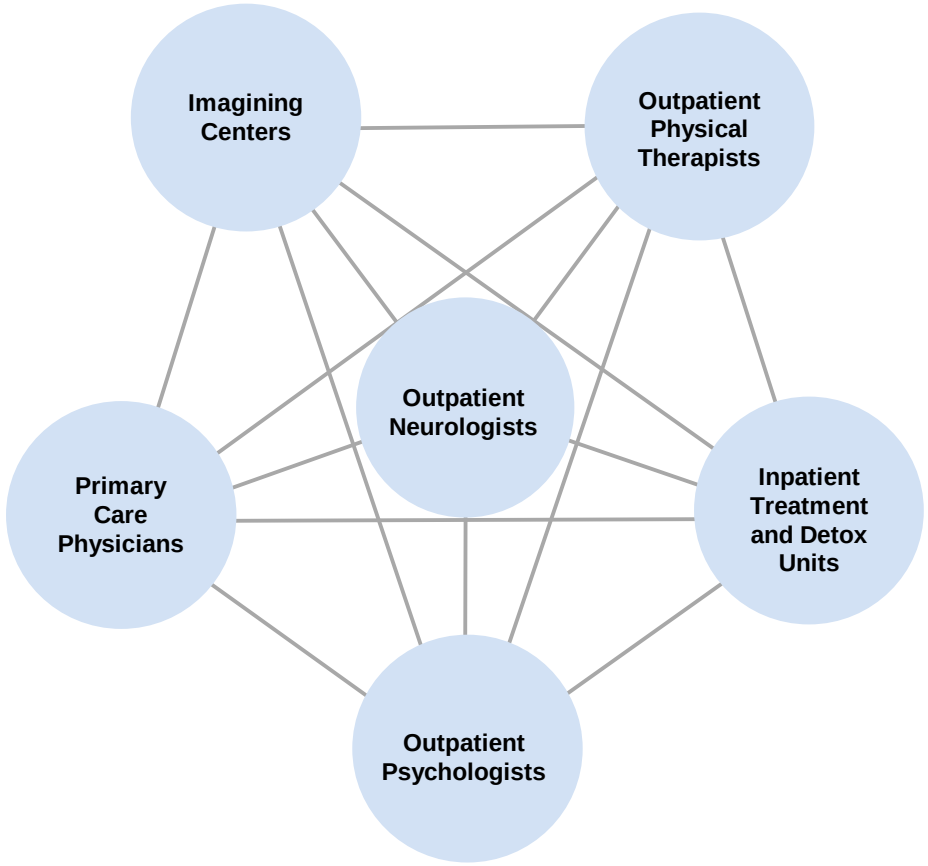
The Strategic Agenda

1. Re-organize care around patient conditions (or groups of related conditions) into **integrated practice units (IPUs)**, covering the full cycle of care
   - For primary and preventive care, IPUs should serve **distinct patient segments**
2. Measure **outcomes** and **costs** for every patient, in the line of care
3. Move to value-based reimbursement models, and ultimately **bundled payments** for conditions
4. **Integrate** and **coordinate** care across multi-site care delivery systems
5. Expand or affiliate **across geography** to reinforce excellence
6. Build an enabling **information technology platform**

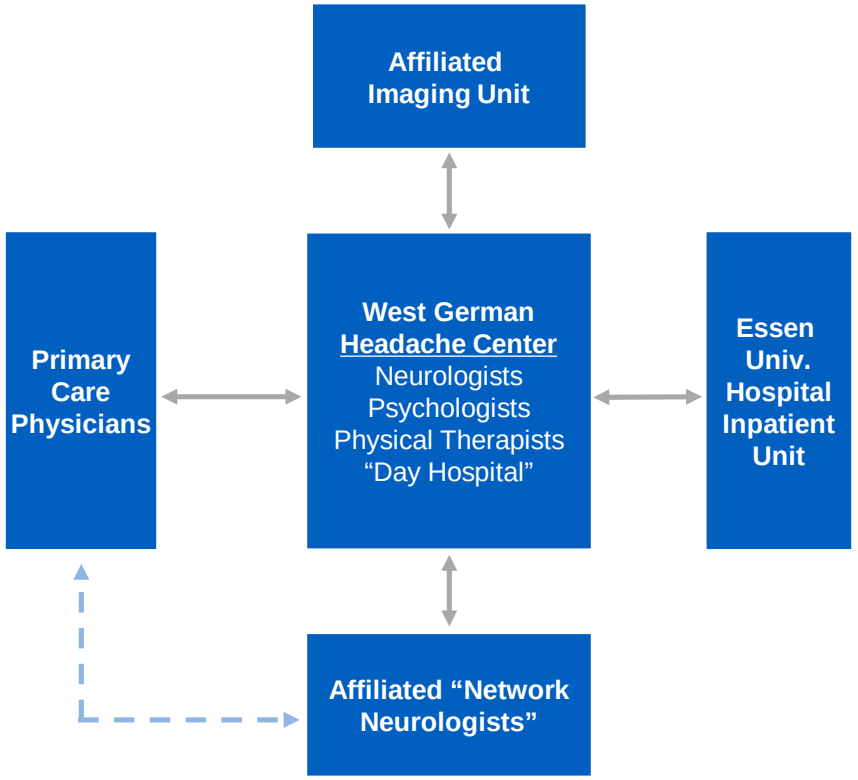
Re-organize Care Around Patient Medical Conditions

Headache Care in Germany

Organize by department, specialty, and discrete service



Organize around the patient's condition, or family of related conditions, over the full care cycle into an Integrated Practice Unit (IPU)



Care by Individuals

Care by a Team

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 Care Cycle

Role of Surgeons Beyond the Operating Room

Upstream ← → **Downstream**

Prevention & Detection	Medical Management	Preoperative Care	Surgical Intervention	Postoperative Care	Rehabilitation	Surveillance
• Work with primary care to **slow/manage disease progression** • Advise primary care on **accurate diagnoses** and **timely referrals**	• Partner with medical specialists to **manage complex cases** and the ongoing evaluation of **need for surgery** • **Develop non-surgical options** with other providers (e.g. physical therapists)	• Collaborate with primary care & anesthesiologist to **prepare the patient for successful surgery** • Be accessible to patient and primary care team for **pre-operative care questions**	• **Optimize the surgical process and results**	• **Co-develop best practices** with PACU team • **Lead** integrated multidisciplinary post-operative teams to **optimize the hospital stay**	• Shift post-acute care to the **appropriate setting** (e.g. home, rehab) • **Extended clinic hours** and **after-hours hotline** • **Educate** home health providers and PTs on best practices	• **Ongoing monitoring** of patients for recurrence • Measure longer term **outcomes**

The Playbook for Integrated Practice Units (IPUs)

1. Organized around a **medical condition**, or **groups of closely related conditions**.
2. Care is delivered by a **dedicated**, **multidisciplinary team** devoting a significant portion of their time to the condition
   - Involved dedicated staff and affiliated staff with strong working relationships
3. **Co-located** in **dedicated facilities**.
4. Takes responsibility for the **full cycle of care**
5. A **hub and spoke** structure with that allocates care to the right site
6. Addressing common complications and comorbidities, as well as **patient education**, **engagement**, **adherence**, **follow-up**, and **prevention** are integrated into the care process
7. The IPU has a clear **clinical leader**, a common **scheduling and intake process**, and a unified **financial structure** (single P + L)
8. A **physician team captain**, **clinical care manager** or both oversees each patient's care
9. The IPU **routinely measures** outcomes, costs, care processes, and patient experience using a **common platform**
10. The team **accepts joint accountability** for outcomes and costs
11. The team **regularly meets formally and informally** to discuss individual patient care plans, process improvements, and how to improve results.

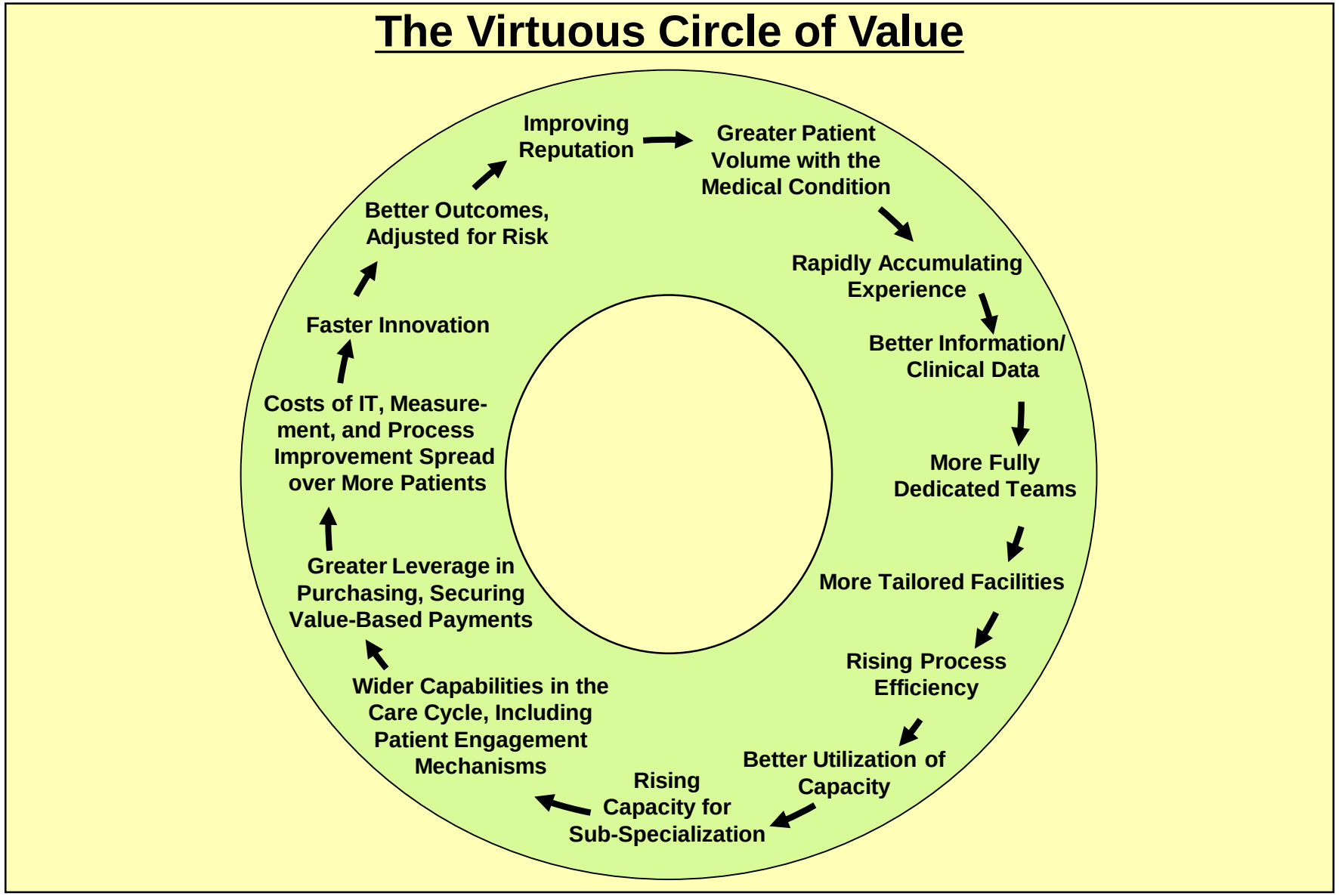
Value-Based Primary Care

Oak Street Health

- Patient segment: **older adults with lower-income,** living in **under-served** urban communities
- Co-located in **dedicated facilities**
- **Explicit processes to engage** patients, address social and economic determinants of health, and provide free rides/home-visits, in-house pharmacy and selected events for community residents
- **Selected in-house services** in the most relevant specialties for this patient segment such as behavioral health and podiatry and **close relationships with outside specialists**
- **Meet daily and weekly** to discuss each patient's care plans, and process improvement
- **Measurement and accountability** for outcomes, cost, and patient experience

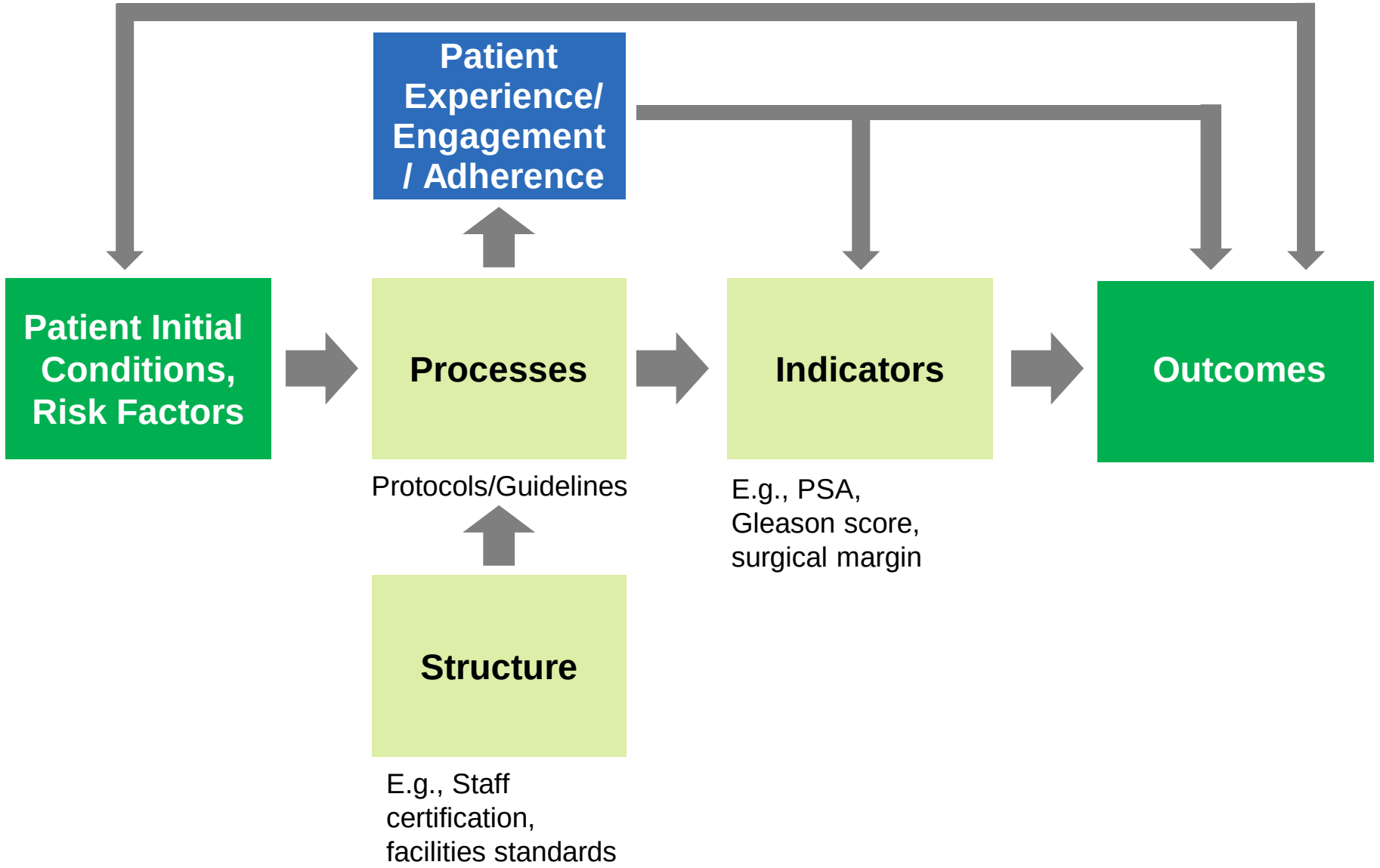
- **Single full-risk value-based payment** covering overall care
  - Including specialty and post-acute care
  - Medicare Advantage

IPU Volume Enhances Value



Measure Outcomes for Every Patient

The Quality Measurement Landscape



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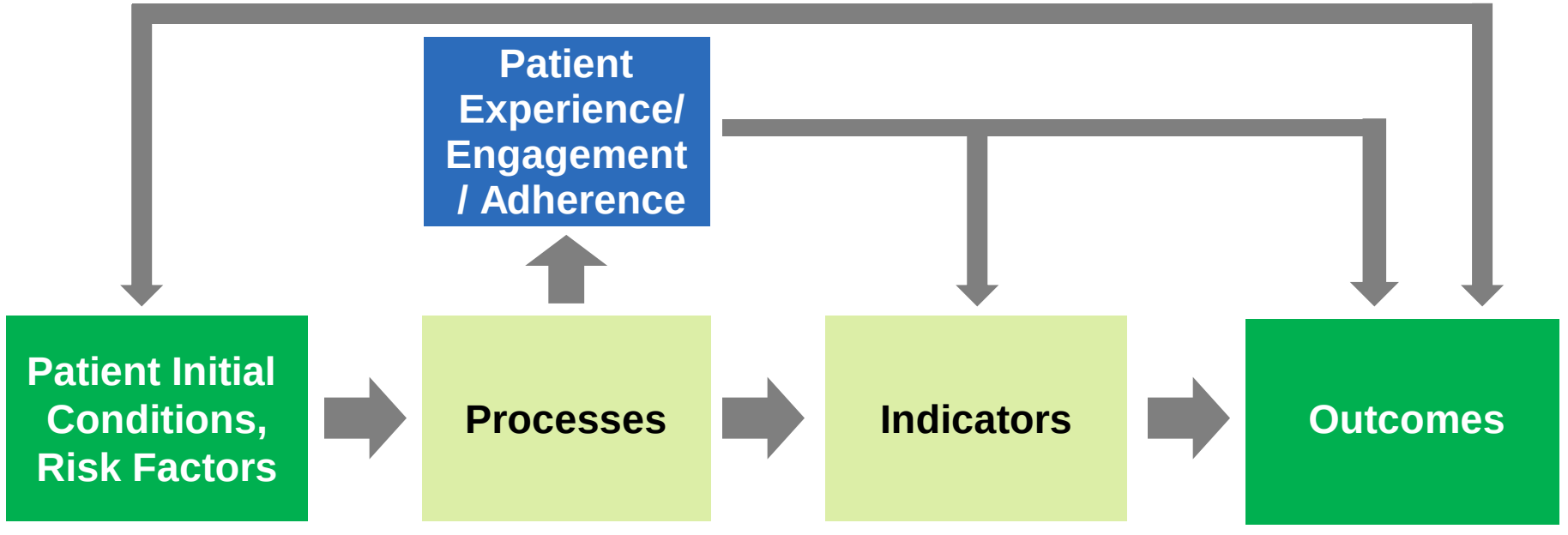


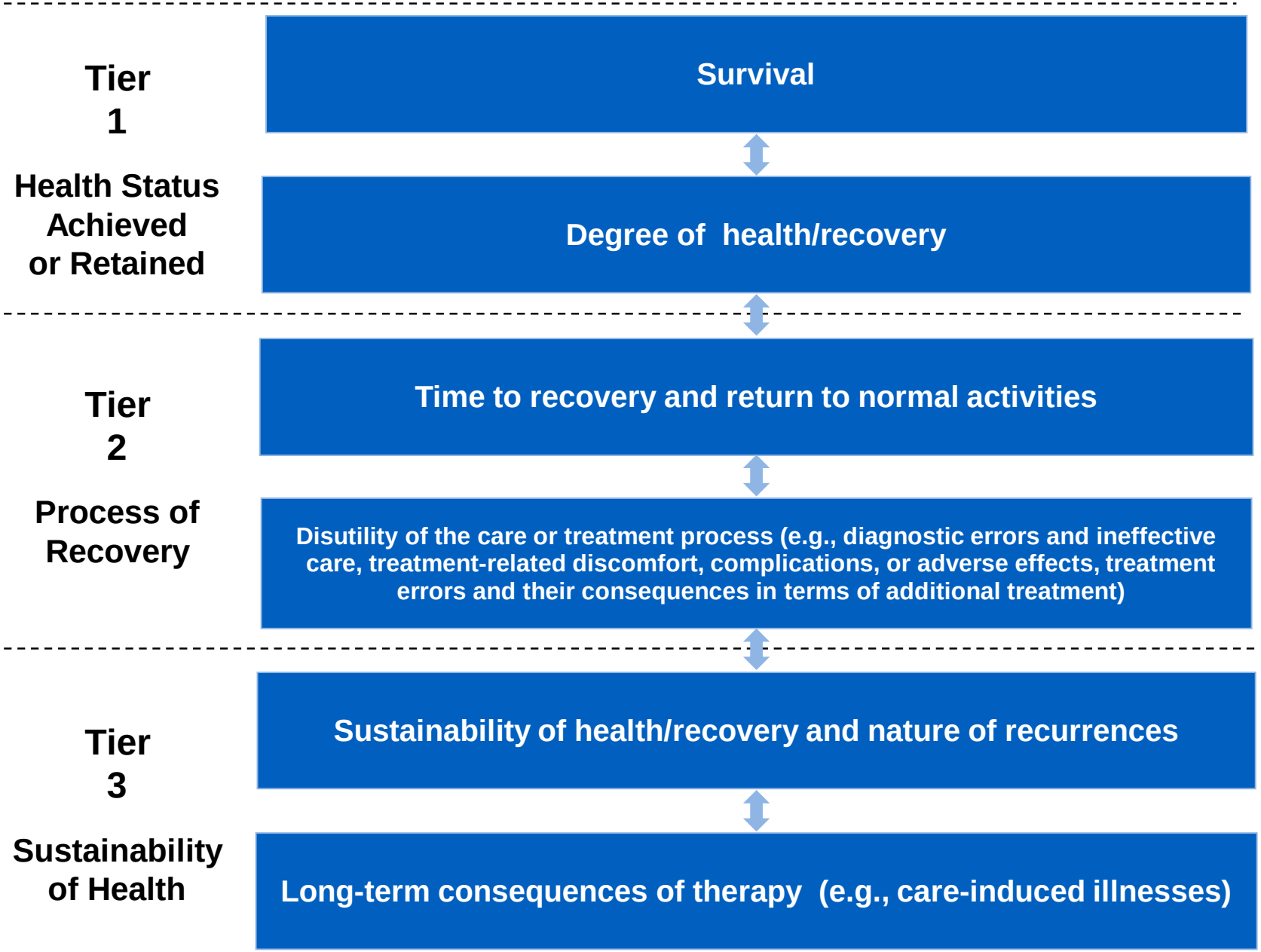
Without outcomes measurement, the value of measuring other quality dimensions is greatly diminished

Principles of Outcome Measurement

- Outcomes should be measured by **condition** or **primary care segment**
  - **Not** for specialties, procedures, or interventions
- Outcomes cover the **full cycle of care**
- Outcomes are **always multi-dimensional** and include what matters most to **patients (and families)**, not just to clinicians
  - **Patient reported outcomes** are important in every condition
- Outcome measurement includes **initial conditions/risk factors** to control for patient differences
- Outcomes should be **standardized** for each condition, to maximize comparison, learning, and improvement
- Outcomes should be measured **in the line of care**

- Value-based measurement differs from the **historical focus** on measuring **provider behavior** and **overall patient success**

The Outcome Measures Hierarchy

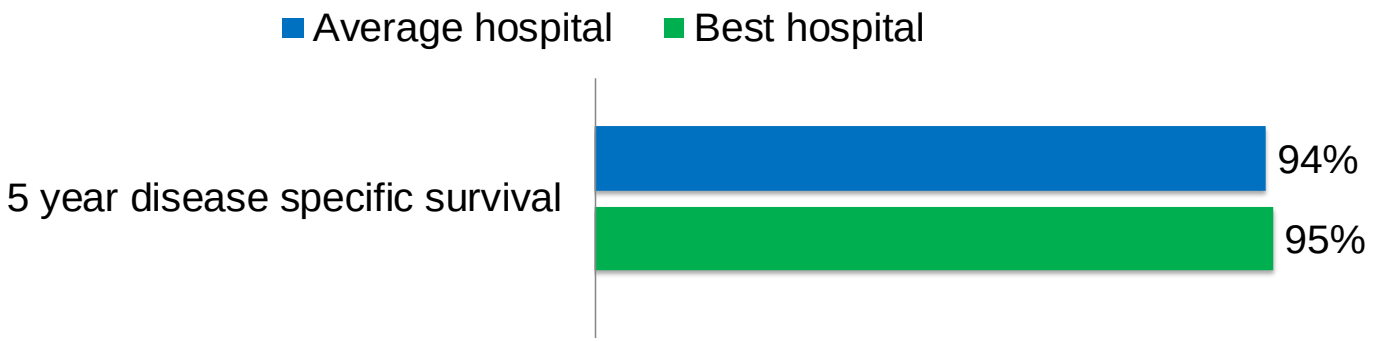


- Achieved clinical status
- Achieved functional status
- Time to diagnosis and treatment
- Time to return home
- Time to return to normal activities
- Care-related pain/discomfort
- Complications
- Re-intervention/readmissions
- Long-term clinical status
- Long-term functional status

Source: NEJM Dec 2010

Measuring Multiple Outcomes

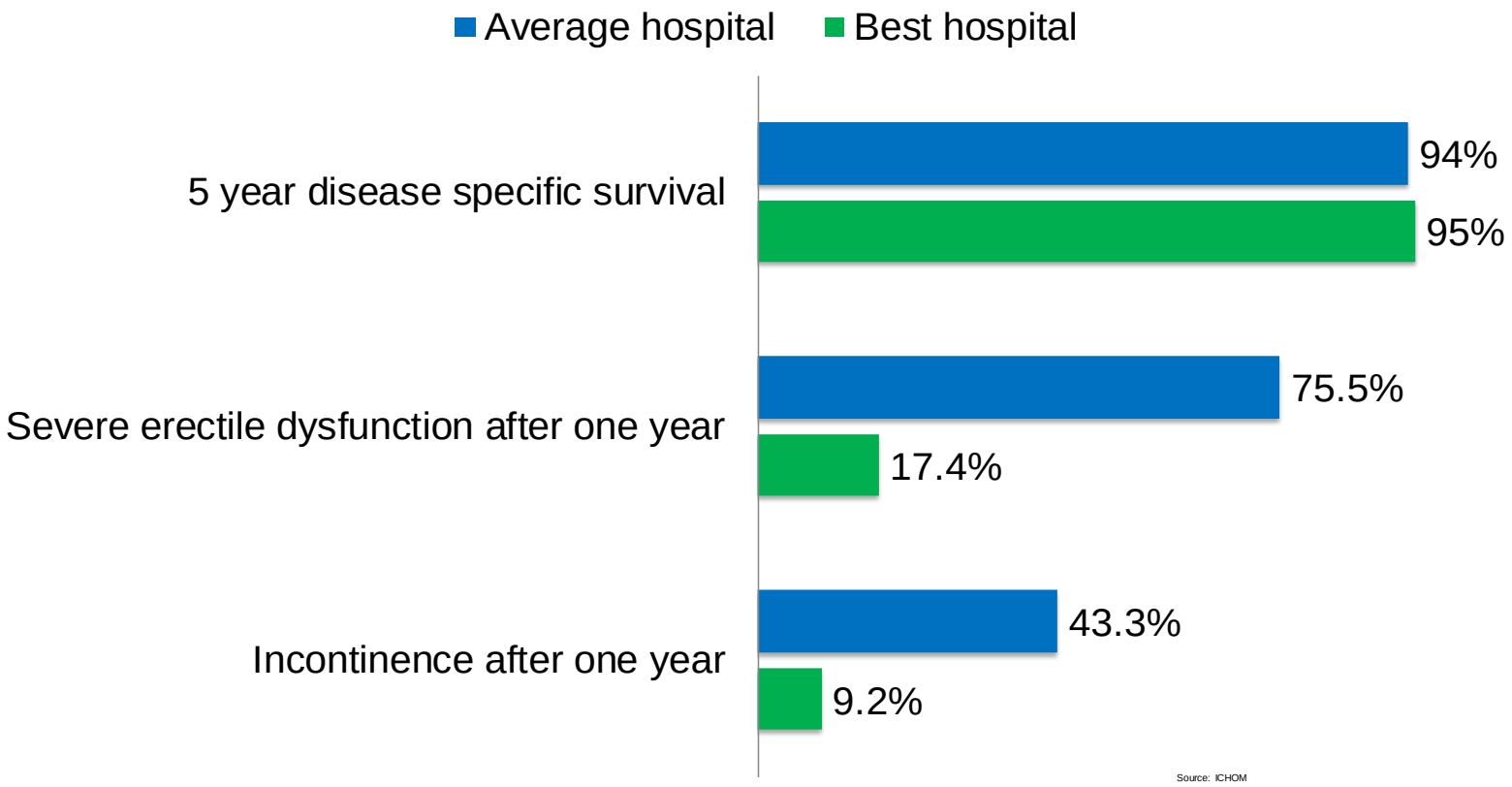
Prostate Cancer Care in Germany



Source: ICHOM

Measuring Multiple Outcomes

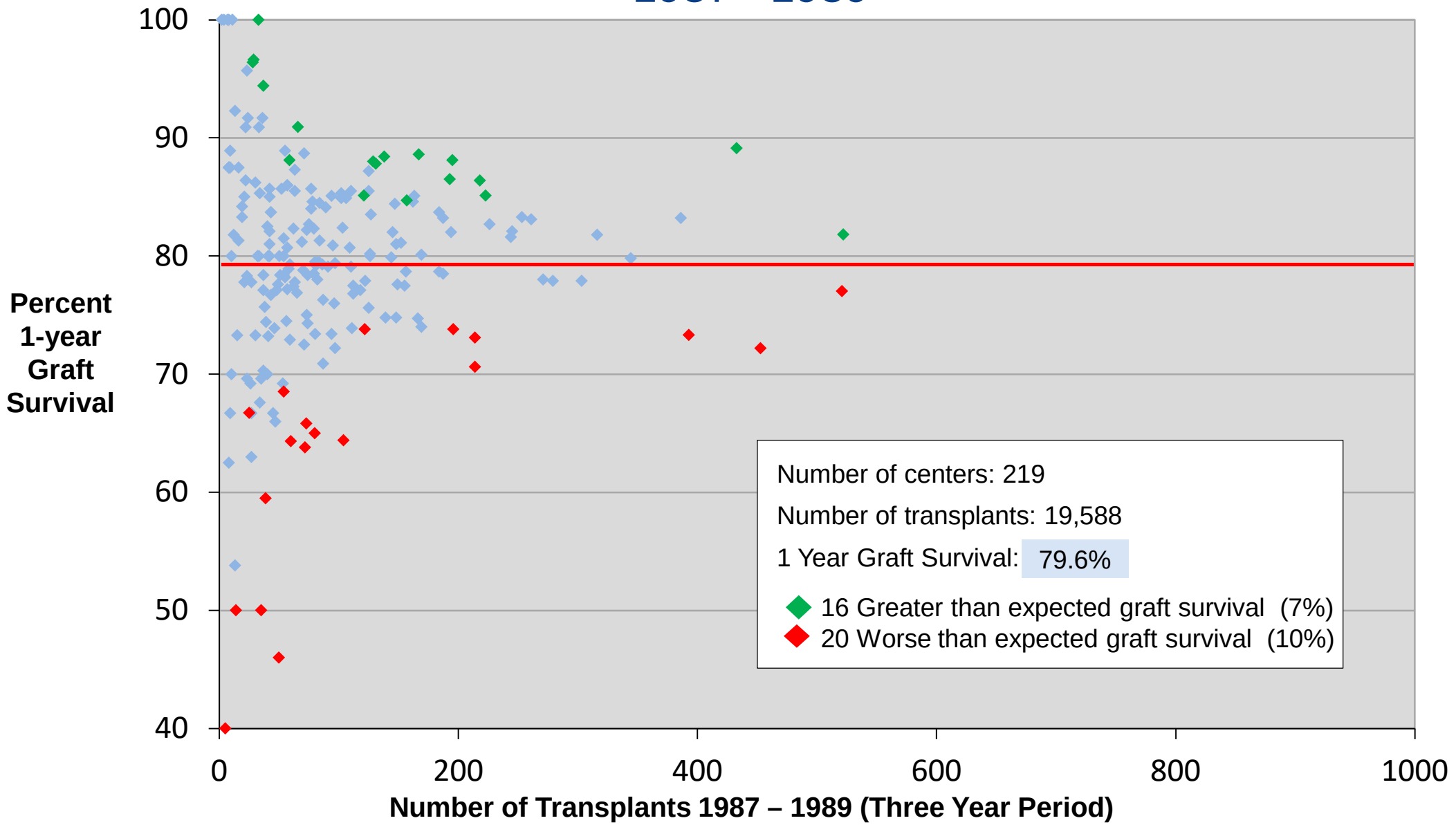
Prostate Cancer Care in Germany



Source: ICHOM

Adult Kidney Transplant Outcomes

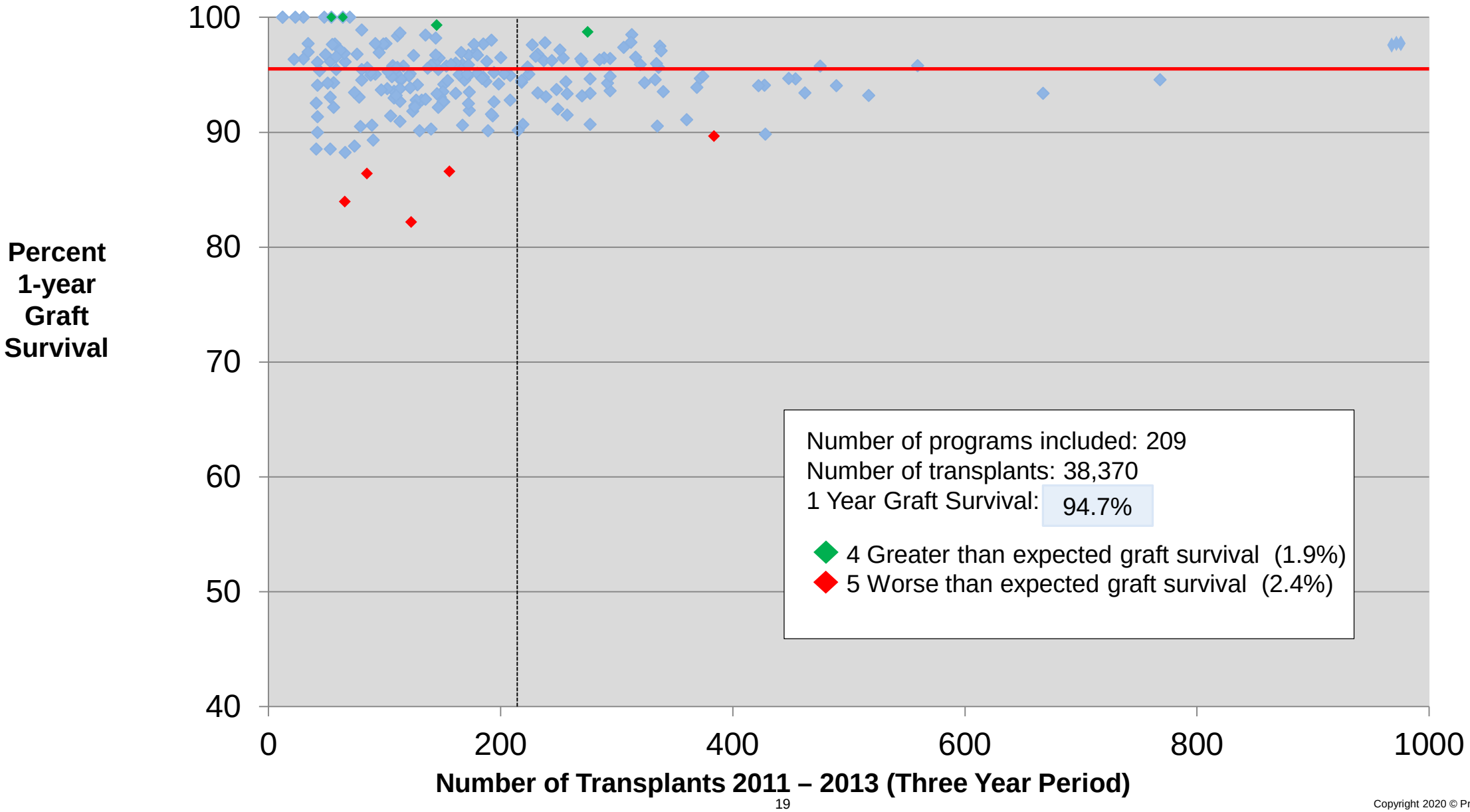
1987 - 1989



Source: Scientific Registry of Transplant Recipients, http://www.srtr.org

Adult Kidney Transplant Outcomes

2011 - 2013

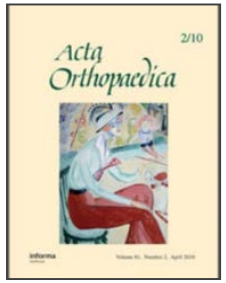


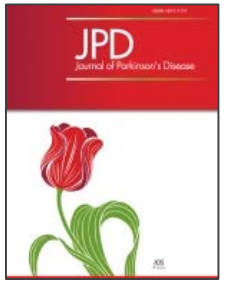
Standardizing Outcome Sets

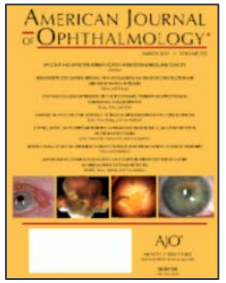
ICHOM

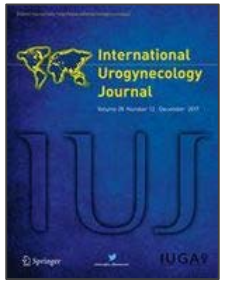
Completed Standard Sets (2013-14)	Completed Standard Sets (2015-16)	Completed Standard Sets (2017-19)	Committed/ In Process
1. Localized Prostate Cancer *	13. Breast Cancer *	22. Chronic Kidney Disease *	30. Overall Adult Health
2. Lower Back Pain *	14. Dementia	23. Congenital Upper Limb Malformations	31. Pediatric Health
3. Coronary Artery Disease *	15. Frail Elderly	24. Pediatric Facial Palsy *	32. Hand and Wrist
4. Cataracts *	16. Heart Failure	25. Inflammatory Arthritis *	33. Neonates
5. Parkinson's Disease *	17. Pregnancy and Childbirth	26. Hypertension *	34. Congenital Heart Disease
6. Cleft Lip and Palate *	18. Colorectal Cancer *	27. Oral Health	35. Depression and Anxiety in Children and Young People
7. Stroke *	19. Overactive Bladder	28. Diabetes	36. Psychotic Disorders
8. Hip and Knee Osteoarthritis *	20. Craniofacial Microsomia	29. Atrial Fibrillation	37. Personality Disorders
9. Macular Degeneration *	21. Inflammatory Bowel Disease *		38. Substance Misuse
10. Lung Cancer *			39. Autism Spectrum Disorder
11. Depression and Anxiety *			
12. Advanced Prostate Cancer *			

*** Published Thus Far in Peer-Reviewed Journals (19)**









Measure Cost for Every Patient

Principles

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

- Properly measuring the cost of care requires **different cost accounting** methods than prevailing approaches in health care, such as departmental, charge-based, or RVU-based costing

- Cost should be measured for **each patient by condition,** over the **full cycle of care**

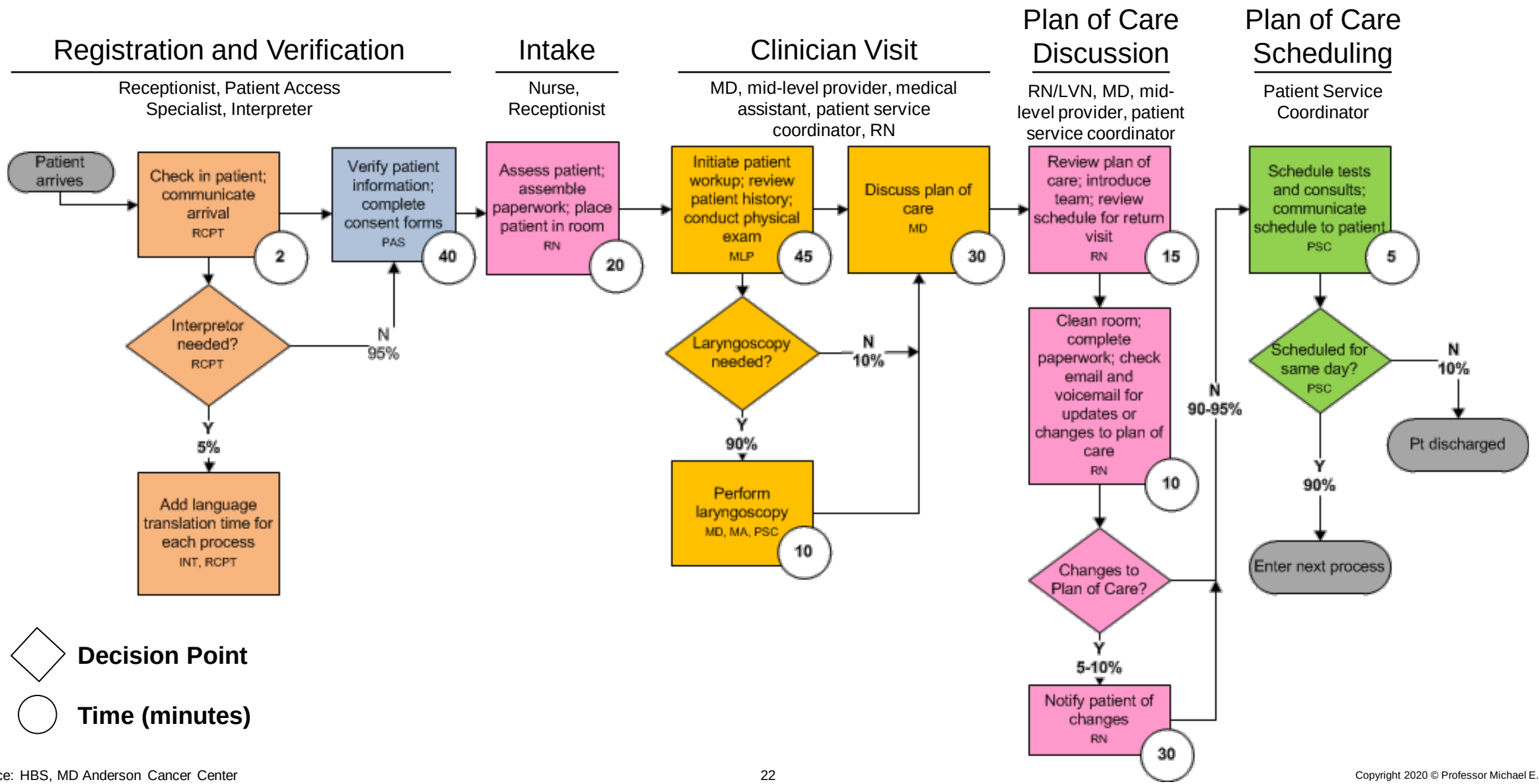
- Cost is created by the use of **the resources** involved in a patient's care (people, facilities, supplies, and support services)
  - Cost depends on **time** and actual **costs** of resource use, not arbitrary allocations

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

Source: Kaplan, Robert and Michael E. Porter, "The Big Idea: How to Solve the Cost Crisis in Health Care", *Harvard Business Review*, September 1. 2011

Mapping Resource Utilization

MD Anderson Cancer Center – New Patient Visit



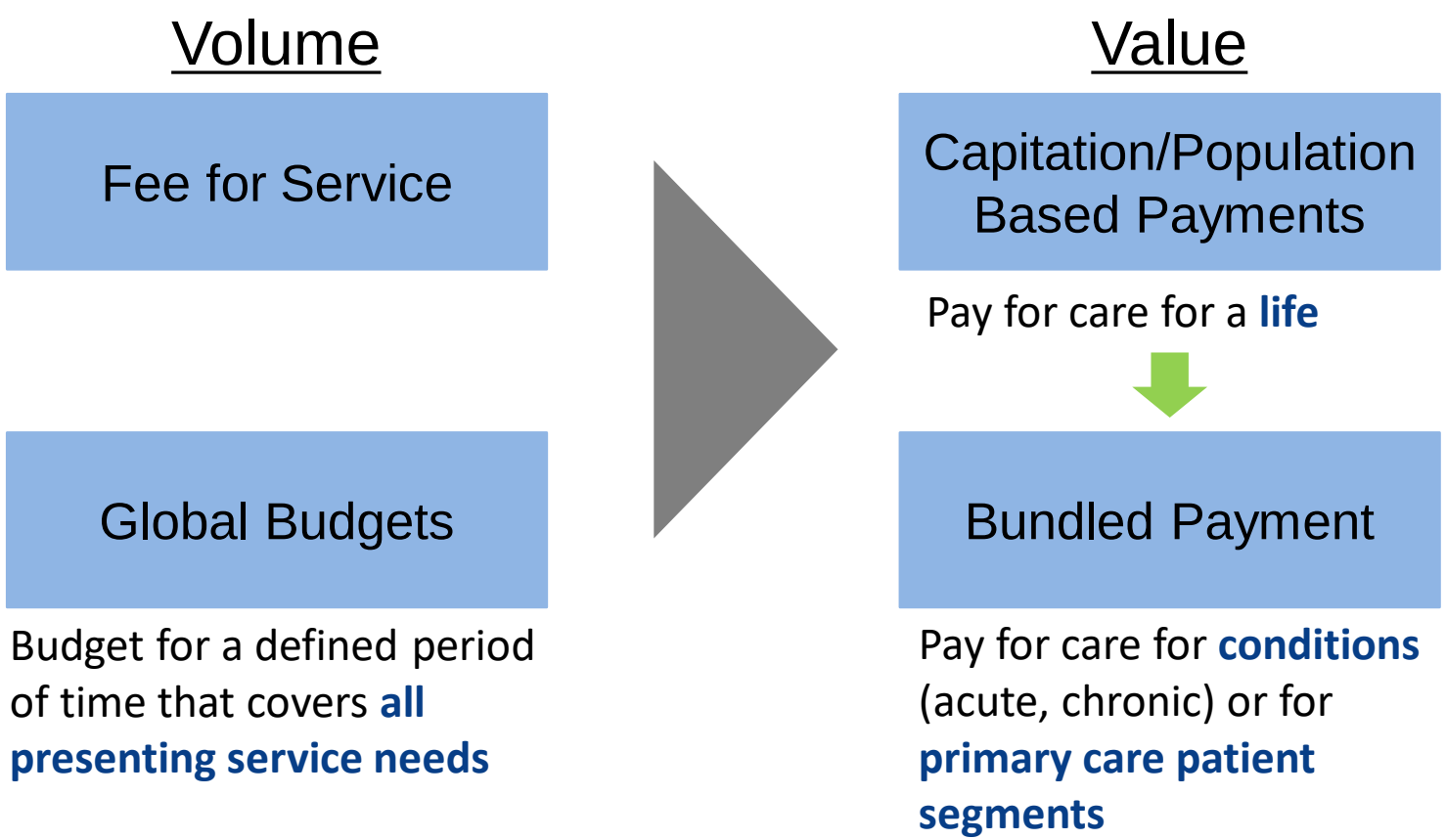
Source: HBS, MD Anderson Cancer Center

Major Cost Reduction Opportunities in Health Care

- Utilize **physicians and skilled staff** at the top of their licenses (people ~65% of costs)
- Reduce **process variation** that increases complexity and raises cost
- Eliminate **low-** or **non-value added** services or tests
- **Reduce cycle times** across the care cycle, which **expands capacity**
- Invest in additional services (e.g. extra visits, telemedicine), or higher costs inputs that will **lower overall care cycle cost**
- Reduce **service duplication** and **volume fragmentation** across sites
- Rationalize redundant **administrative** and **scheduling** units
- Move uncomplicated services **out of highly-resourced** facilities
- Increase **cost awareness** in clinical teams, (e.g. costs of inputs (sutures vs. staples))
- Improve the efficiency and automation of **claims management** and **billing** processes
- The number one way to reduce costs is through **better outcomes**
- Many cost improvements also **improve outcomes**

- Our work with numerous providers reveals typical **cost reduction opportunities of 30+%**

Move to Value-Based Payment Models

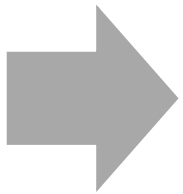


- Both approaches create positive incentives for **reducing costs** and **separate payment** from performing particular services
- Capitation at the hospital or system level can **coexist** with bundle payment at the condition level

Emerging Value-Based Payment Models

Capitation (Population-Based)

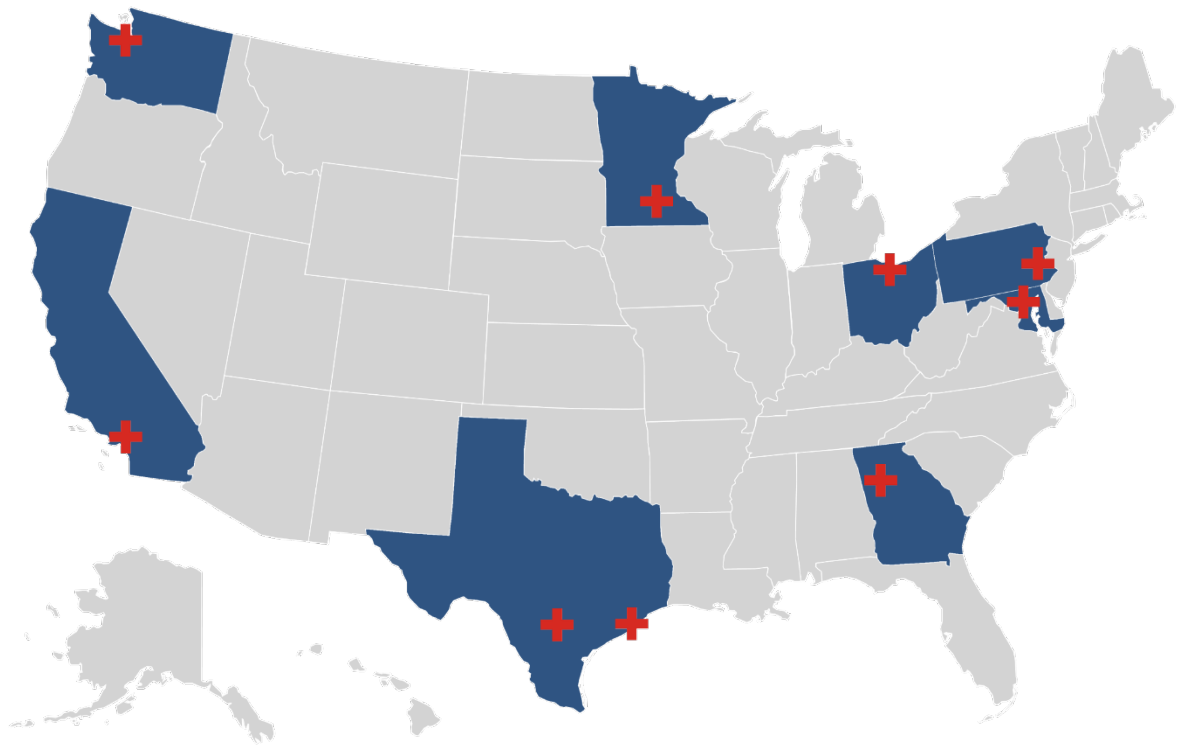
- A single risk-adjusted payment for the overall care for a **life**
- Responsible for **all needed care** in the covered population
- Accountable for **population level quality metrics**
- At risk for the difference between the **sum of payments** for the population and **overall spending**
  - **Providers** take on **disease incidence risk**, not just **execution/outlier risk**
- Accountable for **overall cost** and **population level** quality measures



Bundled Payment

- A single risk adjusted payment for the overall care for a **condition**
  - **Not** for a specialty, procedure, or short episode
- Covers the **full set** of services needed **over an acute care cycle**, or a **defined time period** for chronic care or primary care
- Contingent on **condition-specific outcomes**
  - Including responsibility for avoidable **complications**
- At risk for the difference between the **bundled price** and the **actual cost** of all included services
  - **Limits of responsibility** for unrelated care and outliers
- Accountable for costs and outcomes **patient by patient**, and **condition by condition**

Bundled Payments: Walmart Centers of Excellence



Walmart

Partnerships:

Cleveland Clinic (OH)

Geisinger (PA)

Kaiser Permanente (CA)

Johns Hopkins (MD)

Mayo Clinic (MN)

Memorial Hermann (TX)

Northeast Baptist (TX)

Virginia Mason (WA)

Emory (GA)

Conditions:

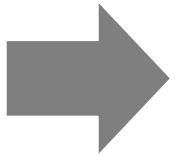
- Cardiac Surgery
- Cancer
- Joint replacement
- Spine
- Organ Transplant
- Weight loss

Note: Not all providers participate in every Walmart condition

Source: Compiled from news.Walmart.com and through publically available news and press releases .

Shifting The Strategic Logic of Health Systems

Confederation of Standalone Units/Facilities



Clinically Integrated Care Delivery System

- Increase **volume**

- More clout in **contracting** and **purchasing**
- **Spreading** “fixed overhead” costs
- Use **owned or affiliated** primary care practices to **“guarantee”** referrals

- Increase **value**

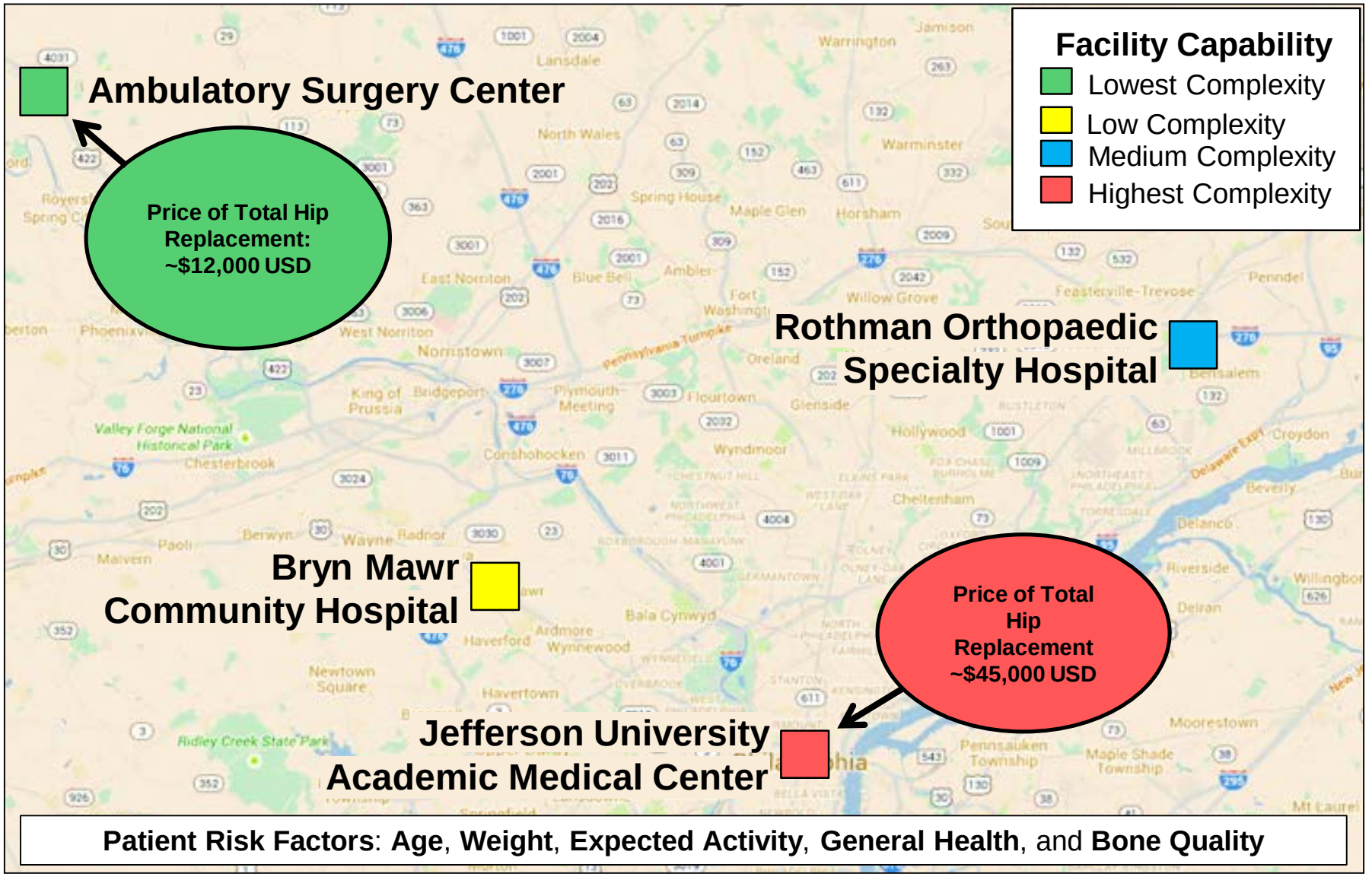
- Value-based **delivery models**
- **Concentrate**, **allocate**, and **integrate** care across appropriate sites
- The system is **more than** the sum of its parts

The Geography of Care and Value

- The Traditional Care Geography Model
  - Care organized around **specialties** and **interventions** at each site
  - **Duplication** of services across sites/facilities
  - Sites provide care for **multiple acuity levels**
  - **Limited integration** of care across sites
  - Traditional Model reinforced by **fee-for-service** payments and **siloed IT systems**
- Geography and Value: Strategic Principles
  - Organize **care by condition** in IPUs (the hubs)
    - Multi-disciplinary teams
    - Responsibility for full care cycle
  - IPUs **allocate services** across the care cycle to sites based on: site capabilities, care complexity, patient risk, cost, and patient convenience
  - **Incorporating** telemedicine, home services, and affiliated provider sites into the care cycle
  - IPUs developing **formal systems** to direct patients to the most appropriate site

Delivering the Right Care at the Right Location

Rothman Institute, Philadelphia



Allocate and Integrate Care Across Sites

Children's Hospital of Philadelphia Care Network

Wholly-Owned Outpatient Units

- Primary Care Practices
- Specialty Care Centers
- Specialty Care Center, Surgery Center & After-Hours Urgent Care
- Specialty Care & Surgery Centers
- Specialty Care Center, Surgery Center, After-Hours Urgent Care & Home Care

Community Inpatient Partnerships

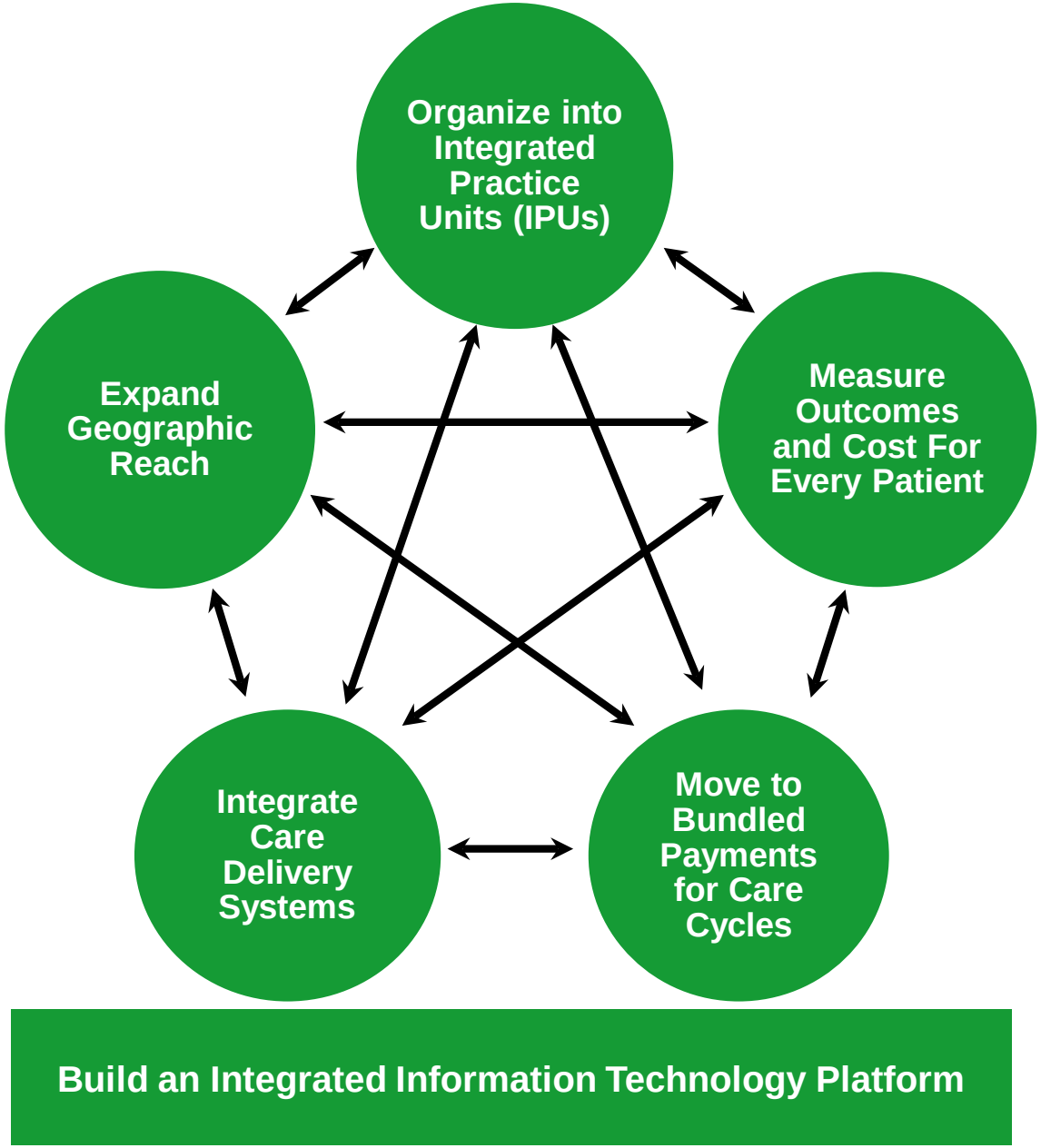
- CHOP Newborn Care
- CHOP Pediatric Care
- CHOP Newborn & Pediatric Care
- Hospital & Integrated Specialty Program

Build an Enabling IT Platform

Attributes of a Value-Based IT Platform

1. Combines **all types of data** for each patient's condition across the full care cycle (notes, lab tests, imaging, costs) using standard definitions and terminology
2. Tools to capture, store, and extract **structured data** and eliminate **free text**
3. Data is captured in the **clinical** and **administrative workflow**
4. Data is stored and easily extractable from a common warehouse. Capability to **aggregate**, **extract**, **run analytics** and display **data by condition** and **over time**
5. Platform is structured to enable the capture and aggregation of **outcomes**, **costing** parameters, and **bundled payment** eligibility/billing
6. Leverages **mobile technology** for scheduling, PROMs collection, secure patient communication and monitoring, virtual visits, access to clinical notes, and patient education
7. **Full interoperability** allowing data sharing within and across networks, EMR platforms, referring clinicians, and **health plans**

A Mutually Reinforcing Strategic Agenda



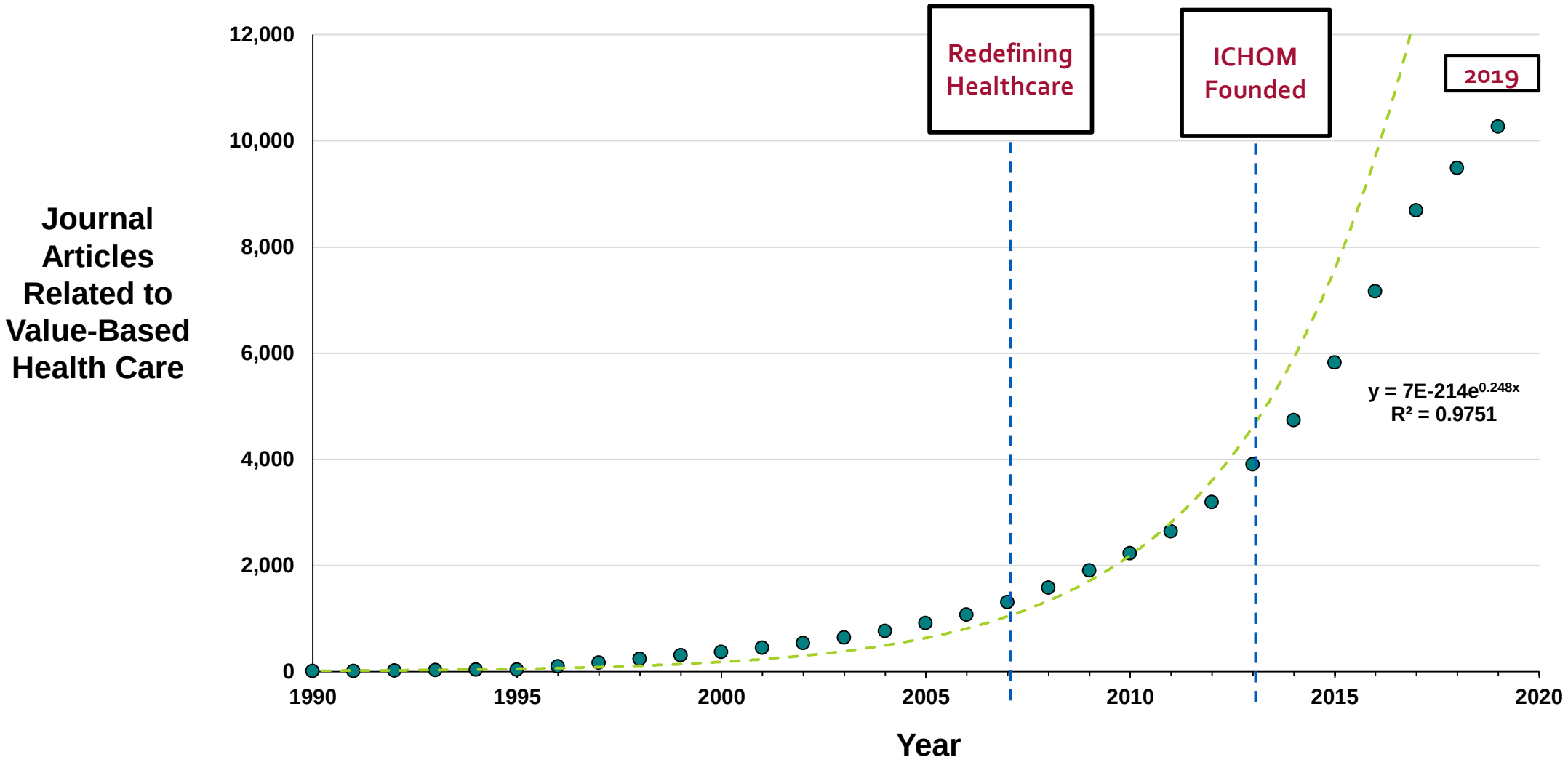
The Health Care Transformation is Well Underway

- We **know the path** forward
- **Value for patients** is True North
- **Value based thinking** is restructuring care organization, outcome measurement, payment models, and **health system strategy**
- **Standardized outcome measure sets** and new **costing practices** are beginning to accelerate value improvement
- **Employers**, **suppliers**, and **insurers** can be the next accelerators
- **Government policy** is beginning to reinforce value improvement in many countries

- We are excited to **work with all** of you in accelerating this transformation
- We **invite** every one of you to get started on this path

Value-Based Health Care Thinking and Practice Are Rapidly Diffusing

Peer Reviewed Literature 1990-2019



From: PubMed; accessed December 2019, Patrick Clapp, Baker Research Services, Harvard Business School

NEJM Catalyst Innovations in Care Delivery is a new digital, peer-reviewed journal from NEJM Group, the publisher of The New England Journal of Medicine.

Publishing six issues each year, NEJM Catalyst Innovations in Care Delivery aims to accelerate health care delivery transformation by publishing real-world examples and practical solutions so that health care leaders can address today's urgent care delivery challenges and shape the future of health care delivery across the globe.

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