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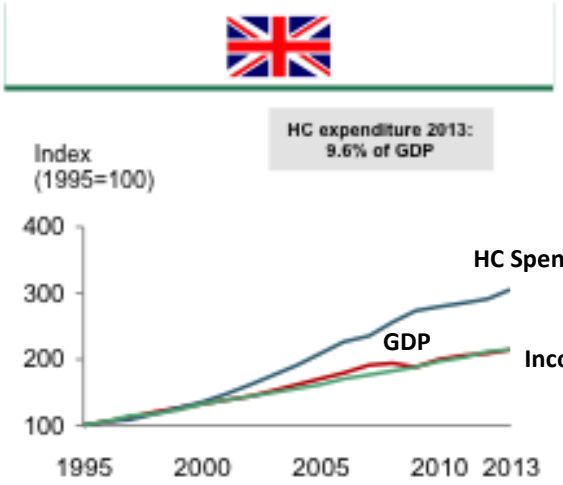
Value-Based Health Care Delivery

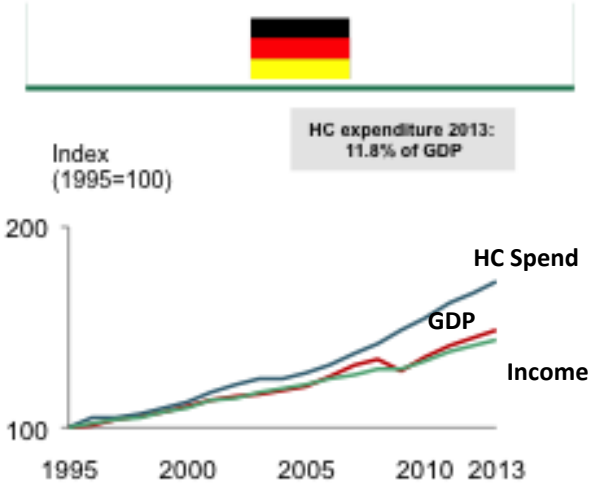
January 2016

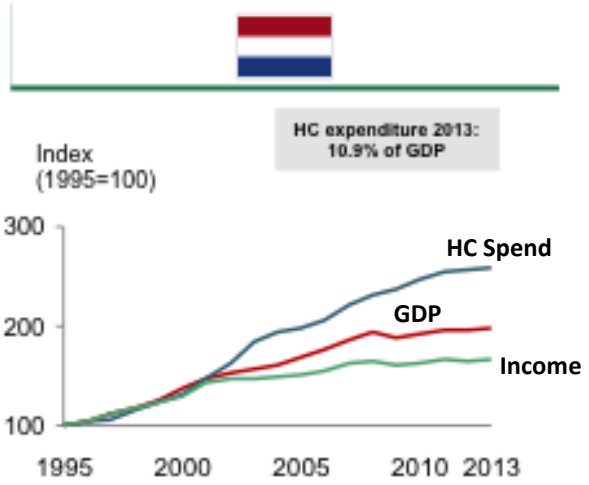
Bob Kaplan, Marvin Bower Professor of Leadership Development, Emeritus
Reporting on collaborative work with Professor Michael E. Porter

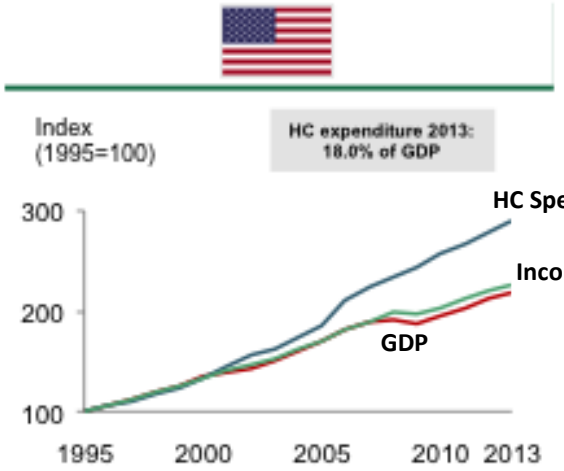
All developed nations face increasing healthcare costs

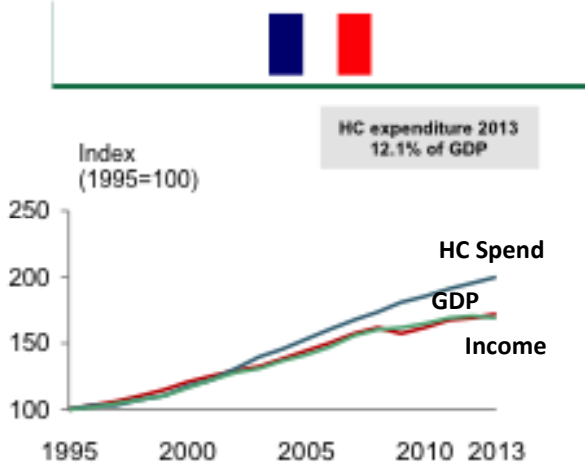
Health Care Spending vs GDP and Income Growth

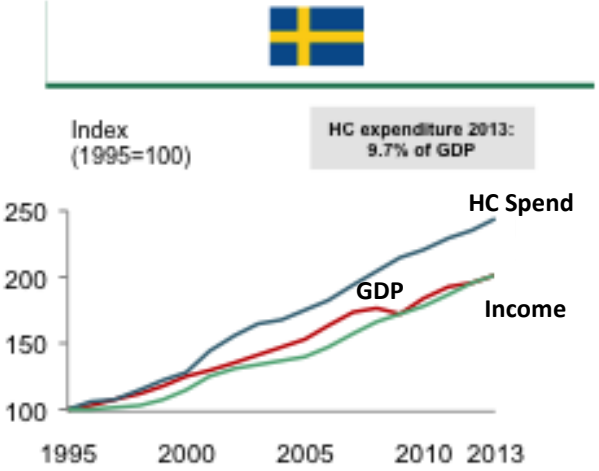






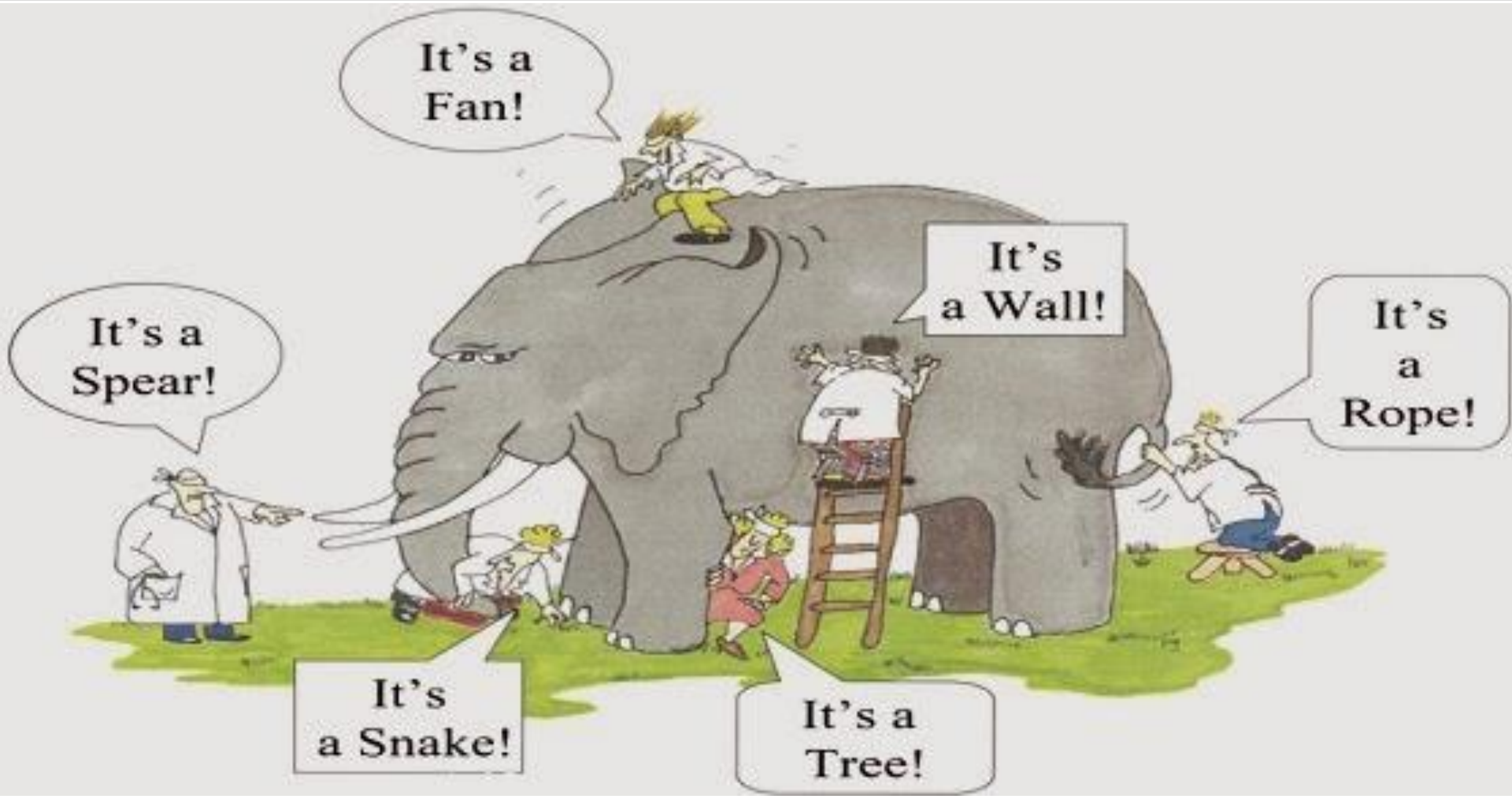






Notes: Indexes based on local currencies; Income = Personal Disposable Income; HC expenditures as % of GDP are OECD estimates
Source: Economist Intelligence Unit May 2014, BCG analysis

Most attempts at health care reform have only a limited view of the problem.



Health Care Value-Based Delivery
Use Competition to Drive the Greatest Value to Patients

The central goal in health care must be **value for patients**, not access, volume, convenience, quality, or cost containment

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

The unit of analysis for creating and measuring value is the treatment of a patient's medical condition over a complete cycle of care.

1. Outcomes: the **full set of patient health outcomes** over the care cycle
2. Costs: the **total costs of resources** used to care for a patient's condition over the care cycle

Outcomes and Costs should be measured for an acute medical condition's overall cycle of care

Patient problem: Knee pain

Initial MD visit

Treatment: meds, diet, exercise

Recommend surgery

Level 1: Overall care cycle

Discharge

Follow-up visit

Surgical consult

Pre-op testing and evaluation

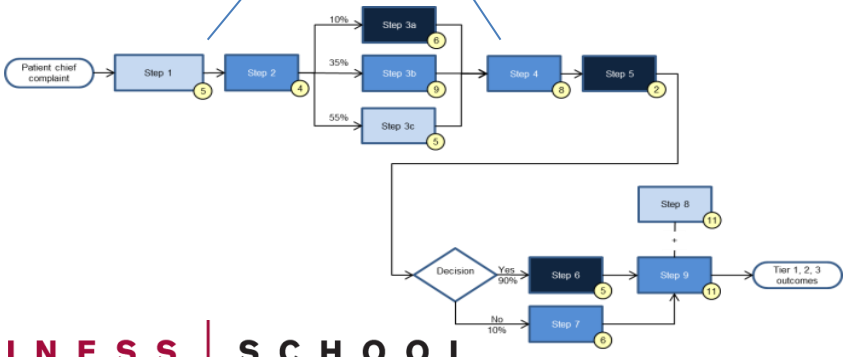
Surgical prep

Operation

Inpatient post-op care

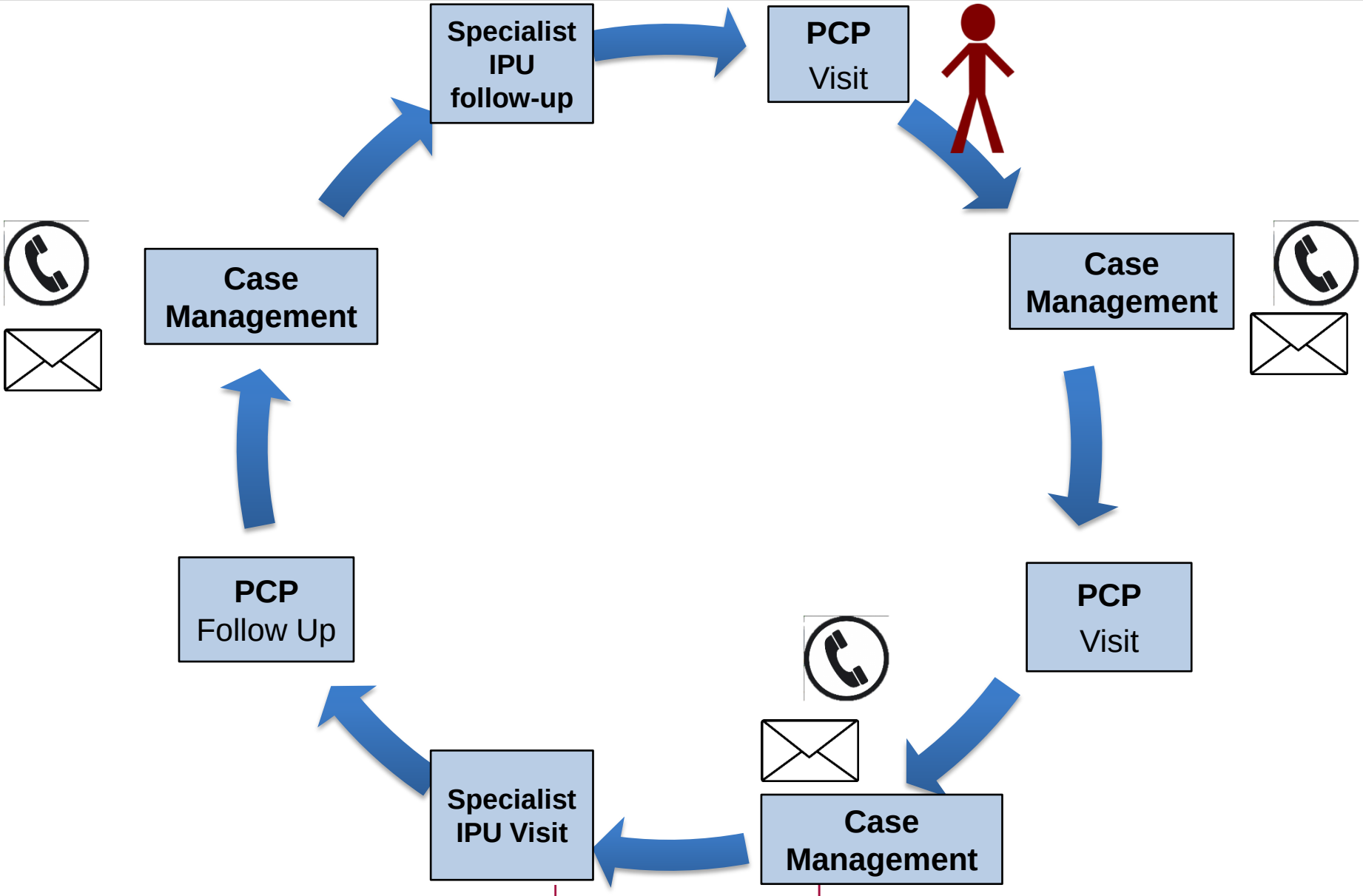
Rehab

Outcomes and costs measurement



Level 2: Process maps

For chronic medical conditions and population-based care, measure outcomes and costs over an annual cycle.



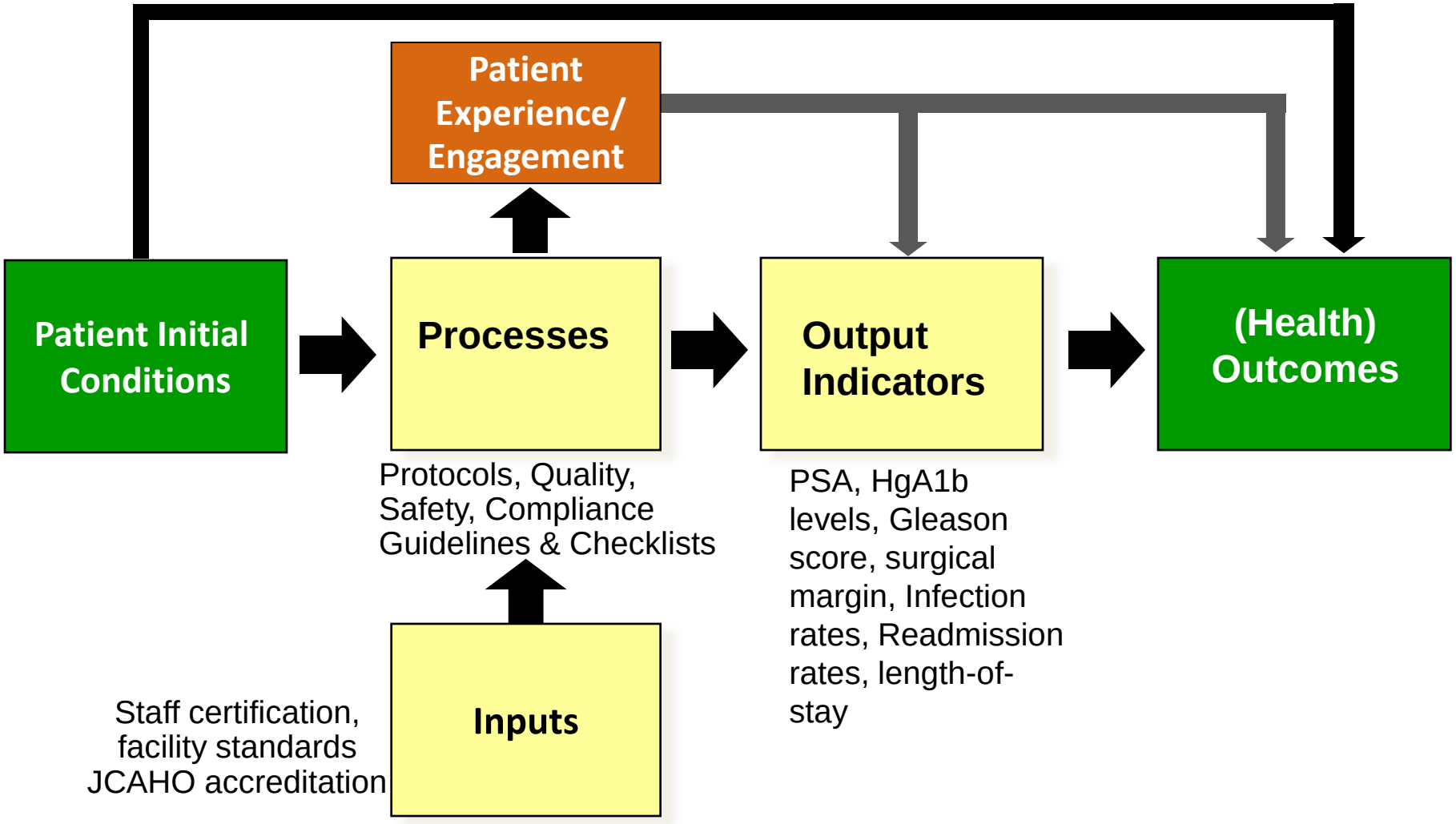
Creating a Value-Based Health Care Delivery SYSTEM

1. **Measure and Communicate Outcomes by Medical Condition**

2. **Measure and Improve Costs by Medical Condition**

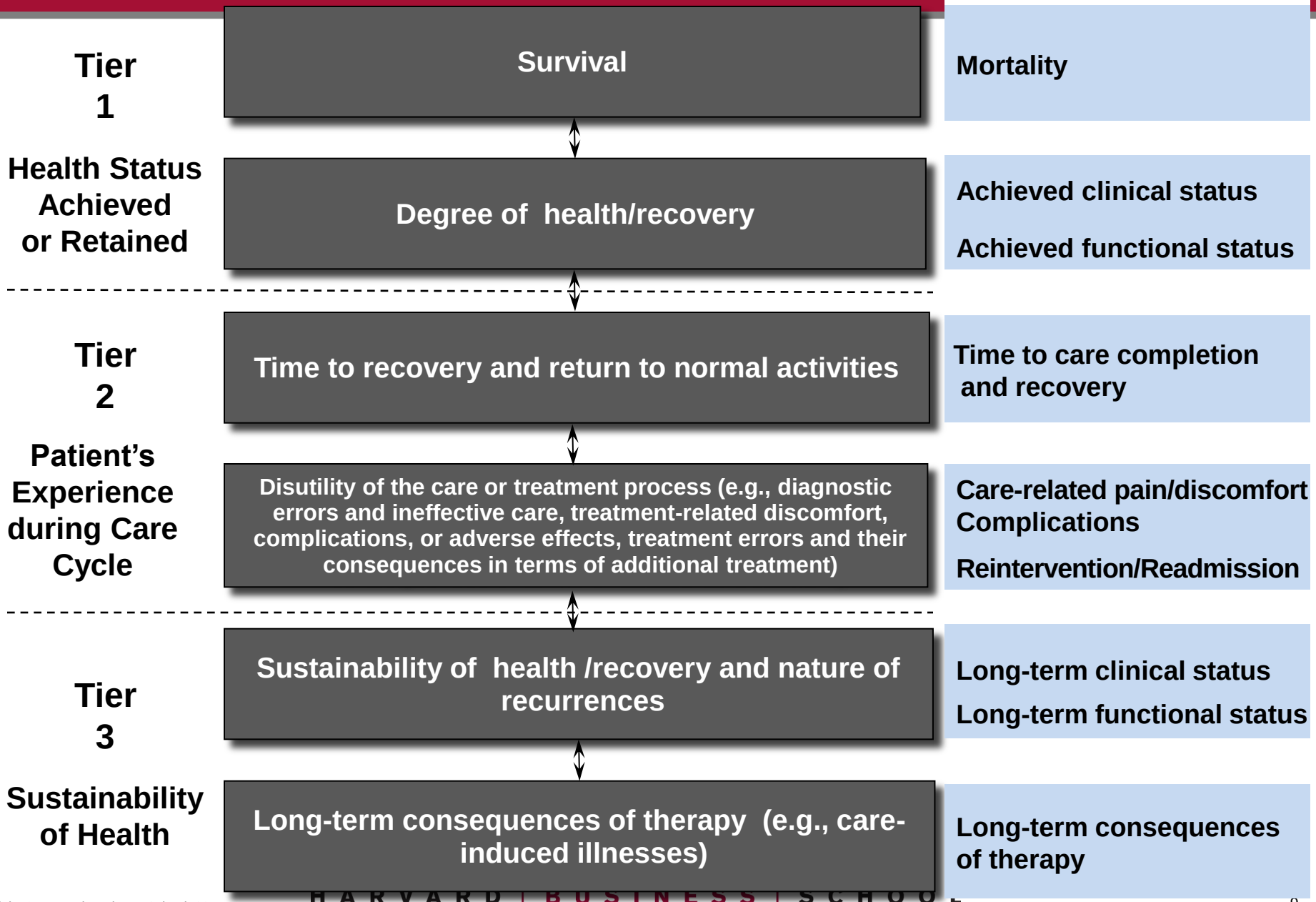
3. **Offer a Bundled Payment for delivering excellent outcomes for a Medical Condition**

Measure Outcomes for a Patient's Medical Condition

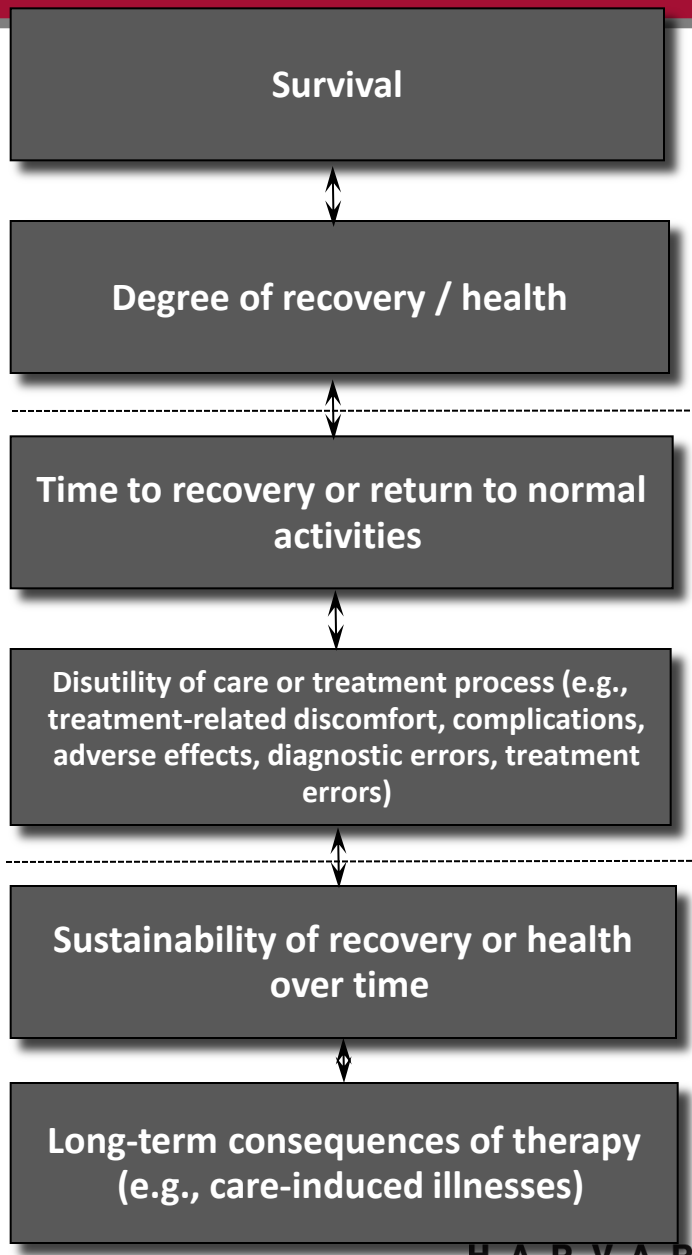


Measure Outcomes that Matter to Patients

M. Porter, NEJM Dec 2010



The Outcome Measures Hierarchy for Prostate Cancer



- 5 year survival rate

- Continence (1 year)
- Erectile function (1 year)
- Other quality of life

- Time to diagnosis
- Time to treatment
- Length of inpatient stay
- Time to return to work

- Bleeding
- Thrombosis
- Short-term continence (1 week, 3 months)
- Short-term erectile function (3 months)

- Biochemical recurrence
- Metastatic progression

- Radiation-induced complications of intestine, bladder, bones, skin

A case study in multi-disciplinary care and outcomes measurement: The Prostate Cancer Surgery Center in Hamburg

Professor Dr. Hartwig Huland
Founder and Chief

Clinical and Staff Resources Contained within Prostate Cancer Surgery Center

Personnel

- Faculty: Urological Surgeons (9)
- Peri-operative staff: nurses (39) [dedicated to prostate cancer]
- Physiotherapists
- Psychologists *
- Oncologists *
- Anesthesiologists *
- Social Workers
- Biostatisticians for clinical trials and outcomes measurement

Facilities

- Operating rooms (4) [dedicated]
- Inpatient ward
- Physiotherapy unit
- Outpatient clinic
- Central Administration and Scheduling

* Employed by Hospital Department but dedicated to Surgery Center

Outcomes Measurement at Prostate Cancer Surgery Center in Hamburg

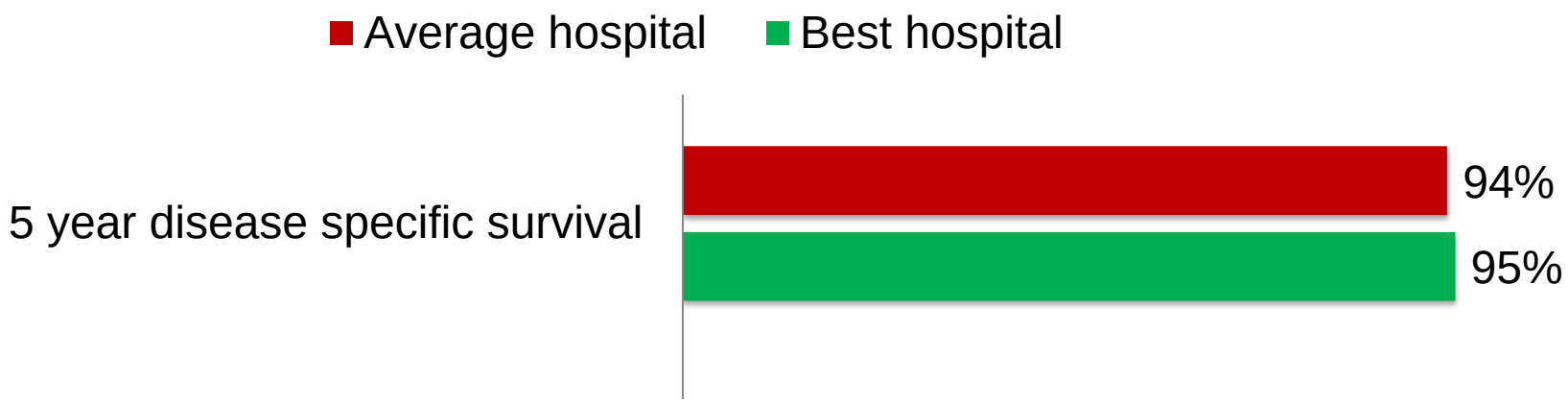
- Started manual outcomes measurement in 1994
- Quality of Life survey filled out pre-op, at discharge, and, at 3 months, 1 year, 2 years, and 3 years.
- 2013: 1,200 surveys per month; 90% return rate (multiple phone reminders)
- Data base on 20,000 prostate cancer patients

Outcomes Measurement

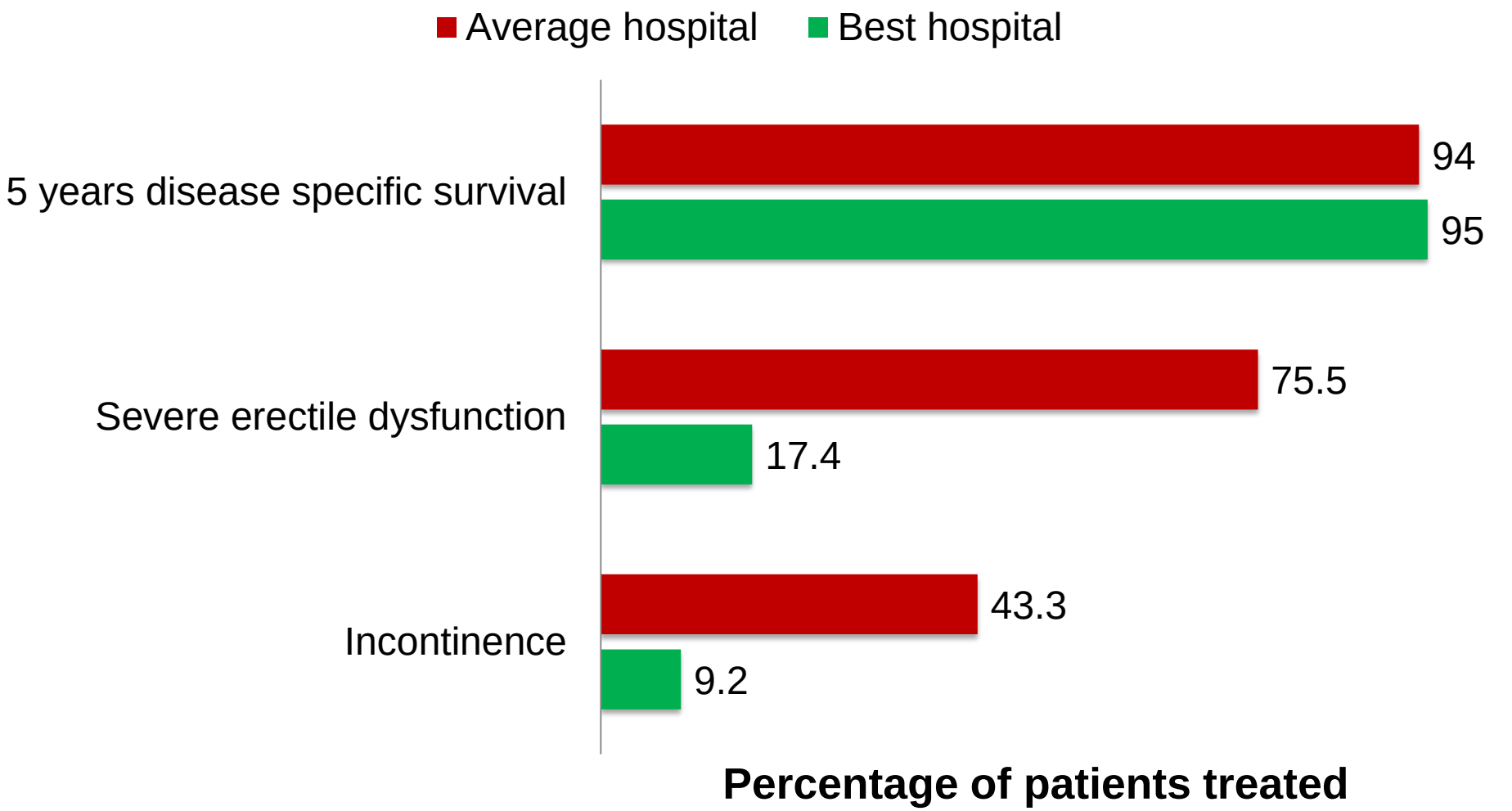
- Every six months, data on **each surgeon's outcomes are shared among all the urologists.** They then discuss the results, compare performance, and identify learning and improvement opportunities.

- **Annual Public report** (also published on Center's website)
  - Disease-specific survival rates
  - Continence rate
  - Potency rate
  - BCR (biochemical recurrence, by age group and cancer stage)

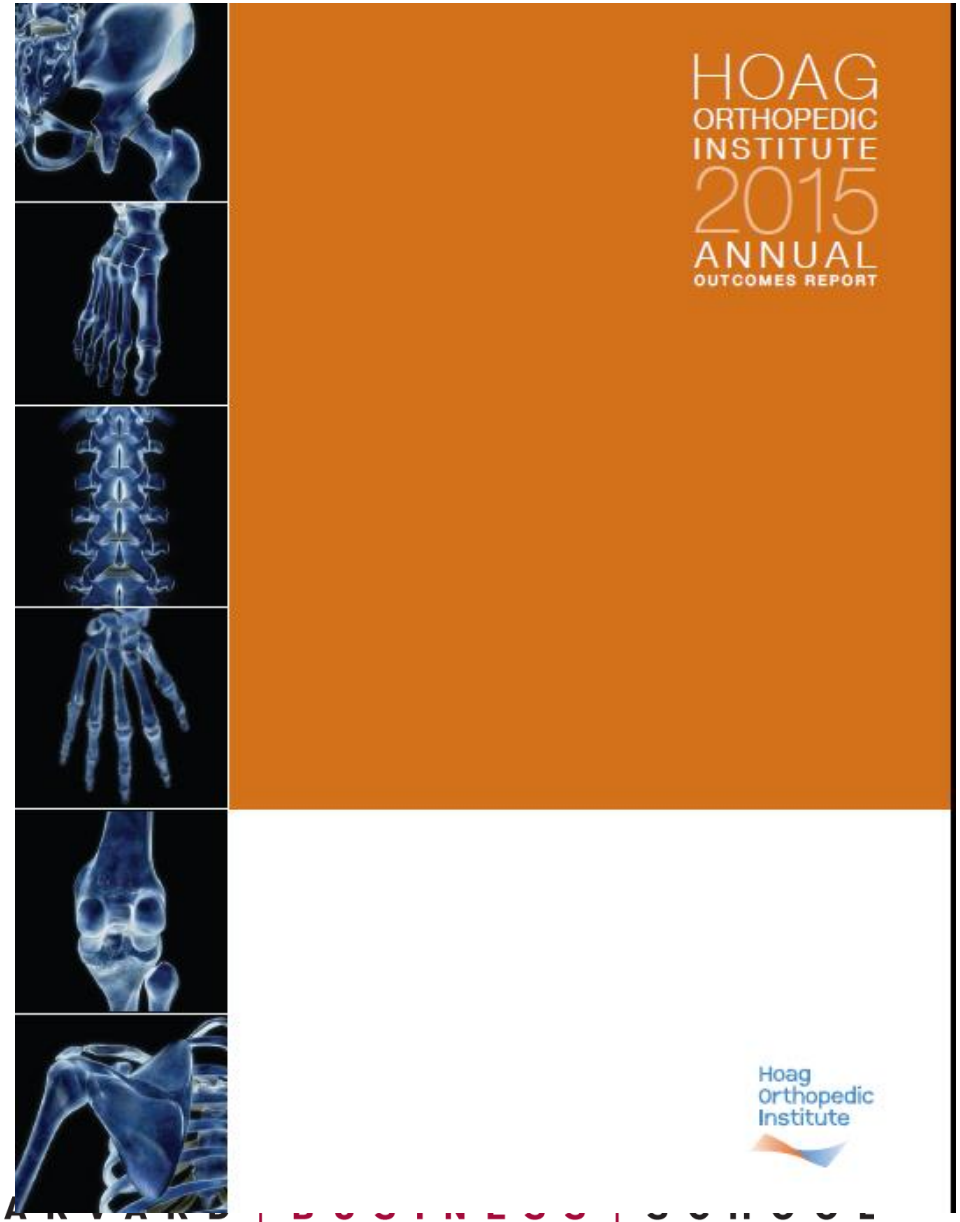
Prostate Cancer Outcomes in Germany



Prostate Cancer Center's Surgery Outcomes versus the average German hospital



Hoag Orthopedic Institute publishes an annual Outcomes Book. This book is HOI's entire marketing program.



Creating a Value-Based Health Care Delivery SYSTEM

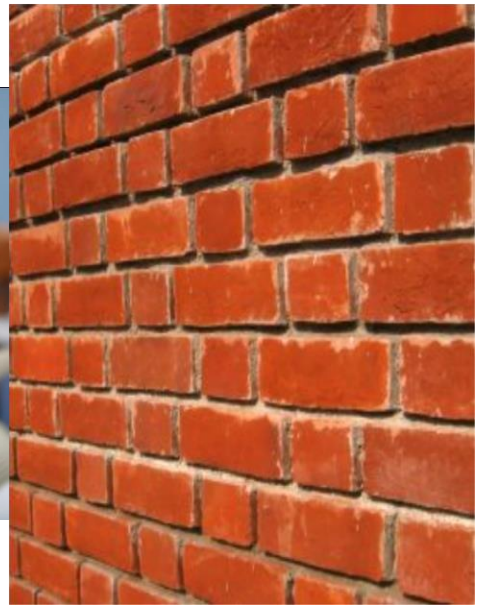
1. Measure and Communicate Outcomes by Medical Condition

2. **Measure and Improve Costs by Medical Condition**

3. Develop Bundled Payments for Treating a Medical Condition

Poor cost measurement causes communication failures between clinical personnel and health care administrators.

I became a physician to cure patients and save lives.



You need to reduce headcount and cut costs and do it now!

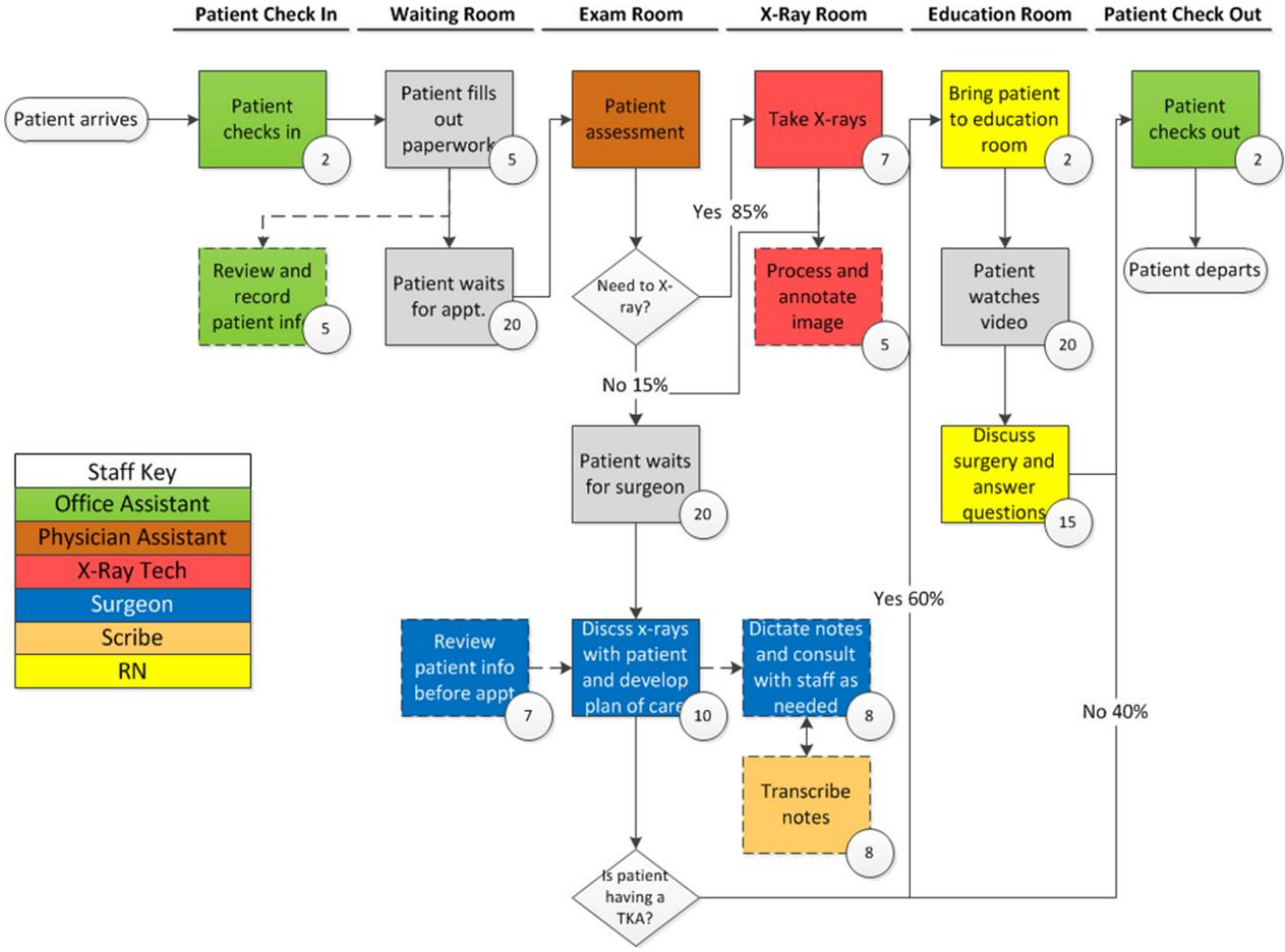
Mission **vs.** **Margin**

Time-Driven Activity-Based Costing (TDABC) enables accurate Patient Level Costing

1	Determine the Care Process	• **What activities** are performed over the care cycle for a medical condition? • **Who performs** each activity? • **How long** does each activity take?
2	Calculate Cost Rates	• **What is the cost per unit of time** for each type of personnel?
3	Account for Consumables	• **What materials, supplies, and drugs** are consumed during the care cycle?

Clinical and administrative teams work collaboratively to identify:

- Process-Steps: All the administrative and clinical process-steps used over a patient's complete cycle of care for a medical condition
- Resources: personnel, equipment, consumable medicines and supplies – used at each process step
- Time Estimates: The personnel and equipment time used at each process step for that patient

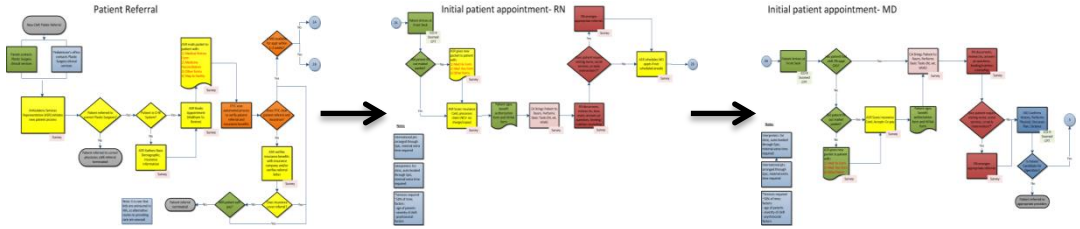


Capacity Cost Rates ($/minute) for clinical and staff people

	Surgeon	Physician Assistant	RN	X-Ray Tech	Scribe	Office Assistant
Total Clinical Costs	**$546,400**	**$120,000**	**$100,000**	**$64,000**	**$51,000**	**$61,000**
Personnel Capacity (minutes)	91,086	89,086	89,086	89,086	89,086	89,086
Personnel Capacity Cost Rate	**$6.00**	**$1.35**	**$1.12**	**$0.72**	**$0.57**	**$0.68**

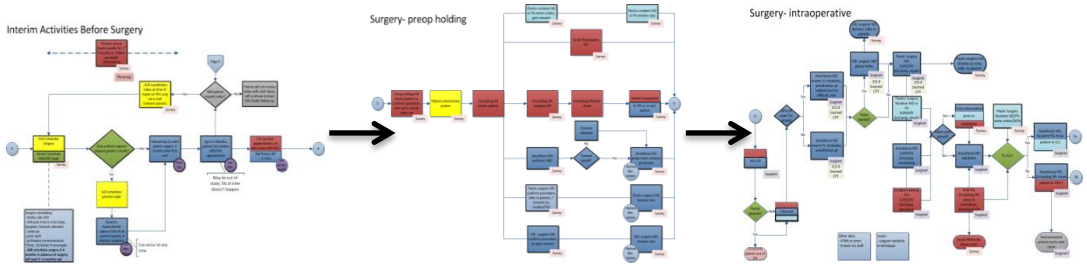
We compute total patient-level care costs by multiplying capacity cost rates by process times and summing across each patient's cycle of care

Initial consultation



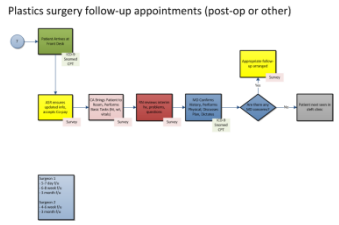
	Minutes	Cost/ minute	*Total
MD	X_1	Y_1	136.13
RN	X_2	Y_2	68.04
CA	X_3	Y_3	6.17
ASR	X_4	Y_4	15.74
			$266.08

Surgical procedure



MD	X_1	Y_1	584.99
Anes.	X_2	Y_2	603.89
RN	X_3	Y_3	136.29
Tech	X_4	Y_4	97.82
OR	X_5	Y_5	329.16
			$1752.15

Follow-up or post-operative visit



MD	X_1	Y_1	55.19
RN	X_2	Y_2	13.61
CA	X_3	Y_3	3.09
ASR	X_4	Y_4	1.77
			$73.66

Source: Meg Abbott, MD & John Meara, MD Boston Children's Hospital

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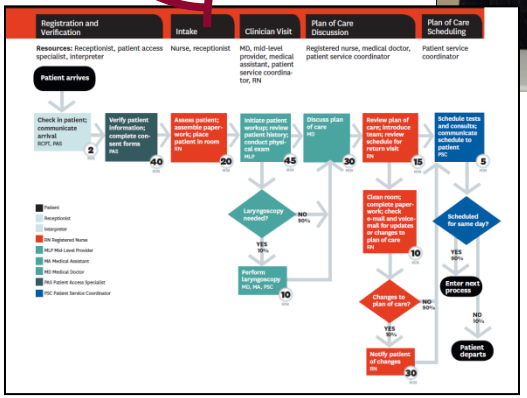
Time-Driven ABC breaks down the wall with a single version of truth for productive discussions among clinical & administrative personnel

By standardizing on this procedure and we can achieve consistently excellent outcomes at lower cost.

We can skip this process and save $120 per patient.



TDABC helps providers manage their costs

Process Improvement and Redesign

- **Eliminate** process steps and variations that **do not contribute to improved patient outcomes**
- **Redesign** processes to **reduce waste and idle time**
- **Optimize** processes and interventions over a **complete cycle of care**

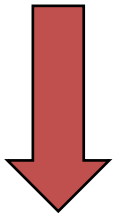
Personnel and Resource Utilization

- All **clinicians work at the "top-of-their license"** → health care personnel, equipment and facilities have very different productivities and costs; **who** should be doing the work, **where**, and **how**?
- **Reduce unused capacity** of people, equipment, and facilities

Use Bundled Payments to Reward Excellent Value-Based Health Care Delivery

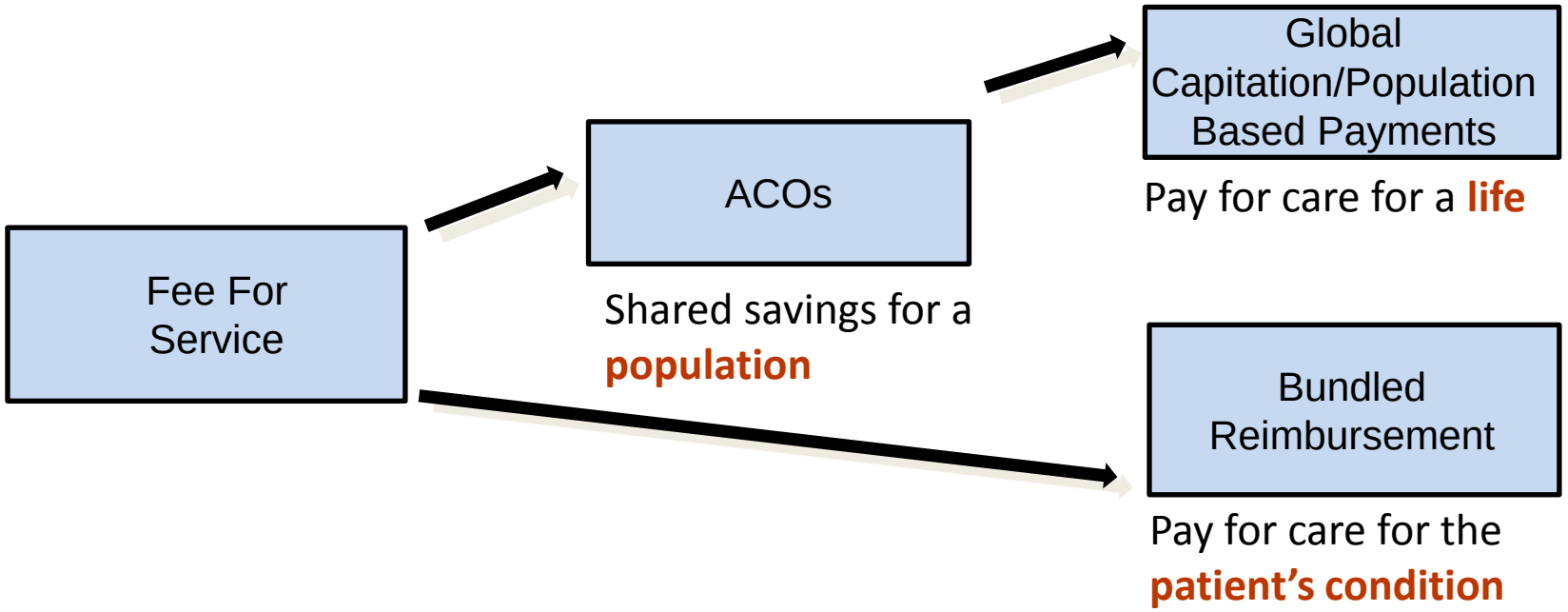
1. Measure and Communicate Outcomes by Medical Condition

2. Measure and Improve Costs by Medical Condition



3. **Offer a Bundled Payment for delivering excellent outcomes for a Medical Condition**

As we move from Fee-For-Service (or Global Budgets), we have two options for paying providers for care



What is a Bundled Payment?

A **bundled payment** is a single payment covering all the procedures, tests, drugs, devices, and services required at all care sites – outpatient, inpatient, and rehabilitation – to treat a patient's medical condition over the full cycle of care.

- 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**

Joint Replacement Surgeries in County of Stockholm

"Patients were on waiting lists for up to two years, and they were suffering and many were on sick leave. We would tell providers to do more procedures, we would offer more money. It was never enough. There was still waiting."

- Loss of work due to pain and disability
- Stockholm County had to pay out-of-county providers to supplement backlog in Stockholm

Swedish Health Care System: Global Provider Budgets

- Hospitals reimbursed on prospective volume so little incentive to work harder, faster or smarter to eliminate the backlog
- Hospital payments not linked to quality, outcomes or cost
- Salaried physicians

Health Authority Goals

- How to motivate providers to perform more replacements
- Improve outcomes
- Reduce complications and readmissions

New bundled payment introduced for total joint replacements

- Fixed fee to cover physician fees, all other personnel costs, occupancy in hospital, drugs, prosthesis (implant), tests, supplies
  - Outpatient rehab and additional inpatient rehab not included (would remain under the previous system)

- Cycle of care: Pre-op consultation, surgery, inpatient recovery, one follow-up visit

- Risk adjustment: Low risk surgeries (ASA 1 and 2, ~80% of all patients) would be reimbursed under the bundle. Surgeries on ASA 3 and 4 patients remained under the previous system

- Warranty or guarantee for two year cycle of care (extended to 5 years if complication within 2 years)

- Prosthesis must have 10 years of data; 96% survival rate

Patients waiting time decreased and costs decreased.

- In one year, % of patients waiting at least 90 days for treatment declined from 33% to 13%.
- Average pre-operative sick leave decreased from 50 days (2008) to 39 days (2009)
- Surgery queue disappeared by 2011
- Per-procedure cost for joint replacements had declined by 17% in 2011 compared to 2008.
- Complication rate dropped from 6.3% to < 4%.

MD Anderson negotiated a bundled payments contract with its largest private insurer, United Health Care

UnitedHealthcare Tests a Flat Rate for Cancer Treatment

By
Anna Wilde Mathews
Dec. 15, 2014 12:01 a.m. ET

The effort by the biggest U.S. insurer and the prominent Houston-based center focuses on patients newly diagnosed with head and neck cancer. *Associated Press*

UnitedHealthcare will pay MD Anderson Cancer Center a set sum of money for a year of treatment for certain patients, in the latest high-profile test of new cancer-care reimbursement models.

The effort by the biggest U.S. insurer and the prominent Houston-based center focuses on patients newly diagnosed with head and neck cancer.

The annual payments are expected to cover nearly all of their cancer care for a year, including surgery, chemotherapy and imaging scans. That is different from the traditional approach under which providers receive a fee for each medical service they provide. The annual payment doesn't increase if a patient has complications that require unexpected treatments.

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