

Quality Metrics and Value-Based Care in Medicine



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Developing and Implementing Quality Metrics Colloquium

Harvard Law School

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Goals for Today

Why am I talking with you?

Innovation in health care delivery – “delivery science”

The quality movement in health care and its implications

Value-based health care and measures that matter

How you can do it better than medicine did

Delivery Science in Health Care

Delivery science is study and design of systems, processes, leadership, and management to optimize health care delivery.

- Augmented human intelligence
- Economics
- Engineering
- Ergonomics
- Experiential learning
- Health care policy
- Health services research
- Human-centered design
- Information technology
- Knowledge management
- Population health
- Qualitative research

Evolution of Quality Measurement



Emergence of Outcomes

Focus on Quality

Focus on Safety

Focus on High Quality Hospitals

Focus on Performance Improvement

1910s – 1940s

1950s – 1980s

1980s – 2000s

1990s

1990s

Ernest Codman

- Father of outcome measurement
- Tracked patients with end result cards
- Surgeons refused to participate
- Left MGH to form own hospital
- Codman's work led to the formation of The Joint Commission

Avedis Donebedian

- Described the dimensions of health system quality as structure, process, and outcomes
- Led to widespread measurement of structure and process
- Little progress on outcome measurement

Ken Shine – Don Berwick

- Significant public pressure to improve after high profile never events (e.g Libby Zion)
- The Institute of Medicine released two reports – “To Err is Human” & “Crossing the Quality Chasm” – outlining new aims for care delivery that highlighted safety
- Institute for Healthcare Improvement (IHI) (1991) founded to lead the improvement of health care throughout the world

Avery Comerow

- U.S. News – Best Hospitals
- First prominent effort to benchmark
- Structure, process & outcomes adopted as the measurement framework
- Systematic measurement of structural indicators
- Process quality inferred from reputation surveys
- Outcomes limited to inpatient mortality

Brent James

- Healthcare looked to other industries to guide performance improvement including Six Sigma and Lean Management



Despite recognition of its importance, quality measurement was limited to nonexistent in 20th century healthcare

Evolution of Quality Measurement



Measuring Surgical Outcomes

2001

Clifford Ko

- VA program in 1990s (NVASRS) developed surgical outcome program
- Private sector added in 2001 with ACS to do validated, risk adjusted measurement benchmarked over 30 day post operative period



Introduction of the Value Agenda

2006

Michael Porter

- Outline six steps needed to achieve value
- Spearheaded significant efforts around the world to implement value-based health care



Creation of Standard Outcome Measure Sets

2011

Porter, Larsson, Ingbar

- Non-profit organization founded by individuals from three esteemed institutions
- Purpose to transform health care systems worldwide by measuring and reporting patient outcomes in a standardized way

Elements of US Health Care Quality System

Professional licensure – state based

Accreditation

The Joint Commission

ISO 9000

CMS through state programs

Specialty center certifications – cancer, pediatrics, dialysis

All are essential elements for the health care reimbursement system in US

All depend upon use of performance measures

Elements of US Health Care Quality System

Reliable measures are essential to measure structure, processes, and results

Measure Development – medical specialty societies

Measure Endorsement – the National Quality Forum (NQF)

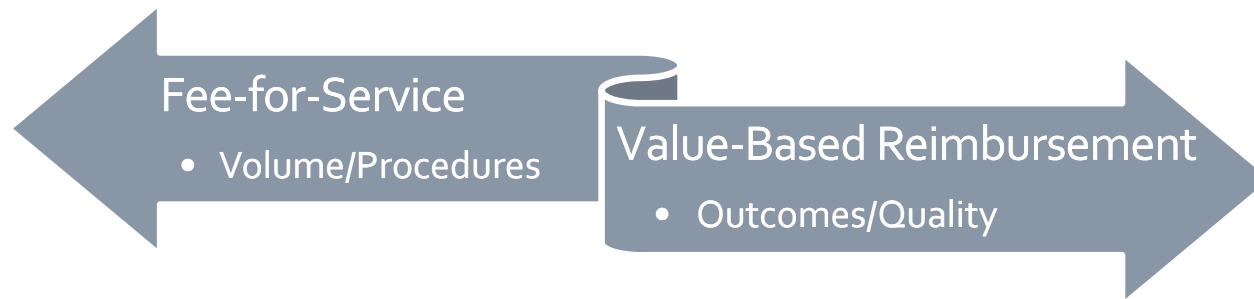
Measure adoption – payers

Measure development life cycle 12-24 months

Vast majority of NQF endorsed measures are process measures and structure measures – few outcomes

Evolving National Views on Reimbursement Reform

National movement toward value-based payment (VBP)



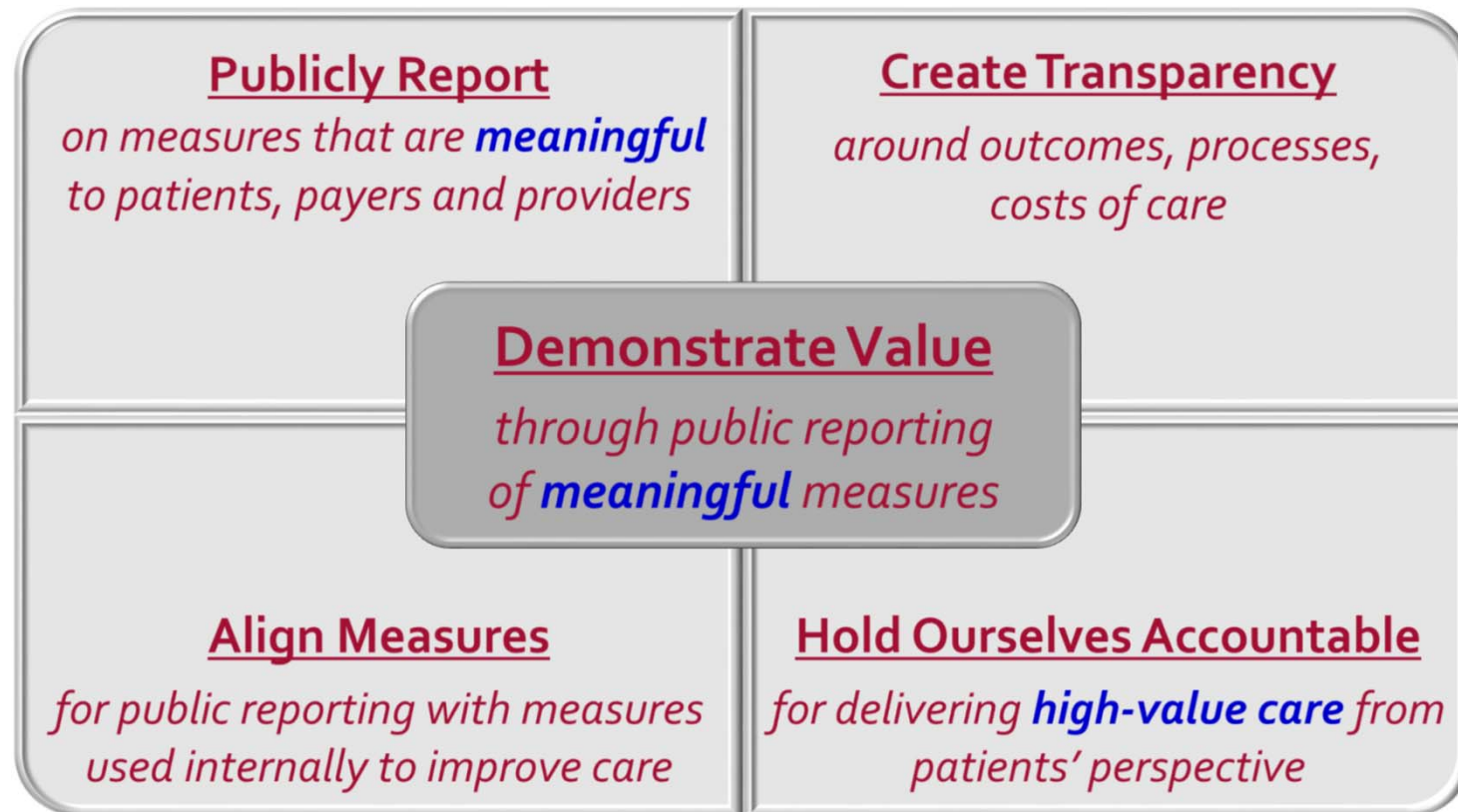
- Driven by healthcare reform and concerns regarding increasing healthcare costs
- Move away from fee-for-service, toward paying for value
- Reward outcomes and quality, not volume and procedures
- Drive incentives to control costs to providers – increase risk

Value Measurement is a National Priority

*“...we want to change the way we pay, so that we **reward the value of care and patient outcomes** rather than the quantity of services.”*

Sylvia Mathews Burwell
Former Secretary, Department of Health and Human Services
Health Affairs Blog, December 12, 2016

Demonstrating Value in Cancer Care



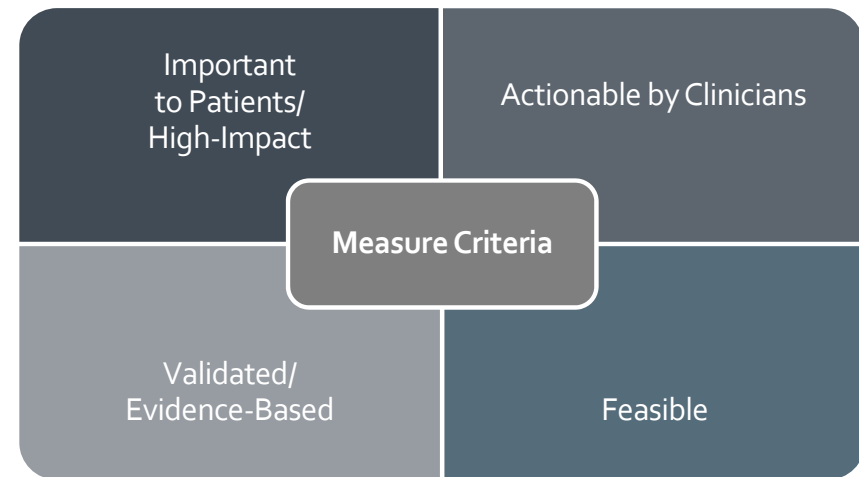
Measure Development Considerations

More measures do not translate to better care, but increases administrative burden

Fewer, high-level measures allows for more targeted focus on quality

Ideally, 5-10 outcome measures per disease site, including patient-reported outcomes

Timing vis-à-vis IT implementation is crucial



Elements of US Health Care Quality System

Public reporting – patient choice, improvement by competition

ACA mandated cancer centers report on outcomes, processes, structure, efficiency, cost, and patient experience.

Cancer measure project for PPS exempt centers began in 2009 with formulation of the basics of the ACA – CMS consensus

The public reporting of cancer measures is now possible using [Hospital Compare](#)

Ten years – vast efforts by organizations and individuals results in a product that fails to address public needs

Value Based Health Care

The fundamental goal of health care is value for patients

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

Value is created by managing a patient's medical condition over the full cycle of care

$$\text{Value} = \frac{\text{The **set** of outcomes that matter **for the condition**}}{\text{The **total costs** of delivering these outcomes over the **full care cycle**}}$$

In primary and preventative care value is created by serving segments of patients with similar primary and preventative needs

Creating Value-Based Health Care Delivery

A Mutually Reinforcing Strategic Agenda

Re-organize care around patient conditions, into integrated practice units (IPUs) or population segments

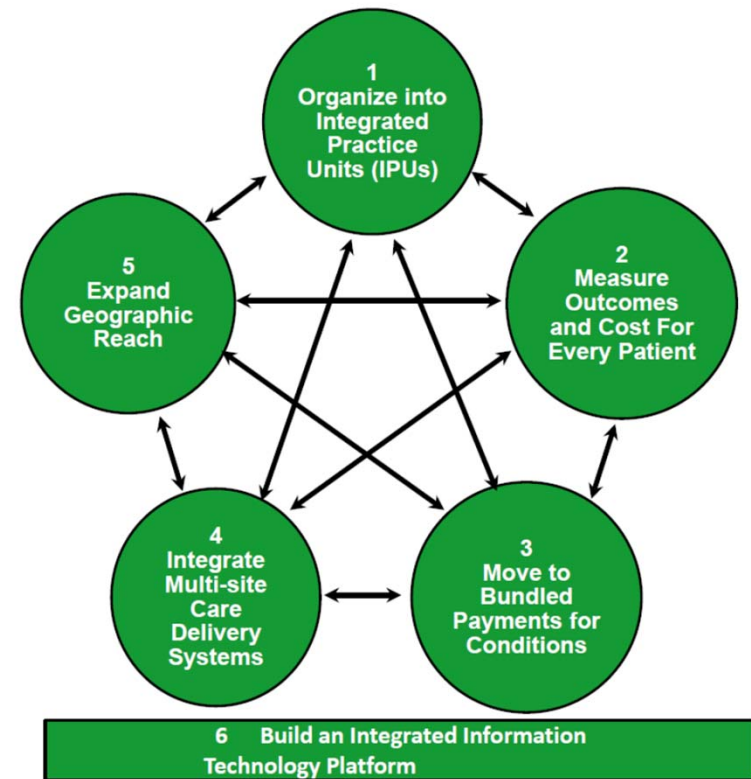
Measure outcomes and cost for every patient

Move to value-based reimbursement models and ultimately bundled payments for conditions and primary care segments

Integrate multi-site care delivery systems

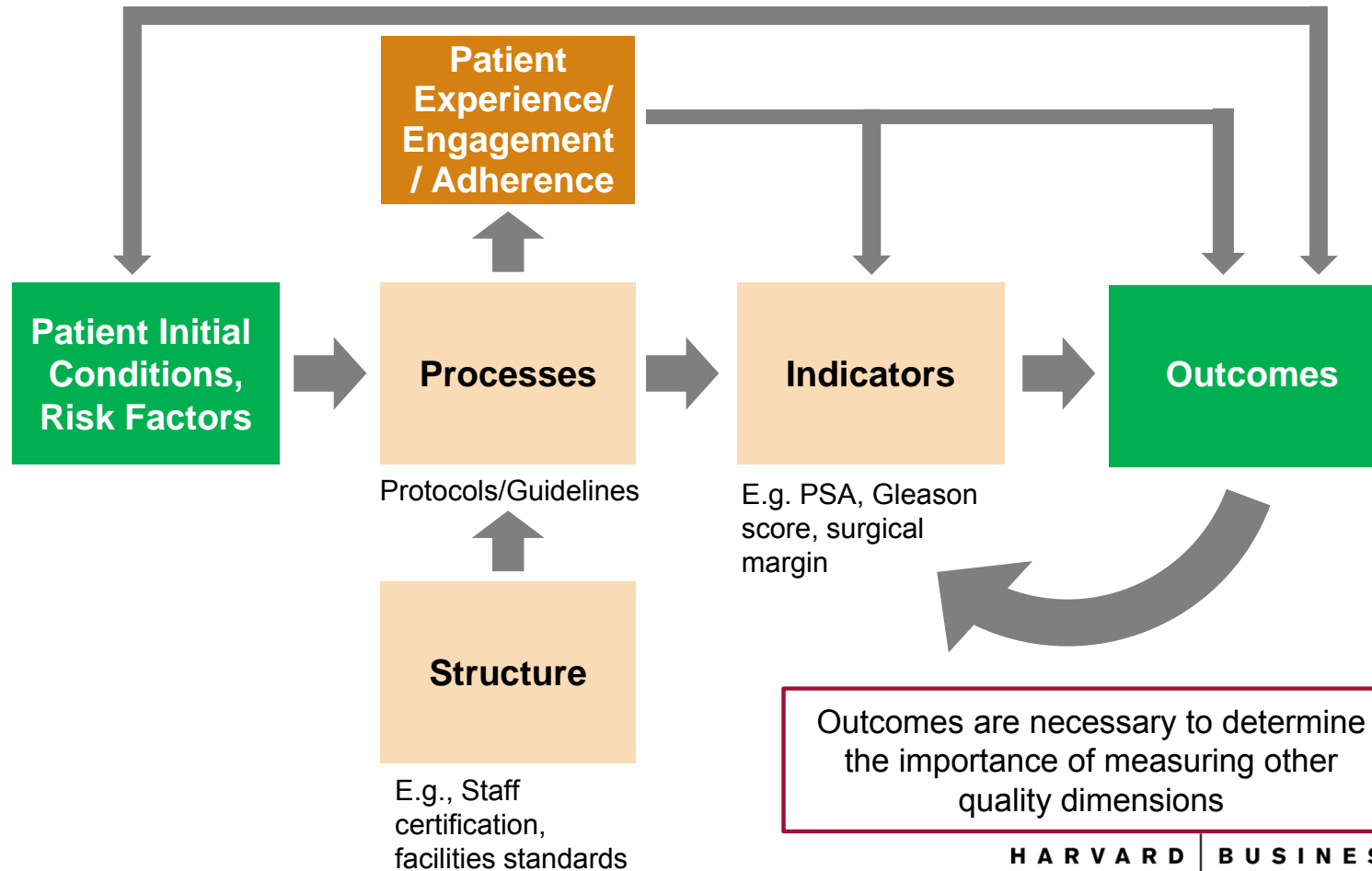
Integrate care across geography to improve value

Build an enabling information technology platform



Measure Outcomes for Every Patient

The Quality Measurement Landscape



ICHOM was founded to define standards for global outcomes measurement and accelerate adoption and international benchmarking

Where ICHOM come from

Three organizations with the desire to unlock the potential of value-based health care founded ICHOM in 2012:



ICHOM is a nonprofit

- Independent 501(c)3 organization
- Ambitious yet achievable goals
- Global focus
- Engages diverse stakeholders

ICHOM's mission



The mission

Unlock the potential of value-based health care by **defining global Standard Sets of outcome measures that really matter to patients** for the most relevant medical conditions and by **driving adoption and reporting** of these measures worldwide

$$\text{Value} = \frac{\text{Patient health outcomes achieved}}{\text{Cost of delivering those outcomes}}$$

Developing Outcome Measure Sets



Standard Sets Complete (2013)
1. Localized Prostate Cancer *
2. Lower Back Pain *
3. Coronary Artery Disease *
4. Cataracts *

Standard Sets Complete (2014)
5. Parkinson's Disease*
6. Cleft Lip and Palate*
7. Stroke *
8. Hip and Knee Osteoarthritis*
9. Macular Degeneration*
10. Lung Cancer*
11. Depression and Anxiety*
12. Advanced Prostate Cancer *

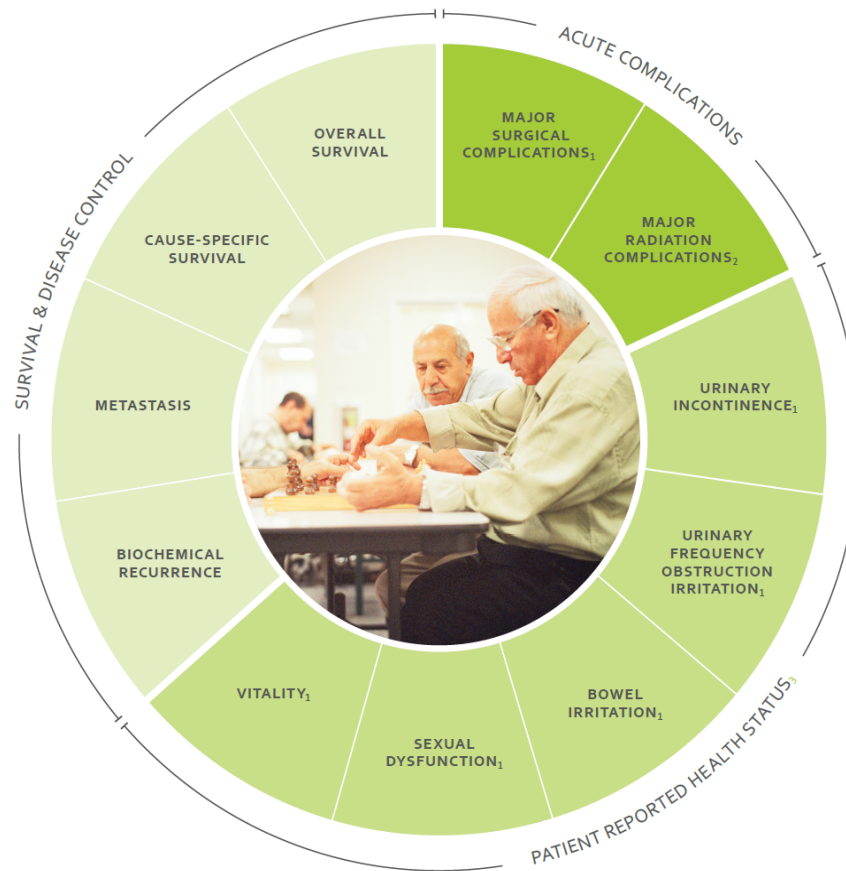
Standard Sets Complete (2015-16)
13. Breast Cancer*
14. Dementia
15. Frail Elderly
16. Heart Failure
17. Pregnancy and Childbirth
18. Colorectal Cancer*
19. Overactive Bladder
20. Craniofacial Microsomia
21. Inflammatory Bowel Disease

Standard Sets Complete (2017-18)
22. Chronic Kidney Disease
23. Congenital upper limb malformations
24. Pediatric facial palsy
25. Hypertension
26. Inflammatory Arthritis*

Committed/ In Process
27. Oral Health
28. Hand and Wrist
29. Congenital Heart Disease
30. Diabetes
31. Atrial Fibrillation
32. Overall adult health
33. Mental health Package
34. Neonates
35. Overall Pediatric Health

* Published peer-reviewed journals (15)

Standard Set for Localized Prostate Cancer



Treatment approaches covered

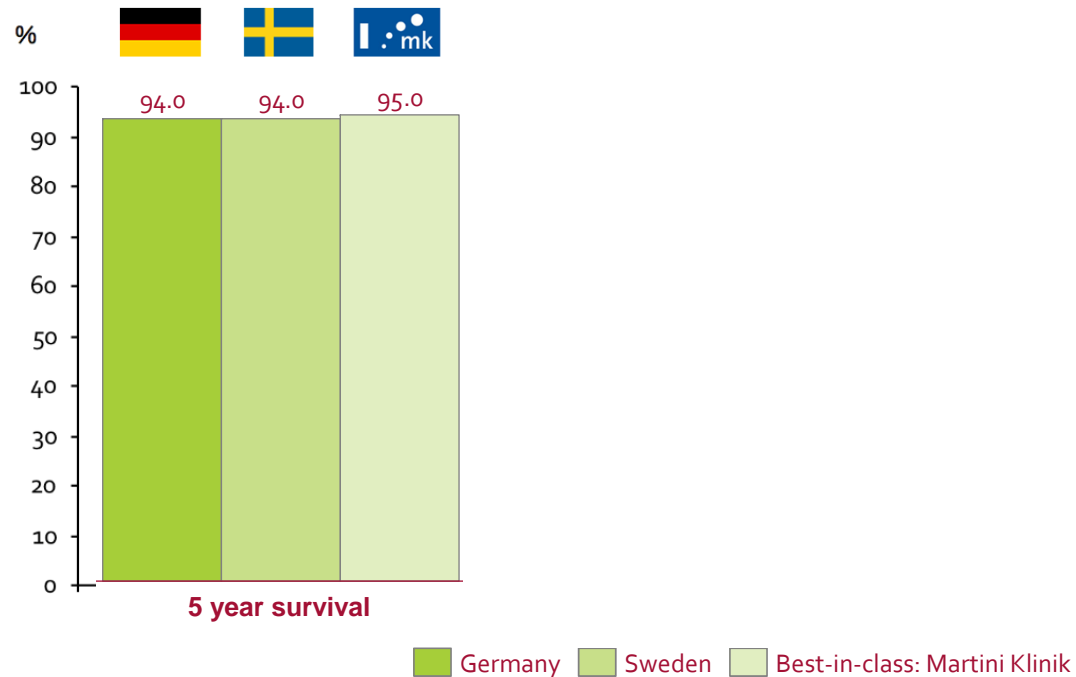
- Watchful waiting
- Active surveillance
- Prostatectomy
- External beam radiation therapy
- Brachytherapy
- Androgen Deprivation Treatment
- Other



A “Reference Guide” contains all the details to measure in a standard way the outcomes and case mix factors recommended

Why measuring and reporting meaningful outcomes matters

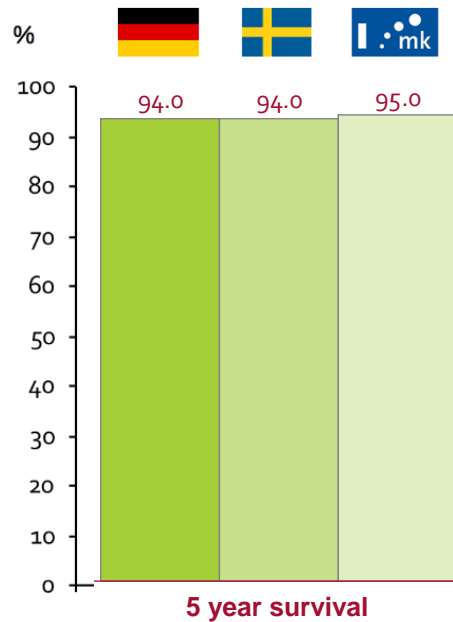
Focussing on mortality alone...



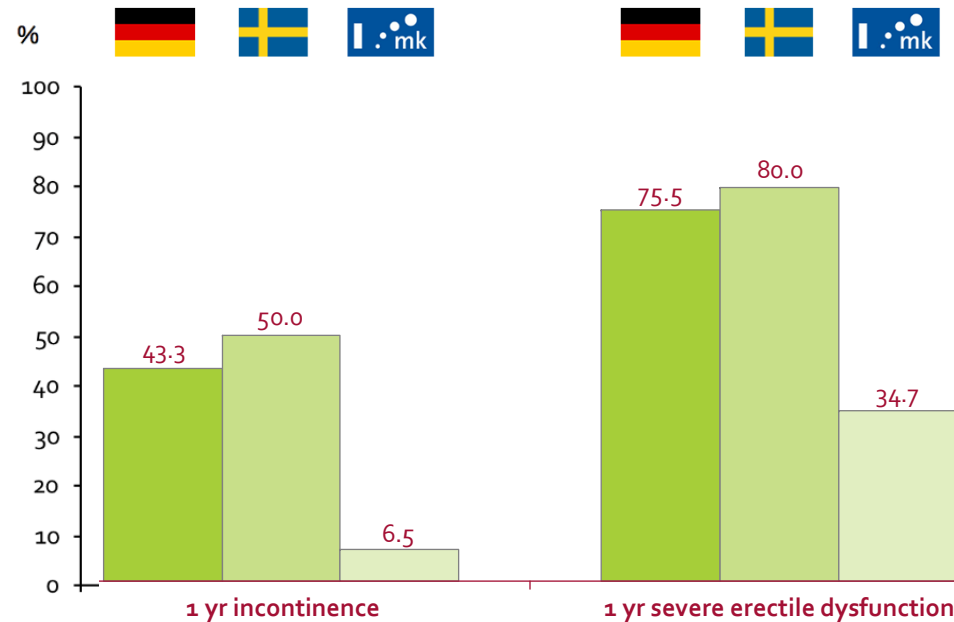
Swedish data rough estimates from graphs; Source: National quality report for the year of diagnosis 2012 from the National Prostate Cancer Register (NPCR) Sweden, Martini Klinik, BARMER
GEK Report Krankenhaus 2012, Patient-reported outcomes (EORTC-PSM), 1 year after treatment, 2010

Why measuring and reporting meaningful outcomes matters

Focussing on mortality alone...



...may obscure large differences in outcomes that matter most to patients



Germany Sweden Best-in-class: Martini Klinik

Swedish data rough estimates from graphs; Source: National quality report for the year of diagnosis 2012 from the National Prostate Cancer Register (NPCR) Sweden, Martini Klinik, BARMER GEK Report Krankenhaus 2012, Patient-reported outcomes (EORTC-PSM), 1 year after treatment, 2010

32 Countries
650+ Organizations
13 National Registries

Logos of participating organizations include: PROVIDENCE Health & Services, GIG CYMRU NHS WALES, Oxford University Hospitals NHS Trust, Erasmus MC, Skåne University Hospital, Universitätsklinikum Carl Gustav Carus DIE DRESDNER, EUREQUO, DANA-FARBER CANCER INSTITUTE, Royal Free London NHS Foundation Trust, Générale de santé, NETHERLANDS CANCER INSTITUTE ANTONIO VAN LEEUWENHOOEK, Great Ormond Street Hospital Charity, UMassMemorial, UNIVERSITAIR KANKERCENTRUM LEIDEN DEN HAAG, UNIVERSITY CANCER CENTER LEIDEN THE HAGUE, UZA, UMC Utrecht, S:T ERIKS ÖGON SJUKHUS, Hôpital général juif Jewish General Hospital, ALLIANCE OF DEDICATED CANCER CENTERS, SickKids, Boston Children's Hospital, SELF REGIONAL HEALTHCARE, CJRI Connecticut Joint Replacement Institute at Yale, THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, U.S. Department of Veterans Affairs, MAYO CLINIC, FORCE TJR, Stanford HEALTH CARE, MASSACHUSETTS GENERAL HOSPITAL, MGH, The Royal Children's Hospital Melbourne, Cliniques universitaires SAINT-LUC UCL BRUXELLES, MercyAscot, Singapore General Hospital SingHealth, THE UNIVERSITY OF SYDNEY, CADOSA, IPCOR IRISH PROSTATE CANCER OUTCOMES RESEARCH, Galway University Hospitals, ARAVIND EYE CARE SYSTEM, and Texas Children's Hospital.

Creating a Quality Measurement System

Success Factors

Measure what matters - results

Build consensus

Demonstrate success

Choose the right unit of measurement

Work with the willing first

Barriers to Success

Too many measures

Meaningless measures

Is it important?

Is it actionable?

Is it feasible?

Poor consensus on measures

Discussion