Outcomes Measurement: Principles and Processes
Goals for Today

A healthcare journey
The role of outcomes in value-based health care
The evolution of quality and outcomes measurement
The principles and process of outcome measurement
Barriers to outcome measurement
The International Consortium for Health Outcomes Measurement
A Health Care Journey

Stanford University 1978-97

Beth Israel Hospital 1972-76

The University of Texas MD Anderson Cancer Center 1997-2017
A Mutually Reinforcing Strategic Agenda

- Organize into Integrated Practice Units (IPUs)
- Measure Cost for Every Patient
- Measure Outcomes
- Move to Bundled Payments for Care Cycles
- Integrate Care Delivery Systems
- Expand Geographic Reach

Build an Integrated Information Technology Platform
The Importance of Outcome Measurement

Outcomes are the most important information for patients
Outcomes define success for every physician, health care organization and payer
Outcomes encourage multidisciplinary IPUs and facilitate care improvement
Outcomes highlight and validate value-enhancing cost reduction
Outcomes enable shifting to true value-based bundled payments
Outcomes guide the delivery of the right services at the right locations
Outcomes define areas for service line choices and areas for affiliation
Standardization of outcomes by condition unlocks comparison and improvement
**Evolution of Outcomes Measurement**

**Emergence of Outcomes**
1910s – 1940s

- 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

**Focus on Quality**
1950s – 1980s

- 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
  - Society of Thoracic Surgeons began cardiac surgery outcome reporting in 1989.

- 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

**Focus on Safety**
1980s – 2000s

**Focus on Performance Improvement**
1990s

- 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 in 20th century healthcare.
Evolution of Outcomes Measurement

**2001**

- **Measuring Surgical Outcomes**
  - 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

**2006**

- **Introduction of the Value Agenda**
  - Michael Porter
  - Outline six steps needed to achieve value
  - Spearheaded significant efforts around the world to implement value-based health care

**2011**

- **Creation of Standard Outcome Measure Sets**
  - 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
Quality Measurement Landscape - 2019

- **Patient Initial Conditions, Risk Factors**
  - Protocols/Guidelines

- **Processes**
  - Protocols/Guidelines
  - E.g., Staff certification, facilities standards

- **Patient Experience/Engagement/Adherence**
  - E.g. PSA, Gleason score, surgical margin

- **Indicators**
  - E.g. PSA, Gleason score, surgical margin

- **Outcomes**

Outcome measurement is necessary to derive value for measuring other quality dimensions.
The Outcome Measures Hierarchy
Two Dimensions- Clinician Reported and Patient Reported Outcomes

Tier 1
Health Status
Achieved or Retained
Survival

Tier 2
Process of Recovery
Time to recovery and return to normal activities

Tier 3
Sustainability of Health
Sustainability of health/recovery and nature of recurrences

Survival

Degree of health/recovery

Time to recovery and return to normal activities

Disutility of the care or treatment process (e.g., diagnostic errors and ineffective care, treatment-related discomfort, complications, or adverse effects, treatment errors and their consequences in terms of additional treatment)

Sustainability of health/recovery and nature of recurrences

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

- Achieved clinical status
- Achieved functional status
- Care-related pain/discomfort
- Complications
- Re-intervention/readmission
- Long-term clinical status
- Long-term functional status

Source: NEJM Dec 2010
The Principles of Outcome Measurement

Outcomes should be measured by condition or primary care segment

   Not for specialties, procedures, or interventions

Outcomes are always multi-dimensional and include what matters most to patients, not just to clinicians

   Patient reported outcomes are important in every condition

Outcomes cover the full cycle of care

Outcome measurement includes adjustments for stage of disease, co-morbidities, and social determinants to control for patient differences

Outcomes should be standardized for each condition to optimize comparison, learning, and improvement
The Process of Outcome Measurement

Determine What to Measure

- Identify key stakeholders
- Set up a multi-disciplinary project team with an influential leader
- Identify standards, risk adjustment factors and validated instruments
- Involve patients
- Use established measures (ICHOM, NSQIP, STS)

Collect the Data

- Develop a data-capture model, tools, and a strategic solution
- Surveys to measure patient reported outcomes (PROMs)
- Integrate data collection in the workflow
The Process of Outcome Measurement

Analyze and Disseminate

Data verification and auditing
Apply risk adjustment models or report on risk adjusted patient cohorts
Compare to registry and other benchmarks
Report data at multiple levels and with increasing transparency

Learn and Innovate

Meet regularly to analyze and review outcomes
Create an environment that allows open discussion of results with no repercussions for participants willing to learn and make constructive changes
Create mechanisms to assist providers whose results are lagging
Combine outcome data with care cycle costing data to examine opportunities for value improvement
Identify best practices and opportunities for improvement
Create mechanisms to diffuse best practices across the team
The Process of Outcome Reporting

Begin with internal reporting to clinicians
Compare outcomes of care teams or physicians over time
Compare across locations
Move from blinded to un-blinded data at the individual provider level
Expand outcome reporting over time to include referring providers, payers, and patients
Develop an agreed upon path to external transparency
Work with provider, payers, and government to standardize measures and methods
Outcomes a Small Part of Standardized US Measures

NQMC: National Quality Measures Clearinghouse

Barriers to Outcome Measurement

Resources devoted to non-outcome quality measures
Lack of a clear definition of outcomes
The need for standardized outcomes at the condition level
Need for IT tools to enable seamless outcome collection and aggregation as part of the clinical workflow and from patients
Limited incentives and mandates for outcome collection
  Need to move value-based payment model (e.g. bundled payments)
  Mandatory collection and reporting
Breaking Barriers to Outcome Measurement

Effectively integrate care for conditions

Build a framework for determining outcomes at the condition level

Address the current high hurdles for validating outcomes

Address the cost and complexity of measurement

Incentivize good outcomes

Work with organizations focusing on outcome measurement
Measure Development and Validation Challenges

Standardized outcome measures did not exist and take time to develop

Complex process to test and validate those outcome measures for use by CMS via National Quality Forum (NQF) endorsement

- Large data sets needed for measurement testing and validation
- Provider preferences for PRO instruments vary - PRO crosswalk is needed in some cases

The time from inception to use in payment can be 3-5 years
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

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.

Value = Patient health outcomes achieved / Cost of delivering those outcomes
ICHOM is creating standard global outcomes in partnerships

**What are ICHOM Standard Sets?**
- Set of 10-15 outcomes that matter most to patients by condition
- Comprises both clinician- and patient-reported outcomes
- Includes case-mix variables, measure definitions, and measurement time points

**Who develops them?**
- International, multidisciplinary Working Group of clinical experts
- Patient representatives play key role in selecting outcome domains
- Iterative consensus process to agree on final recommendation

**Who is endorsing them?**
- Strong support from patient advocacy groups, e.g., Movember and the AHA
- Active engagement with governments, payers, e.g., Scottish Government, CMS (US)
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.
Aims for ICHOM Measure Sets

Become the standard outcomes for each disease and condition (aim to cover global disease burden)
Be internationally meaningful, accepted, and practical across care-settings
They will use harmonized terminology in a searchable data platform
They enable rapid local, national, and international benchmarking
Through the use of a central data repository of outcomes AI-powered analytics and multiple secondary uses of data are enabled
32 Countries
650+ Organizations
13 National Registries
- 28 Outcome measures defined
- 10 sets in progress
- Harmonizing sets = EMR integration
- Bring together life sciences, clinicians, providers and payors
Next phase of ICHOM: Global Flagship Programs

**Globally important conditions:** HIV, Malaria, Cancer, Diabetes, Respiratory

**Integrated:** unified projects to define outcome measures, implement them and deliver true benchmarking

**Scale:** international implementation, high volumes of data

**Partnerships:** brings together life sciences, foundations/NGOs, clinicians, providers and payors

**Data-driven:** standardized data platform to collect, manage, interpret and analyze outcomes data
ICHOM Annual Meeting

ICHOM CONFERENCE 2020

18-20 May 2020
Palau de Congressos de Barcelona
Fira Montjuïc

Improving Patient Outcomes
Investigating | Implementing | Benchmarking | Achieving Results
For More Outcome Measurement Information

Please visit our website: www.isc.hbs.edu/vbhc