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Value-based Healthcare

ICHOM
Variation in health outcomes is a worldwide problem

- 2x variation in 30-day mortality rate from heart attack in US hospitals
- 4x variation in bypass surgery mortality in the UK hospitals
- 5x Variation of major obstetrical complications among US hospitals
- 9x variation in complication rates from radical prostatectomies in the Dutch hospitals
- 18x variation in reoperation rates after hip surgery in German hospitals
- 20x variation in mortality after colon cancer surgery in Swedish hospitals
- 36x variation in capsule complications after cataract surgery in Swedish hospitals

But, for outcomes that matter most to patients – improvement in their symptoms, functioning, and well-being – this only begins to describe the magnitude of the problem.
This is why measuring and reporting meaningful outcomes matters
Comparing outcomes of prostate cancer care

Focusing on mortality alone...

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

Source: Martini Klinik, BARMER GEK Report Krankenhaus 2012, Patient-reported outcomes (EORTC-PSM), 1 year after treatment, 2010
What Is Value in Health Care?
Michael E. Porter, Ph.D.

In any field, improving performance and accountability depends on having a shared goal that unites the interests and activities of all stakeholders. In health care, however, stakeholders have myriad, often conflicting goals, including access to services, profitability, high quality, cost containment, safety, convenience, patient-centeredness, and satisfaction. Lack of clarity about goals has led to divergent approaches, gaming of the system, and slow progress in performance improvement.

Achieving high value for patients must become the overarching goal of health care delivery, with value defined as the health outcomes achieved per dollar spent. This goal is what matters for patients and unites the interests of all actors in the system. If value improves, patients, payers, providers, and suppliers can all benefit while the economic sustainability of the health care system increases.

Value — neither an abstract ideal nor a code word for cost reduction — should define the framework for performance improvement in health care. Rigorous, disciplined measurement and improvement of value is the best way to drive system progress. Yet value in health care remains largely unmeasured and misunderstood.

Value should always be defined around the customer, and in a well-functioning health care system, the creation of value for patients should determine the rewards for all other actors in the system. Since value depends on results, not inputs, value in health care is measured by the outcomes achieved, not the volume of services delivered, and shifting focus from volume to value is a central challenge. Nor is value measured by the process of care used; process measurement and improvement are important tactics but are no substitutes for measuring outcomes and costs.

Since value is defined as outcomes relative to costs, it encompasses efficiency. Cost reduction without regard to the outcomes achieved is dangerous and self-defeating, leading to false “savings” and potentially limiting effective care.

Outcomes, the numerator of the value equation, are inherently condition-specific and multidimensional. For any medical condition, no single outcome captures the results of care. Cost, the equation’s denominator, refers to the total costs of the full cycle of care for the patient’s medical condition, not the cost of individual services. To reduce cost, the best approach is often to spend more on some services to reduce the need for others.
Creating a Value-Based Health Care Delivery System

The Strategic Agenda

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

\[
\frac{\text{OUTCOMES}}{\text{COST}} = \text{VALUE}
\]
The starting point for value-based health care reform is to measure meaningful outcomes

5 reasons why outcome measurement is essential:

1. Outcomes define the **goal of the organization** and its accountability to patients
2. Outcomes inform the **composition** of integrated care teams
3. Outcomes motivate clinicians to collaborate and **improve together**
4. Outcomes highlight **value-enhancing cost reduction**
5. Outcomes enable payment to shift from **volume to results**

ICHOM was formed as a non-profit catalyst to drive the industry towards value-based health care

Our mission:
Unlock the potential of value-based health care by defining global Standard Sets of outcome measures that really matter to patients and by driving adoption and reporting of these measures worldwide
ICHOM plays several roles along the journey that will enable value-based health care: our strategic agenda

**Define Standards**
ICHOM defines internationally recognized Standard Sets of outcomes and related case-mix factors

**Benchmark on outcomes**
ICHOM will provide risk-adjusted international benchmarks on outcomes by medical condition

**Establish outcomes transparency**
ICHOM will become a methodological partner with media to publish ratings based on ICHOM outcomes

**Measure outcomes**
ICHOM facilitates adoption and implementation by sharing knowledge and supporting proof-of-concept

**Collaborate to improve value**
ICHOM will enable cooperation to improve value by establishing value collaboratives

**Develop value-based payment models**
ICHOM will engage payers and governments to realign financial incentives and promote transparency

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1. We are exploring the inclusion of resources data in benchmarks but the methodology is to be determined.
Support for our work is growing
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Value-based healthcare
ICHOM
Defining what we mean by an outcome

“Outcomes are the results people care about most when seeking treatment, including functional improvement and the ability to live normal, productive lives.” – ICHOM
Outcomes are the “real-world” results that matter to patients

Example: prostate cancer

- Structure: E.g., staff certification, facilities standards
- Processes: Protocols/guidelines
- Indicators: PSA, Gleason Score, Surgical margin
- Patient initial conditions
- Patient experience/engagement
- (Health) outcomes: Survival, Continence, Erectile function

Outcomes are the “real-world” results that matter to patients.
We need standardisation so that we can meaningfully and reliably compare the same outcomes

Comparing apples with oranges is a lot harder than....

...comparing apples with apples

Measuring different outcomes in different ways makes it impossible to meaningfully compare
Framing principles for ICHOM Working Groups

1. Outcomes are defined around the medical condition, not the specialty or the procedure

2. The Standard Set is a “minimum set” focused on the outcomes that matter most to patients

3. Patients are directly involved in defining the Standard Set

4. Patient-reported outcomes are included in every Standard Set to capture symptom burden, functional status and health-related quality of life

5. A “minimum set” of initial conditions/risk factors is included to facilitate meaningful comparison

6. Time points and sources of data collection are clearly defined to ensure comparability of results
We have completed 21 Standard Sets thus far, covering 45% of the disease burden.

Our current 21 Standard Sets:

- Lung cancer
- Localized prostate cancer
- Advanced prostate cancer
- Breast cancer
- Colorectal cancer
- Coronary artery disease
- Heart failure
- Hip & knee osteoarthritis
- Older person
- Low back pain
- Dementia
- Depression & anxiety
- Oral health
- Chronic kidney disease
- Inflammatory arthritis
- Congenital hand and upper limb malformations
- Facial palsy
- Hypertension*
- Diabetes
- Atrial fibrillation

2016-2017 commitments:

1. Chronic kidney disease
2. Oral health
3. Inflammatory arthritis
4. Congenital hand and upper limb malformations
5. Facial palsy
6. Hypertension*
7. Diabetes
8. Atrial fibrillation

In discussions to launch:

1. Mental health
2. Overall adult health
3. Overall child health
4. Pediatric epilepsy

*Focused on low and middle income countries

Numbers not representing prioritization/likelihood
ICHOM Working Group members originate from 39 countries

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Source: ICHOM
ICHOM Working Groups also work with patient organisations and charities from around the world.
ICHOM Standard Sets are freely available to promote global adoption

**Flyers**
- Two-page overview of ICHOM Standard Set and Working Group
- Flyers are available at [www.ichom.org](http://www.ichom.org)

**Reference Guides**
- Full detail of Standard Set for institutions interested in collecting
- Includes measure definitions, coding instructions, and sample questionnaires
- Reference Guides available at [www.ichom.org](http://www.ichom.org)

**Academic Publications**
- Several peer-reviewed publications
- Explains process to arrive at Standard Set and motivation for selected measures
- Click [here](http://www.ichom.org) for example
We reviewed current entities that measure breast cancer outcomes:

- National Mastectomy and Breast reconstruction Audit
- Dutch Breast Implant Registry
- EURECCA Breast
- NABON Breast Cancer Audit
- Swedish Breast Cancer Group
- BreastSurgANZ
- Quality Audit
- Breast Cancer Clinical Outcome Measures (BCCOM) Audit
- Bupa Breast Cancer Study
- British Columbia Cancer Agency
- Breast Cancer Registry Pilot
- National Surgical Quality Improvement Program
- National Quality Measures for Breast Center Program (NQMBC)
- American Society of Breast Surgeons Quality Measures
- Cancer Surveillance and Outcomes Research Team (CanSORT)
- International Collaboration of Breast Registry Activities (ICOBRA)
- Breast Device registry
- National Quality Measures for Breast Center Program (NQMBC)
Current measurement in breast cancer does not focus on what really matters to people and lacks standardisation

1. No international standardisation around what is being measured for breast cancer

2. Focus on segments of the care process rather than the full cycle of care e.g. surgical treatment

3. Focus on the measurement and compliance with certain process metrics

4. Where outcomes are selected, often focus on the short term and not on what truly matters to patients
International leaders from 9 countries have developed the Breast Cancer Standard Set over the last year

Kimberly Allison, **Stanford University**
Patricia Ganz, **University of California Los Angeles**
Reshma Jagsi, **University of Michigan**
Henry Kuerer, **MD Anderson Cancer Center**
Sarah McLaughin, **Mayo Clinic Jacksonville**
Ann Partridge, **Dana-Farber Cancer Institute**
Dereesa Reid*, **Hoag Orthopedic Institute**
Thomas Smith, **John Hopkins Institute**

John Browne, **University College Cork**

Yvonne Wengström, **Karolinska Institutet**
Linetta Koppert, **Erasmus MC Cancer Institute**
Marc Mureau, **Erasmus MC Cancer Institute**
Mark Stoutjesdijk, **Ikazia Hospital Rotterdam**
Marie-Jeanne Vrancken Peeters, **Antoni van Leeuwenhoek**
Anne Knip*, **Breast Cancer Association NL**
Karen Benn*, **Europa Donna**

Cheng Har Yip, **Subang Jaya Medical Centre**

Rodney Cooter, **Monash University**
Geoff Delaney, **South Western Sydney Local Health District**
Wee Loon Ong, **Peter MacCallum Cancer Centre**
Christobel Saunders, **University of Western Australia**
Lisa Sheeran, **Peter MacCallum Cancer Centre**
Patricia Hancock*, **Breast Cancer Network Australia**

*Patient representatives

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The Breast Cancer Standard Set Flyer represents a high-level overview of the outcomes, scope and treatments

**Scope**

All patients (men and women) with newly pathologically diagnosed invasive breast cancer (stage I-IV) and DCIS

**Exclude:**
- Rare tumor (e.g. Phyllodes tumor)
- Lobular carcinoma in situ (LCIS)
- Patients with recurrent disease at baseline

**Treatment Approaches covered**

- Surgery
- Radiotherapy
- Chemotherapy
- Targeted therapy
- Hormonal therapy

**Exclude:**
- Investigational agents or techniques
Strong global demand to measure and compare outcomes
Institutions and registries around the world are already measuring or implementing ICHOM Standard Sets
Stanford was an innovator in outcomes measurement and early adopter of ICHOM’s Low Back Pain Standard Set

Overview:
- 600 bed hospital
- 500K patient visits each year
- Primary teaching hospital for Stanford University School of Medicine

Neurological Spine clinic
- 5 doctors
- 120-150 patients per day
- Treat over 15 neurological spine disorders
• 6 clinics across Nairobi

• Launch of 6-month implementation programme on 5th December 2016 – a partnership between ICHOM, PharmAccess and Harvard Medical School

• Initial focus on measuring the ICHOM Pregnancy and Childbirth Standard Set

• Scale to other clinics and other condition areas
Successful implementation projects can broadly be split into four phases with continuous change management throughout

Key Tasks

- Assessment and define scope for project and recruit local Project Manager
- Establish project team and governance structure
- Plan for launch with key stakeholders to achieve clinical buy-in
- Develop an implementation plan to guide the project

- Determine and process map pilot implementation site
- Assess IT and informatics infrastructure within pilot site
- Perform a gap analysis of what data is collected versus what isn’t
- Secure additional IT/Information platforms to address data gaps
- Secure PROM licenses for Standard Set as required

- Deploy IT solution
- Pilot data collection with part of dataset
- Assess Pilot period
- Refine Workflow and IT systems using PDSA cycles

- Scale up to implement full dataset for all patients within scope
- Collect data on every patient, ensure data completeness and validity
- Troubleshoot full dataset issues & quality assure data through audit
- Begin to analyze full dataset and report to clinicians and patients
We are currently developing a global benchmarking program – The GLOBE Program

Objectives of Global Comparisons project

Pool health outcomes data from 10-15 leading provider organizations – 2 conditions for pilot (Hip/Knee Osteoarthritis and Cataract).

Risk-adjust raw data and organize comparisons on key indicators
- Particular focus on patient-reported outcomes

Provide individual – and confidential – reporting to participating organizations

Identify the “best-in-class” and publish about their performance

Sample output – Hip and Knee

- Case mix complexity (risk-adjusted)
- Acute complications
  - Mortality
  - Readmissions
- Patient-reported health status
  - Knee pain
  - Knee functioning
  - Work status
  - Time to recovery
  - Health-related QoL
  - Overall satisfaction
  - Need for surgery
  - Reoperation or revision

- Disease progression

World average (for participants)
Current Progress: Recruitment has exceeded expectations and we have assembled a truly international set of providers:

- **Prospective HKO Sites**
  - Connecticut Joint Replacement Institute (CJRI), Connecticut, USA
  - Brigham and Women's Hospital, Massachusetts, USA
  - Mayo Clinic, Florida, USA
  - Providence, Oregon, USA

- **Prospective CAT Sites**
  - Imperial Hospital, London, UK
  - Royal Free, London, UK
  - West Suffolk, Suffolk, UK
  - Aneurin Bevan Health Board, UK
  - Ramsay UK Healthcare, UK
  - Sahlgrenska, Gothenburg, Sweden
  - St. Erik’s, Stockholm, Sweden
  - Sahlgrenska, Gothenburg, Sweden
  - Bergman clinics, Naarden, Netherlands
  - Ikazia Hospital, Rotterdam, Netherlands
  - St. Elisabeth Hospital, Tilburg, Netherlands
  - Erasmus, Rotterdam, Netherlands
  - Bergman clinics, Naarden, Netherlands
  - Malaysian National Registry, Malaysia
  - Royal Melbourne Hospital, Melbourne, Australia
  - Sheba Medical Center, Ramat Gan, Israel
  - Aravind Eye Care System, India
  - Luz Saúde, Lisbon, Portugal
  - Jose de Mello Saúde, Lisbon, Portugal
  - Luz Saúde, Lisbon, Portugal
  - Imperial Hospital, London, UK
  - Royal Free, London, UK
  - West Suffolk, Suffolk, UK
  - Aneurin Bevan Health Board, UK
  - Ramsay UK Healthcare, UK

- **Current Progress**
  - Recruitment has exceeded expectations and we have assembled a truly international set of providers.
Going forward the program intends to focus on outcomes use cases

<table>
<thead>
<tr>
<th>Direct clinical care</th>
<th>Comparison &amp; benchmarking</th>
<th>Systems-level use of data</th>
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</thead>
<tbody>
<tr>
<td>1 How is our patient doing today?</td>
<td>5 How can I measure what I achieve?</td>
<td>9 How can I better design payment models?</td>
</tr>
<tr>
<td>▪ Communication through PROM</td>
<td>▪ Provider comparison against itself</td>
<td>▪ Reimbursement models on relative quality (outcomes) and cost</td>
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<tr>
<td>measurement</td>
<td></td>
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<tr>
<td>2 How can help the patient understand what to expect</td>
<td>6 Where does my hospital stand?</td>
<td>10 How can we design better studies?</td>
</tr>
<tr>
<td>▪ Predicted response curves for patients by subgroup</td>
<td>▪ Benchmarking on outcomes</td>
<td>▪ International data set for hypothesis generation and testing</td>
</tr>
<tr>
<td>3 How do we know when an intervention may be warranted?</td>
<td>7 How do I improve the quality of care at my institution?</td>
<td>11 How can we assess if current interventions are effective?</td>
</tr>
<tr>
<td>▪ PROMs and other outcome measures to trigger intervention</td>
<td>▪ Sharing of 'best practices'</td>
<td>▪ Real-world endpoints and registry research trials to test efficacy</td>
</tr>
<tr>
<td>4 How can I make better decisions for my patient/for myself in the clinic?</td>
<td>8 How can I learn when my patients fall below an acceptable threshold?</td>
<td>12 How do we determine acceptable quality of care &amp; improve treatment guidelines?</td>
</tr>
<tr>
<td>▪ Clinical/decision support based on expected response to interventions/thresholds for patient segments</td>
<td>▪ Real time monitoring of outcomes with triggers</td>
<td>▪ Outcomes based reg/accreditation and evidence-based guidelines</td>
</tr>
<tr>
<td>13 How can I segment and leverage subgroups of patients based on response?</td>
<td>▪ Discover new patient segments to inform new diagnostics &amp; treatment pathways</td>
<td></td>
</tr>
</tbody>
</table>
PaRIS – Patient-Reported Indicators Survey

• The next generation of OECD health statistics

• Close collaboration with international partners such as the International Consortium for Health Outcomes Measurement will ensure state of the art indicators and surveys.
ICHOM is pushing the frontier by developing Value Based Commissioning and Procurement Programmes

NHS Wales, UK

- ICHOM and NHS Wales are working together to conduct a value based procurement pilot, focusing on cataracts.
- This will focus on paying for products based on outcomes.

Västra Götaland Region (VGR), Sweden
Erasmus MC, Netherlands

- ICHOM is working with VGR in Sweden and with Erasmus MC in the Netherlands to conduct value based commissioning pilots.
- The VGR contract will focus on commissioning care for older people.
- The Erasmus MC contract will focus on commissioning care for stroke services.
“Every hospital should follow every patient it treats long enough to determine whether or not the treatment has been successful, and then to inquire, ‘if not, why not?’ with a view to preventing similar failures in the future”

ERNEST A. CODMAN