

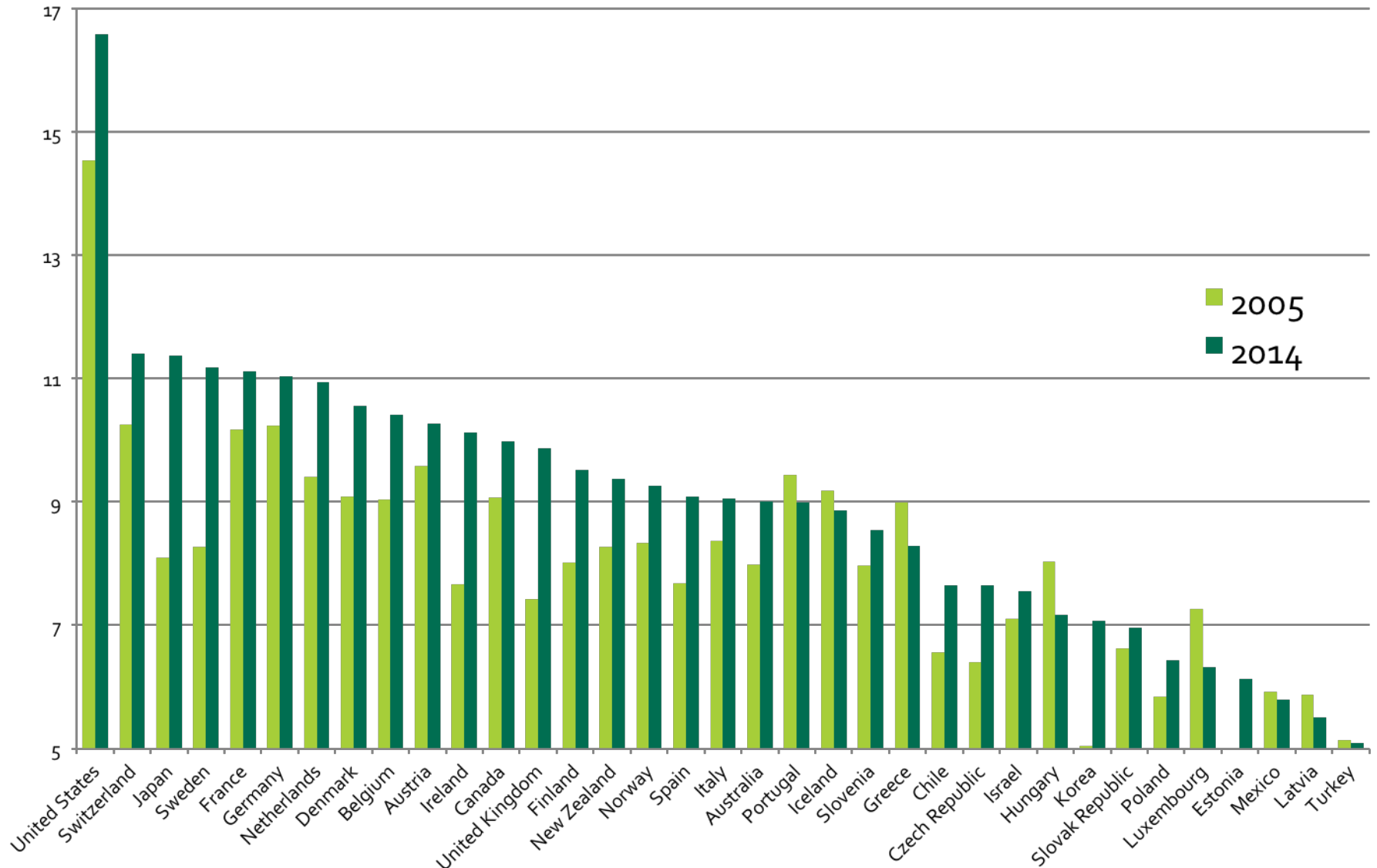


The Theory of Value-Based Healthcare – Why Measure Outcomes & Costs

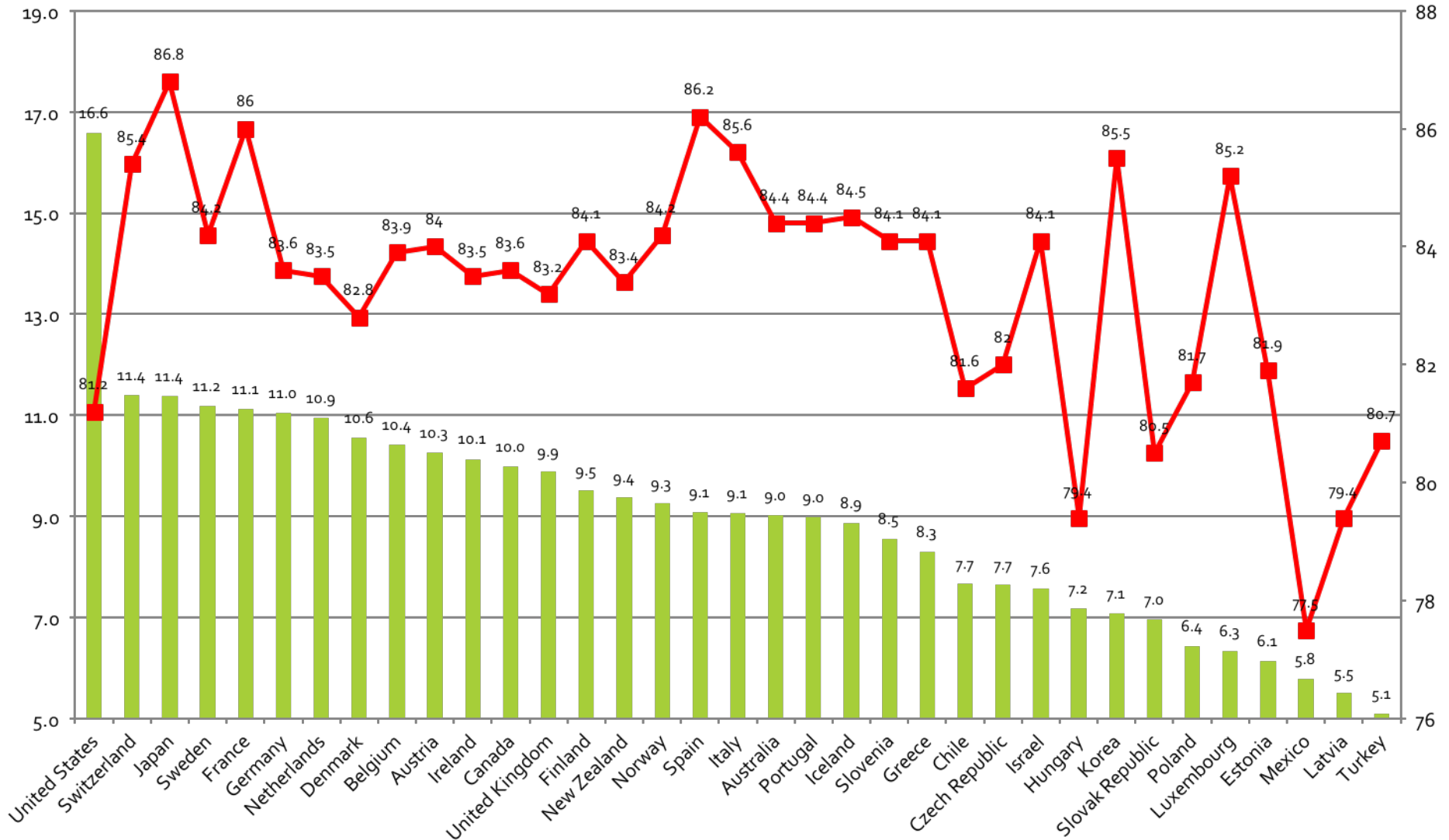
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Healthcare spending is growing in an unsustainable fashion



GDP spend vs life expectancy – no correlation in spend and outcomes!



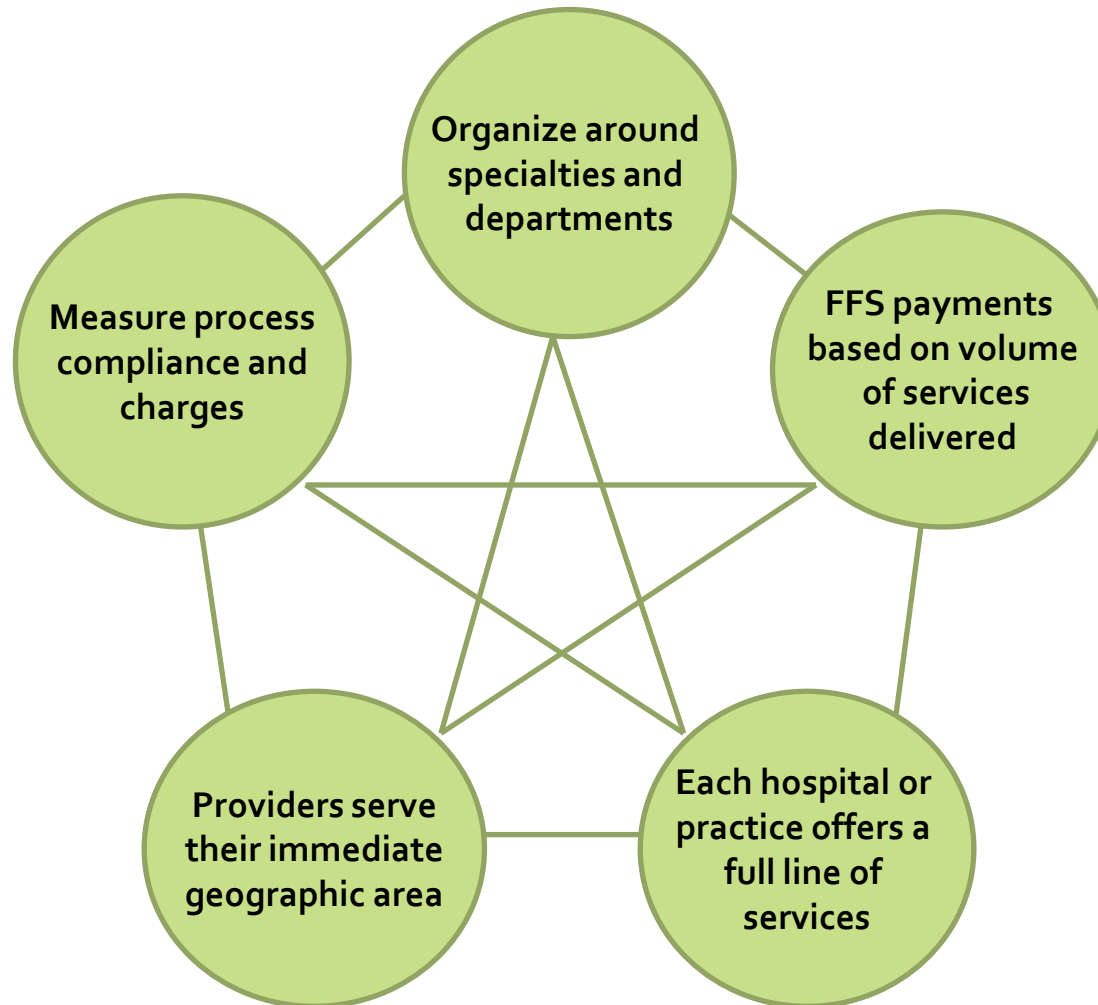
2014 data

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



How we do things today



Multiple IT systems for specialties, services, procedures, and billing

ICHOM was formed to catalyze the transformation to VBHC

ICHOM History

Founded in 2012 by thought leaders with the desire to use outcome measurement to unlock the potential of value-based health care.



ICHOM is a nonprofit

- Independent 501(c)3 organization
- Idealistic and ambitious goals
- Global focus
- Engages diverse stakeholders

Our mission



Our mission

Unlock the potential of value-based health care by **defining global Standard Sets of outcome measures that matter most to patients** across a wide range of medical conditions, and **driving the adoption and reporting** of these measures worldwide

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

Institutions around the world are using ICHOM Standard Sets

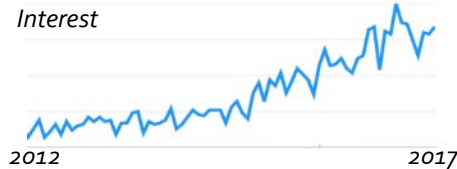
32+ Countries
650+ Organizations
15 National Registries

Logos visible include: MASSACHUSETTS GENERAL HOSPITAL, GIG CYMRU NHS WALES, Bwrdd Iechyd Prifysgol Aneurin Bevan University Health Board, 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, Great Ormond Street Hospital Charity, UMassMemorial, UNIVERSITAIR KANKERCENTRUM LEIDEN DEN HAAG, UNIVERSITEIT ZAKARTEGHE LEIDEN THE HAGUE, UMC Utrecht, S: T ERIKS ÖGON SJUKHUS, Boston Children's Hospital, SickKids, SELF REGIONAL HEALTHCARE, Martini-Klinik I Prostatkrebszentrum Universitätsklinikum Hamburg-Eppendorf, CJRI Connecticut Joint Replacement Institute at Scripps, THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER, RAMSAY HEALTH CARE, Briz Brain & Spine NEUROSURGERY & SPINAL SURGERY, U.S. Department of Veterans Affairs, FORCE TJR, MAYO CLINIC, The Royal Children's Hospital Melbourne, Cliniques universitaires SAINT-LUC UCL BRUXELLES, Stanford HEALTH CARE, UFHealth PROTON THERAPY INSTITUTE, MercyAscot, THE UNIVERSITY OF TEXAS MD Anderson Cancer Center, Texas Children's Hospital, GRUPO COI, Fortis, Galway University Hospitals, ARAVIND EYE CARE SYSTEM, THE UNIVERSITY OF SYDNEY, CADOSA, SingHealth, and IPCOR IRISH PROSTATE CANCER OUTCOMES RESEARCH.

Healthcare systems are taking bold steps to reform around VBHC

Global

'Value based health care' web searches have increased 400%, compared to 2012.¹



HQSS  The Lancet Global Health Commission on High Quality Health Systems in the SDG Era

The Lancet defines "high quality care" as safe and respectful with potential to improve outcomes".²

Regional




Health Ministers from over 35 OECD and partner countries are working to make person-centered care the new normal in health systems.³





The Innovative Medicine Initiative's Big Data for Better Outcomes program will use big data to improve patient outcomes.⁴

Country

Dutch parliament urges move to outcome-based payments.⁵ 

National program launched in Israel to measure patient reported outcomes for stroke and acute myocardial infarctions.⁶ 

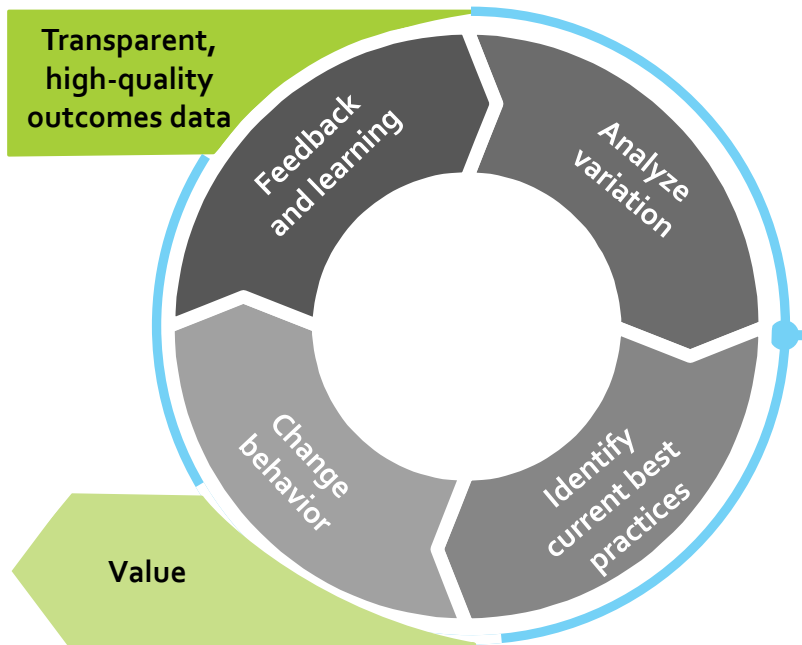
Wales—The NHS is embracing the principles of prudent healthcare through a patient-centered system.⁷ 

Portugal—has worked to achieve financial solvency and sustainability, through innovation, outcomes measurement & cost reduction.⁵ 

New South Wales—Australia—is reforming their health system from volume to value⁸ 

1. Google Trends, 2017; 2. Lancet Global Health Commission on High Quality Health Systems, 2016; 3. ICHOM and OECD Letter of Intent, 2017; 4. IMI 2017; Mark Drakeford, Minister for Health and Social Services 2014; 5. Value Based Health Care Global Assessment, The Economist 2016; 6. The 5th Annual Transparency in Health Conference, 2017; 7. NHS Wales, 2017; 8. NSW Health Innovation Symposium Elizabeth Koff, Secretary, NSW Health, 2016

Outcome measurement drives value improvements for all stakeholders



Key stakeholders



- **Patients** will choose their provider based on expected outcomes and their share of the cost



- **Clinicians** will improve quality of care by comparing performance and learning from each other



- **Hospitals** will differentiate into areas where they deliver superior outcomes at competitive prices

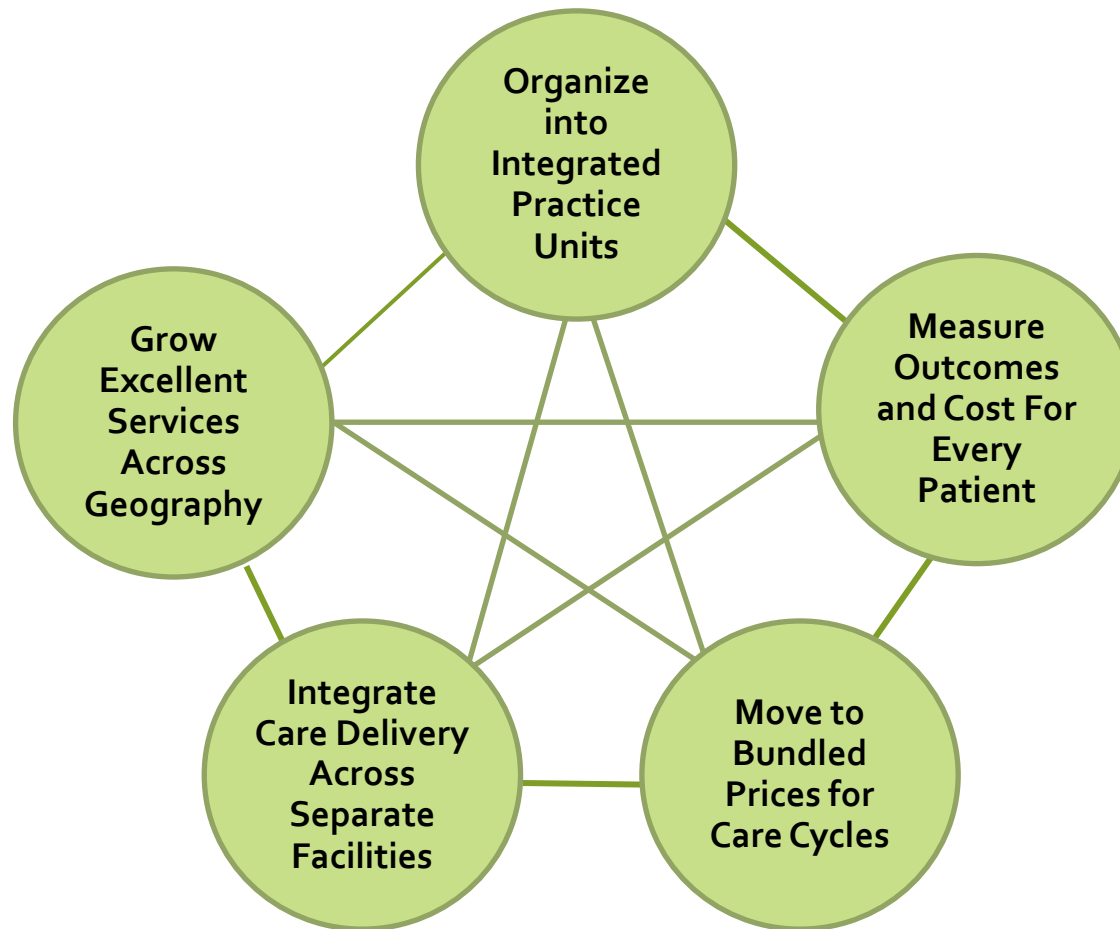


- **Payers** will negotiate contracts based on results, not volume, and encourage innovation to achieve those results



- **Life science** will market their products on value, showing improved outcomes relative to costs

Six building blocks of VBH strategy



Build an Enabling IT Platform

How do we define a health outcome?

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

The lack of outcome measurements that represent what truly matters most to patients is a global barrier to driving health care improvement

Problem

- 1 Paucity of outcomes data beyond basic mortality measures
- 2 Where available, outcomes are hard to compare and not standardized
- 3 Outcomes are often not patient-focused
- 4 Large focus on process measures

Result

- Lack of information for patients and providers on whether what we do works
- Slow pace of change and inability to learn from others
- Success not defined from patient perspective
- Assumption that changing processes improves outcomes for 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

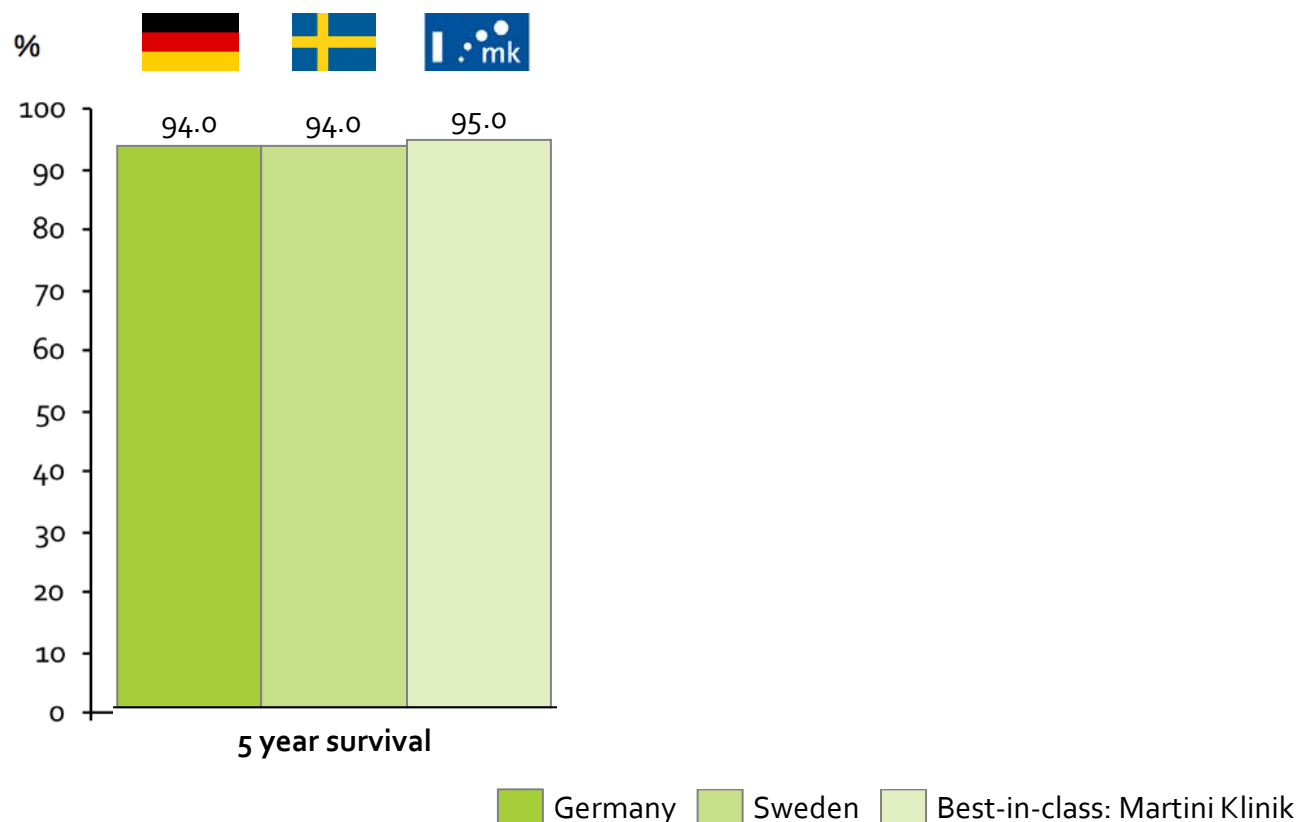


Measuring different outcomes in different ways makes it impossible to meaningfully compare

Why measuring and reporting meaningful outcomes matters

Comparing outcomes of prostate cancer care

Focussing on mortality alone...

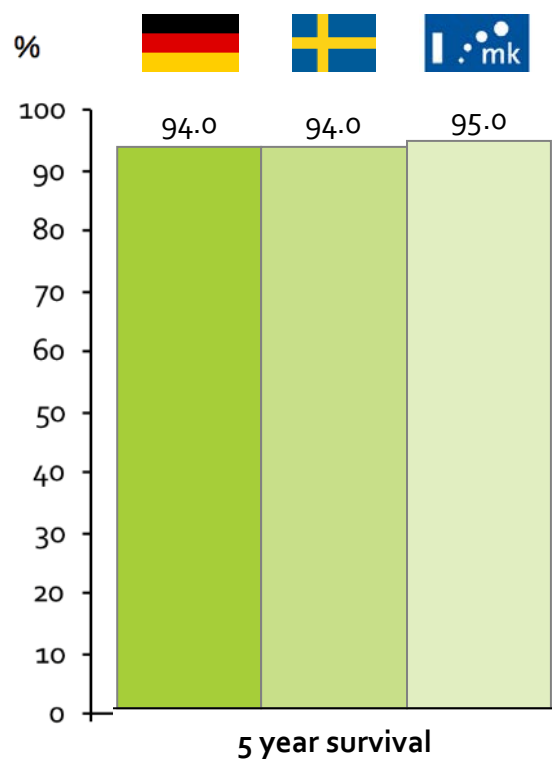


Swedish data rough estimates from graphs; Source: National quality report for the year of diagnosis 2012 from the National Prostate Cancer Register (NPCR) Sweden, Martini Klinik, BARMER GEK Report Krankenhaus 2012, Patient-reported outcomes (EORTC-PSM), 1 year after treatment, 2010

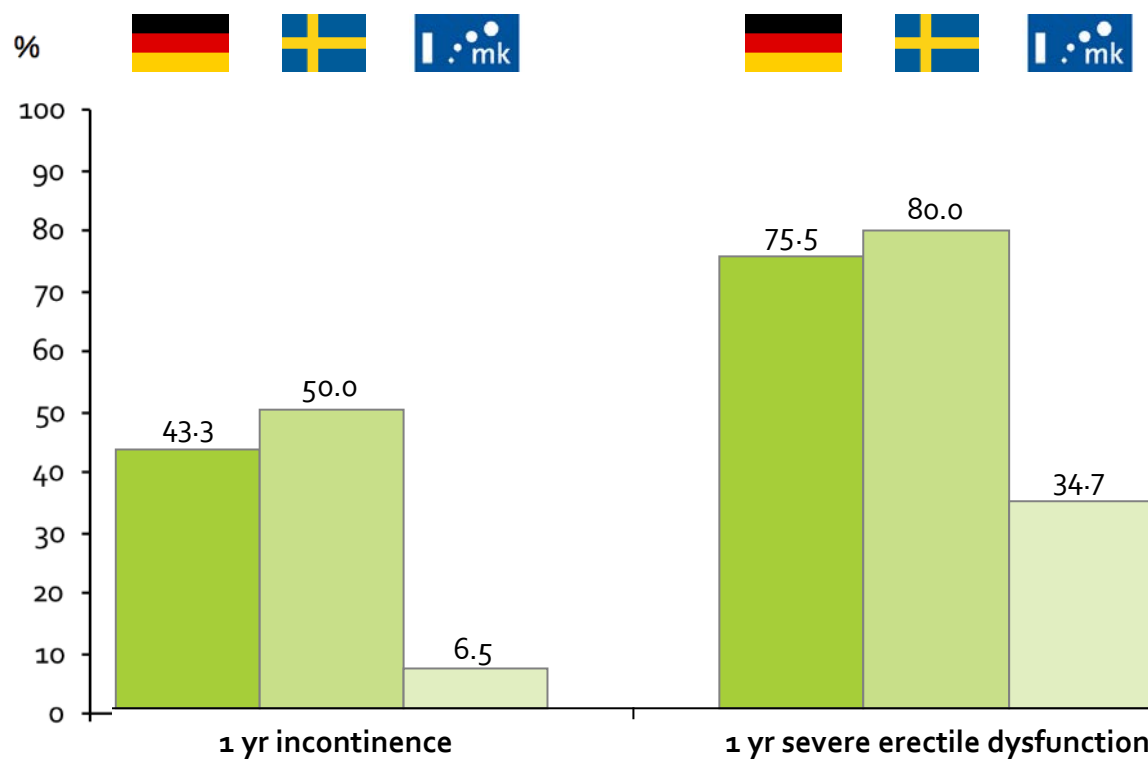
Why measuring and reporting meaningful outcomes matters

Comparing outcomes of prostate cancer care

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

Measure outcomes for a patient's medical condition

1. Current outcomes measurement is narrow, rarely goes beyond a few areas, such as mortality and safety
2. Measurement of value should focus on:
 - how well the care delivered meets individual patients' needs
 - the full cycle of care
 - the patient's health status after care is completed
3. Patients' needs seen holistically:
 - the medical condition is an interrelated set of medical circumstances that are best addressed in an integrated way
4. The outcomes that matter to patients for a particular medical condition fall into **three tiers**:
 1. Health status achieved
 2. Nature of care cycle and recovery
 3. Sustainability of Health

ICHOM Standard Sets focus on the outcomes that matter most to patients

Michael Porter's Outcome Measures Hierarchy



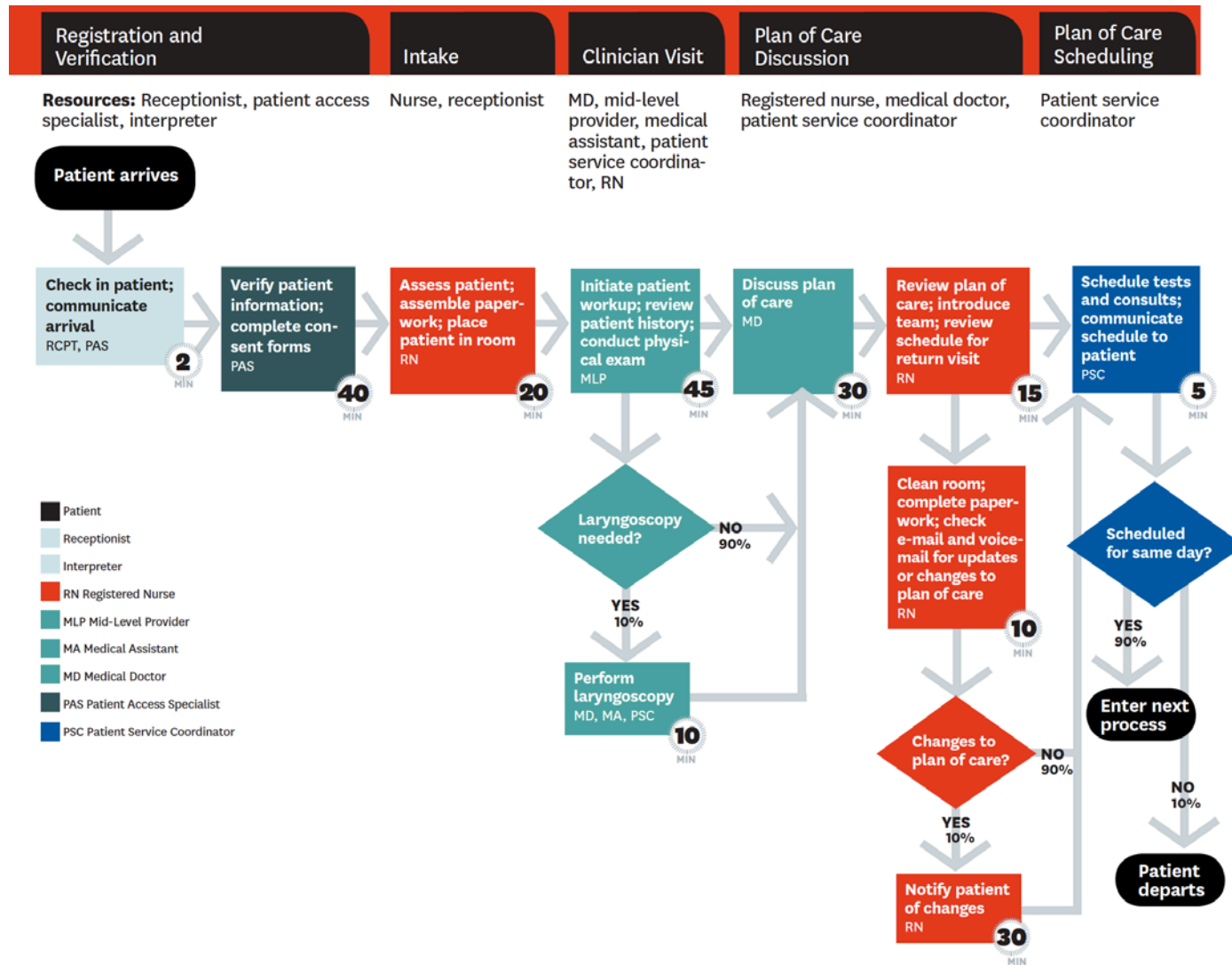
Pay for care with bundled payments

1. A bundled reimbursement payment covers all the treatments and interventions performed over a full care cycle for an acute medical condition.
2. Such bundled payments create benefits for all the principal players:
 - **Patients** receive proven and effective care for their medical conditions.
 - **Providers** earn a positive margin for efficiently treating patients and producing good outcomes.
 - **Suppliers** of drugs, devices, and diagnostic tests that improve outcomes and/or lower total costs will find their products incorporated into the treatments used by effective and efficient providers.
 - **Payers** will reduce their spending for treating medical conditions and providing primary and preventive care for population segments.

Measure the costs of treating the patient's medical condition

1. Cost is the **actual expense of patient care**, not the charges billed or collected, not price
2. Cost should be **measured around the patient**
3. Cost should be **aggregated over the full cycle of care for the patient's medical condition**, not for departments, services, or line items
4. Cost depends on **the actual use of resources** involved in a patient's care process (personnel, facilities, supplies):
 - The time devoted to each patient by these resources,
 - The capacity cost of each resource and
 - The support costs required for each patient-facing resource

Patient-level costs are measured over a complete cycle of care for a clinical condition, along with the associated outcome measures



Deliver care via Integrated Practice Units

1. Organized around the patient medical condition or set of closely related conditions
 - Responsibility for the full cycle of care for the condition
2. See large volumes of patients
3. Dedicated, multidisciplinary team
 - Providers involved are members/affiliated with a common organizational unit
 - Care is led by a physician team captain and a care manager who oversee each patient's care process
 - Incorporates patient education, engagement, and follow-up as integral to care
 - Utilizes a single administrative and scheduling structure
 - Providers function as a team, meeting formally and informally on a regular basis to discuss patients, processes and results
 - Accepts joint accountability for outcomes and costs
4. Co-located in dedicated facilities
5. Measures outcomes, costs, and processes for each patient using a common information platform

Medtronic's Diabeter (NL): An IPU for Type-1 Diabetes

Multi-Disciplinary Team

- Physician Specialists
- Nurses
- Dieticians
- Psychologists
- Care Managers

- VCareIT Platform

- Housed within Single Facility



System Integration for multi-site care delivery

1. Concentrate **volume** of patients by condition in **fewer locations** to improve outcomes and efficiency
 - Avoid doing everything for everybody in every location
2. Perform the **right services** in the **right locations** based on acuity level, resource fit, and the benefits of patient convenience for repetitive services
 - Move **less complex surgeries** out of tertiary hospitals to smaller facilities and outpatient surgery centers
3. Integrate the care cycle **across sites** via an **IPU structure**
 - Common **scheduling**
 - **Digital services** and **telemedicine** can help tie together the care cycle

Expand geographic reach

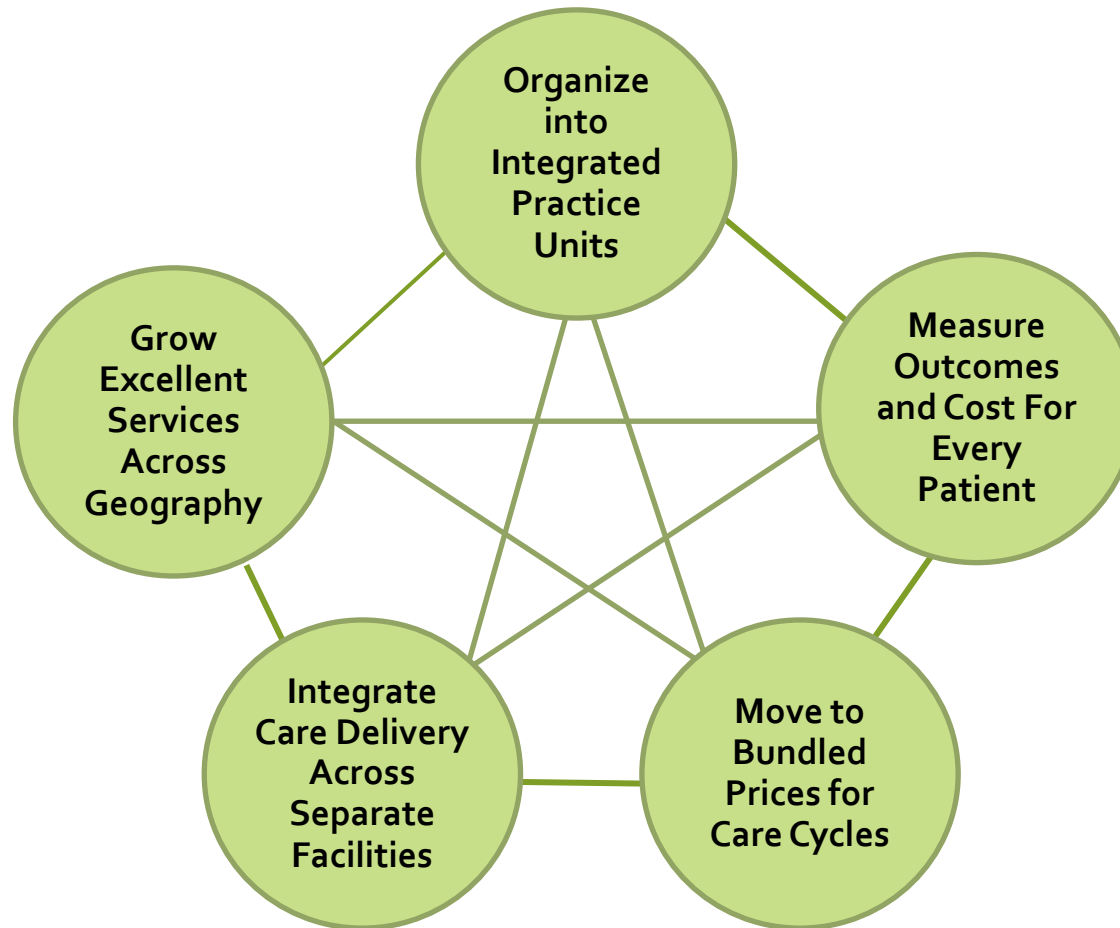
1. Health care delivery remains heavily local.
2. For value to be substantially increased on a large scale, superior providers for particular medical conditions need to serve far more patients and extend their reach through the strategic expansion of excellent IPUs.
3. Geographic expansion should focus on improving value, not just increasing volume.
4. Geographic expansion takes two principle forms:
 1. Expand satellite pre- and post-acute services using a hub-and-spoke model
 2. Affiliate with community providers to extend the reach of Integrated Practice Units (IPUs)
5. Increase the volume of patients in medical conditions or primary care segments, rather than widening service lines locally, or adding new broad line units.

Build an Enabling Information Technology Platform

A value-enhancing IT platform has seven essential elements:

1. Combines **all types of data** for each patient across the full care cycle (notes, lab tests, genomics, 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. **Full interoperability** allowing data sharing within and across networks, EMR platforms, referring clinicians, and **health plans**
6. Platform is structured to enable the capture and aggregation of **outcomes, costing** parameters, and **bundled payment** eligibility/billing
7. Leverages **mobile technology** for scheduling, PROMs collection, secure patient communication and monitoring, virtual visits, access to clinical notes, and patient education

Six building blocks of VBH strategy



Build an Enabling IT Platform