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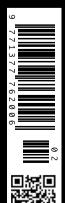
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Five Reasons Why Value-Based Healthcare is Beneficial



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v.wiersma@thedecisiongroup.nl atient-centered care is becoming a major topic in healthcare. Many initiatives have begun focusing their care around patients and their medical conditions. This requires focusing on patient value (Porter and Teisberg 2006). When focusing on value for patients, a few challenges may arise. Firstly, the meaning of value for patients varies widely among stakeholders in healthcare. Secondly, not all patients receive the same treatment for the same illness. Patients (and their families) want to be treated differently based on their preferences. Thirdly, the quality of care delivery in terms of patient relevant outcomes differs among hospitals. The diversity in measurements makes it difficult to compare.

I. Patient Value: A Common Definition

Doctors would base the meaning of patient value on the skills of a doctor, an improved medical lab result, or a well-performed surgery. These measurements are mainly based on the treatment or intervention perspective. On the other hand, a patient may base patient value on aspects such as the length of waiting lists, how kind the doctor was or perhaps how good the coffee or breakfast tasted. Most people would agree that both sets of measurements do not truly reflect the quality of care from a medical perspective.

Patients' perception: "They were so kind to me when performing the surgery seven times."

II. A Singular Language

Value-based healthcare provides a singular language that is comprehended by doctors, medical teams, patients and their families. Patient value is defined by an equation whereby patient-relevant outcome measurements are the numerator, and costs per patient in delivering those outcomes are the denominator. Patient value is defined for a specific medical condition over the full cycle of care (**Figure 1**).

Meetbaar Beter (winner of the VBHC Prize 2014) is a great example that transparently reports patientrelevant outcome measurements for specific medical conditions. They include coronary artery disease, atrial fibrillation, aortic valve disease and combined aortic valve disease and coronary artery disease (Meetbaar Beter 2012-2016). It is important to note that outcome measurements should be defined around a medical condition and should be manageable and actionable. Doctors and their teams are then intrinsically motivated to improve the quality of care they deliver to patients. All they need are the tools to measure and the ability to visualise accurate and valuable outcomes.

III. Focused on Measurable Health Outcomes To Facilitate Improvement

Measuring outcomes in healthcare began in the 1950s (Figure 3), followed by a strong trend towards process and structure measurements. Some of the measurements focused on at that time were the length of waiting lists and the number of (certified) staff. This led to quality management based on the optimisation of processes, including Lean. All of these measurements are important in improving the internal process of care delivery. Patient and family perception only became important from a measurement perspective in the 1990s. Surprisingly, the healthcare sector took quite some time in realising the significance of patients in healthcare delivery. Luckily, healthcare providers are now able to present true patient-relevant outcome measurements to their colleagues and patients.

One of the most inspiring examples of improving measurable health outcomes is the Martini Klinik at the University Hospital Hamburg-Eppendorf (UKE) in Germany. Since the founding of the clinic in 2005, the Martini Klinik has focused on improving long-term health outcomes for patients with prostate cancer. The Martini Klinik massively improved their care by measuring patient-relevant outcomes (**Table 1**). The improved outcomes led to growth in volume and the Martini Klinik became the world's largest prostate cancer care clinic by 2013. It later received the VBHC European Inspirational Award in 2016 based on these inspiring results.

A second example is Meetbaar Beter. Meetbaar Beter has helped doctors learn from one another and

improve care delivery based on reported outcomes. Over the last few years, impressive effects on patient-relevant outcomes have been achieved by looking at and learning from fellow cardiologists and cardiovascular surgeons.

IV. Protocols Do Not Fit Every Patient, But Patients Benefit From Protocols

Every patient is unique but they each walk a different path through the cycle of care. Protocols are very useful as they provide care delivery guidelines for patients with common medical conditions. In the St. Antonius hospital (winner of VBHC Cost-Effectiveness Award 2016), elderly patients with end-stage renal failure are guided towards their choice of treatment. Previously, protocols stated that patients with this medical condition should primarily be treated with dialysis. Dialysis is highly invasive (and costly) for elderly patients and

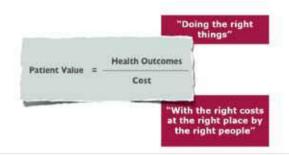


Figure 1. Patient value determined by the ratio of patient relevant outcome measurements to the costs per patient over the full cycle of care (Porter 2010)

it requires them to remain in hospital for long periods of time. Research made by Dr. Willem Jan Bos and his team found that conservative treatment is much better than dialysis (Verberne et al. 2016). By having discussions with patients, protocols can be changed and care delivery can be opitmised and adjusted to fit every individual.

The Care Delivery Value Chain Breast Cancer Care

PORMING - Education and reminders about regular exams - Lifestyle and diet counselling - Mammograms - Mammograms - Office visits - Mammography lab visits - Office visits - Mammography lab visits - Mammography lab visits - Monitoring process - Medical history - Medical history - Monitoring for - Counselling - Explaining and supporting patient and family on treatment and prognosis - Counselling patient and family on treatment and prognosis - Counselling patient and family on treatment and prognosis - Counselling patient and family on treatment and prognosis - Counselling patient and family on rehabilitation options and process - Procedure specific measurement - Procedure specific measurement - Side effects measurement - Office visits - Hospital visits - Hospital visits - Hospital visits - Hospital visits - Visits to outpatient or radiation chemotherapy units - CESSING - Monitoring for - Counselling patient and family on rehabilitation options and process - Procedure specific movement - Side effects measurement - Side effects movement - Side effects moveme		The Care Deli	very value Cit	iaiii breast Ca	nicer care		
Process and diet counselling Sessing ASURING	OWLEDGE NAGEMENT			1		i !	
ASURING • Mammograms • Ultrasound • MRI • Biopsy • BRCA 1,2 • Office visits • Mammography lab visits • Monitroring for lumps • Control of risk factors (obesity, high fat diet) • Clinical exams • Genetic screening • Choosing a treatment plan • Choosing a treatment plan • Mammograms • Ultrasound • MRI • Biopsy • BRCA 1,2 • Office visits • Office visits • Hospital visits • Hospital stay • Office visits • Hespital stay • Office visits • Alab visits • Lab visits • Mammography endicinon facility visits • Mammographic labs and imaging centre visits • Manmographic labs and imaging centre visits • Monitoring for lumps • Control of risk factors (obesity, high fat diet) • Clinical exams • Genetic screening • Patient and family psychological counselling • Previolic Mammography • Other imaging • Pollow-up clinical exams • Genetic (skin damage, previous and chronic fatigue) • Treatment of and outpatient processor of the disease • Alab visits • Lab vi	FORMING	reminders about regular exams Lifestyle and	patient and family on the diagnostic process and	supporting patient choices	patient and family on treatment and	patient and family on rehabilitation options and	patient and family on long term risk
- Office visits - Mammography lab visits - High-risk clinic visits - High-risk clinic visits - Hospital visits - Visits to outpatient or radiation chemotherapy units - Visits to outpatient or radiation facility visits - Rehabilitation facility visits - Mammographic labs and imaging centre visits - Monitoring for lumps - Medical history - Monitoring for lumps - Control of risk factors (obesity, high fat diet) - Clinical exams - Genetic screening - Choosing a treatment plan - Choosing a treatment plan - Office visits - Hospital stay - Visits to outpatient or radiation facility visits - Rehabilitation facility visits - Mammography - Nedical history - Medical counselling - Medical counselling - Medical counselling - Surgery (breast preservation or mastectomy, oncoplastic alternative) - Surgery (breast preservation or mastectomy, oncoplastic alternative) - Adjuvant therapies (hormonal medication, radiation and/or chemotherapy) - Treatment of side effects - Visits to outpatient visits - Hospital stay - Visits to outpatient visits - Mammographic labs and imaging centre visits - Mantographic labs and imaging centre visits - Mammographic labs and imaging centre visits - Mammographic labs and imaging centre visits - Medical history - In-hospital and outpatient wound healing - Psychological couselling - Adjuvant therapies (hormonal medication, radiation and/or chemotherapy) - Adjuvant therapies (hormonal medication, radiation and/or chemotherapy) - Treatment of side effects - Visits to outpatient visits - Mammography - Lab visits - Mantography - Lab visits - Mammography - Lab visits - Mammography - In-hospital and outpatient wound healing - Psychological couselling - Adjuvant therapies (hormonal medication, radiation and/or chemotherapy) - Treatment of side effects - Visits to outpatient visits - Mammography - In-hospital and outpatient wound healing - Provious Adjuvant therapy - Other imaging - Paternamicol side effects - Visits outpatient visits - Lab visits - Lab visi	ASURING		Ultrasound MRI Biopsy		specific	movement • Side effects	Recurring mammograms (every 6 months for the first 3 years)
Monitoring Preventing Monitoring for lumps Control of risk factors (obesity, high fat diet) Clinical exams Genetic screening Choosing a treatment plan Choos		Office visits	Office visits	Office visits	Hospital stay	Office visits	
PREVENTING Medical history Medical history Medical history Determing the specific nature of the disease Control of risk factors (obesity, high fat diet) Clinical exams Genetic screening Patient and family psychological counselling Patient and family psychological counselling Patient and family psychological counselling Plastic or oncoplastic surgery evaluation Preservation or mastectormy, oncoplastic alternative) Adjuvant therapies (hormonal medication, radiation and/or chemotherapy) Plastic or oncoplastic surgery evaluation MANAGING Periodic Mammography Other imaging Posychological counselling Posychological counselling Patient and family psychological counselling Plastic or oncoplastic surgery evaluation Plastic or oncoplastic surgery evaluation Preservation or mastectormy, oncoplastic alternative) Adjuvant therapies (skin damage, neurotoxic, cardiac, nausea, lymphoedema and chronic fatigue)	CCESSING		High-risk clinic	Hospital visits	tient or radiation chemotherapy		Mammographic labs and imaging centre
 Monitoring for lumps Control of risk factors (obesity, high fat diet) Clinical exams Genetic screening Determing the specific nature of the disease Genetic evaluation Patient and family psychological counselling Plastic or oncoplastic surgery evaluation Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphoedema and chronic fatigue) Other imaging Follow-up clinical exams Treatment for any continued side effects 			DIAGNOSING	PREPARING	INTERVENING		
		Monitoring for lumps Control of risk factors (obesity, high fat diet) Clinical exams Genetic	Determing the specific nature of the disease Genetic evaluation Choosing a	counselling Surgery prep (anaesthetic risk assessment, EKG) Patient and family psychological counselling Plastic or oncoplastic	preservation or mastectomy, oncoplastic alternative) • Adjuvant therapies (hormonal medication, radiation and/or	and outpatient wound healing Psychological couseling Treatment of side effects (skin damage, neurotoxic, cardiac, nausea, lymphoedema and chronic fatigue)	Other imaging Follow-up clinical exams for next 2 years Treatment for any
							■ Breast Cancer Specia □ Other Provider Entitie:

Figure 2. The Care Delivery Value Chain for Breast Cancer Care provides an overview of the care activities around breast cancer patients (Porter 2006) Reproduced by permission.

Historical development of measurement in healthcare over the past 60+ years

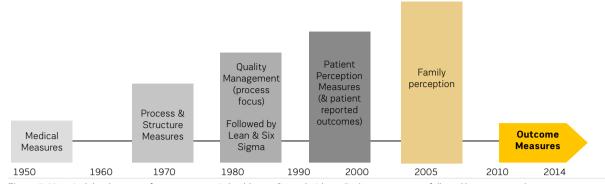


Figure 3. Historical development of measurements in healthcare. Started with medical measurements, followed by process and structure measurements, then quality measurements. Patient and family perception came into perspective in the 1990s. Currently, healthcare measurements are focusing on outcomes relevant for the patient (Van Eenennaam 2016)

"The Netherlands really is a remarkable example of what a country can do if the right culture, attitude, mindsets and knowledge base are really applied to actually changing how we deliver health care rather than just adding patches and bandages to try to stop the bleeding." Prof. Michael E. Porter (Honorary Chairman of VBHC Prize 2014-2017) (Value-Based Health Care Europe 2016)

Results	German average	Martini Clinic
Fully continent ¹	56.7%	93.5%1
Severe incontinence ²	4.5%	0.4%
Severe erectile dysfuction (1 year) ³	75.5%	34.7%
Ureteral injury	0.6%	0.04%
Sepsis	2.5 %	0.04%
Pulmonary embolism	0.8%	0.1%
Delayed wound healing	1.7%	0.9%
Rectal injury	1.7%	0.2%
Thrombosis	2.5%	0.4%

¹Definition of fully continent: incontinence pads are unnecessary or are only used for safety

Table 1. Patient-relevant outcome measurements of prostate cancer care at the Martini Klinik versus the German average.

Source: Martini Klinik martini-klinik.de/en/results

"No protocol fits every patient and no protocol perfectly fits any patient." James Brent (Bohmer et al. 2002).

V. Become a Patient-Centred, Fast-Learning Team

Value-based healthcare is centred around learning. Doctors who have a drive to show medical leadership and create a learning culture are key for the implementation of VBHC. Learning to improve value for patients provides satisfaction. This motivates doctors and their teams and also cuts costs. VBHC empowers doctors and their teams to do what they do best—provide excellent patient-value by using clinically relevant and evidence-based insights.

Creating Excellent Patient Value

- Patient-centred care is on the rise;
- VBHC provides a common definition for patientvalue and a common language for all stakeholders in healthcare;
- VBHC puts the patients, their families, doctors and their teams at focus;
- Patients with similar medical conditions have different preferences and they each follow roughly similar care-paths;
- Care quality improves by measuring the right patient relevant outcome measures. This creates compelling learning cycles for the medical team.

Working towards excellent patient value has never been more optimistic than it is today! ■



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² More than 5 incontinence pads per day

 $^{^{\}mbox{\tiny 3}}$ Including patients suffering from erectile dysfunction previous to the operation