Value-based management of healthcare organizations

EHMA conference, November 18th, 2020

What does Value Based Healthcare mean on an organizational level?

How to support the implementation in Healthcare Organizations

Case examples based on experiences on implementation projects

Nordic Healthcare Group

Agenda

1. Who we are
2. What is value in healthcare?
3. How to move towards value-based healthcare

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1 **Who we are**

2 What is value in healthcare?

3 How to move towards value-based healthcare

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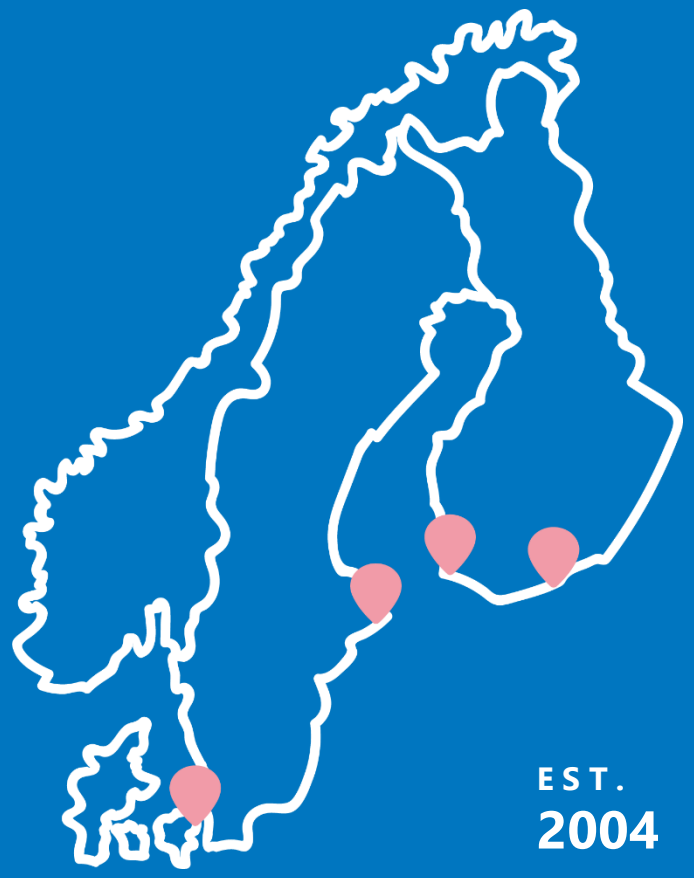
The leading social and healthcare advisory and solutions company in the Nordics



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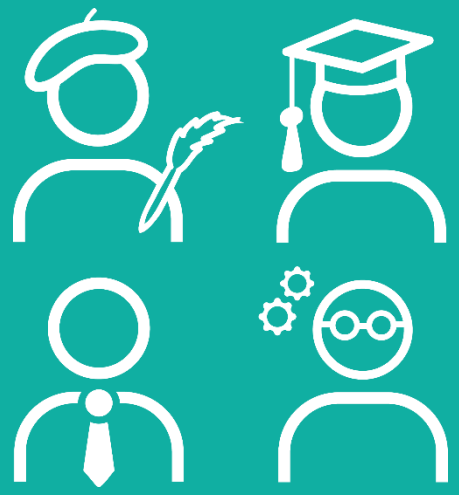

Over 100 social and healthcare industry experts

ICHOM

Strategic focus on value-based social and healthcare

Certified ICHOM implementation partner

Over 2,000 customer projects

More than 200 million patient visits analyzed

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1 Who we are

2 **What is value in healthcare?**

3 How to move towards value-based healthcare

On a piece of paper, write down how you personally would currently define VBHC (this is for your eyes only)

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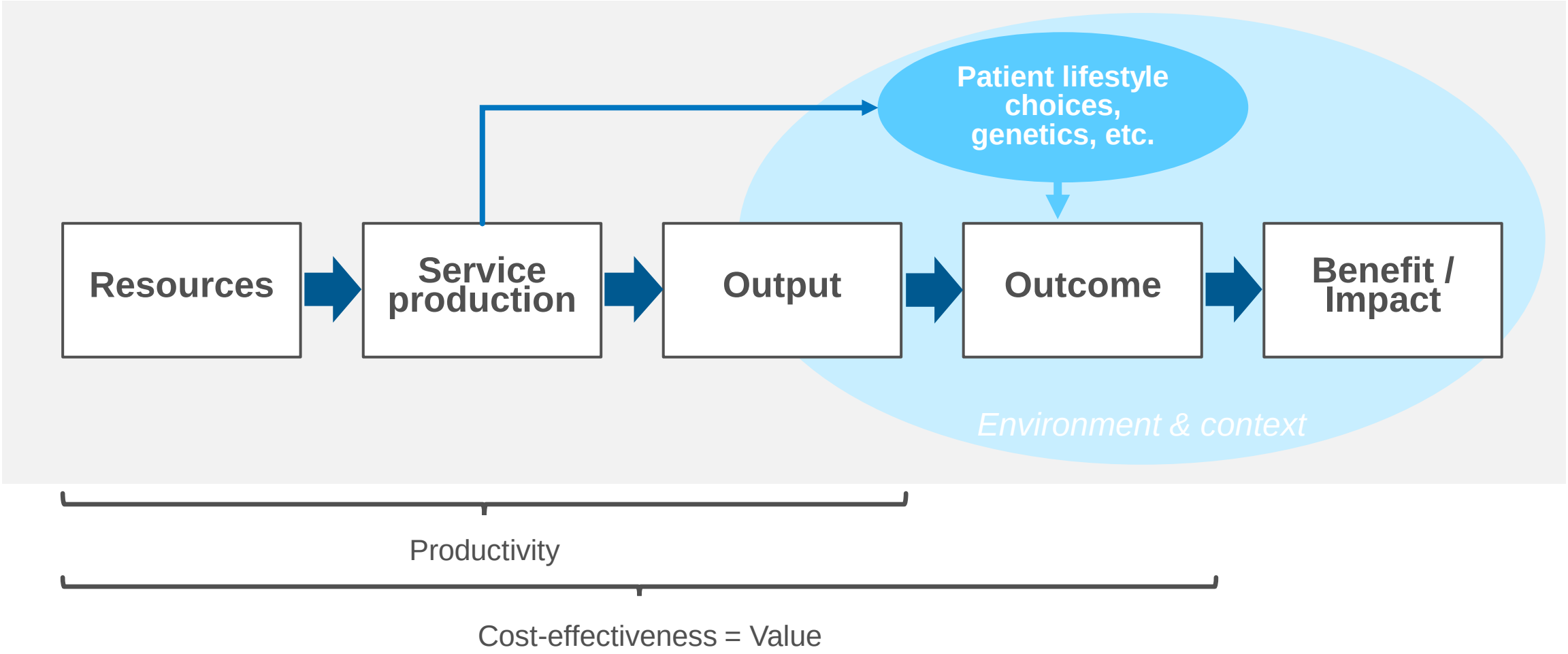
Value = cost-effectiveness

$$\text{Patient value} = \frac{\text{patient-relevant } \textbf{outcomes}}{\textbf{costs} \text{ per patient to achieve these outcomes}}$$

- In our vocabulary, value = cost-effectiveness
- Outcomes =~ effectiveness
- This is compatible with the vocabulary of health economics – however, different disciplines have different vocabularies
- NB: related / seemingly similar terms:
  - A **values-based** culture emphasizes the organizations' values in supporting its' vision and shaping its' culture
  - **Social / societal value** means recognizing that social outcomes, such as stronger communities and improved health and healthier environments, have a value to society as a whole.

A healthcare operations management view on cost-effectiveness



How to measure outcomes

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Resources → Service Production → Outputs → **Outcomes** → Benefit / Impact

1 Patient-reported

Patient-Reported Outcome Measures (PROM)

- Quality of life, functioning, health status
- Outcomes as reported by patients, such as nausea, pain, quality of sleep

Patient-Reported Experience Measures (PREM)

- PREMs measure the patient's experience of their treatment, such as shared decision-making, information received, attitude of the staff, etc.

2 Clinician-reported

Clinician-reported outcomes

- Measures based on a professional's assessment of patient health status or functioning
- RAI, ability to work, etc.

3 Clinical

Clinical measures and funtioning tests

- Survival, reoperations
- Lab and imaging results
- Functioning tests, for example 10 meter walking test

Service use

- For example number of ED visits per pt per year

How do you see the relationship between quality and effectiveness?

1) **Effectiveness is a part of quality**
2) **Quality is a part of effectiveness**
3) **Quality and effectiveness are separate concepts**

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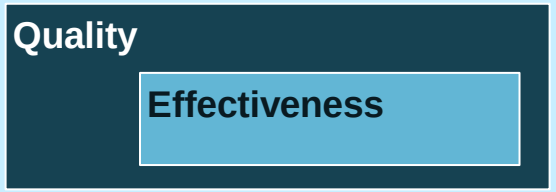
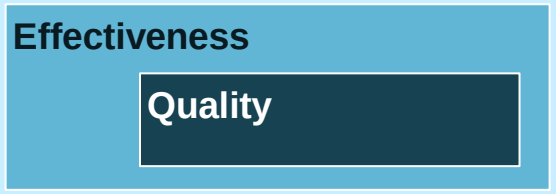
There are different ways to see the relationship between quality and effectiveness

Is effectiveness a part of quality?



Or is quality a part of effectiveness?



Or are they separate concepts?

1 Who we are

2 What is value in healthcare?

3 **How to move towards value-based healthcare**

Combining top-down and bottom-up approaches is key

"think big"

Define a value-based vision

i. Define your value-based vision and objectives
ii. Co-operate and network, and use international standards
iii. Segment your patients based on needs or expected outcomes

"start small"

Start measuring

iv. Choose a significant segment
v. Define goals & plan outcomes measurement
vi. Measure outcomes and costs
vii. Utilize the data

→Keep the big picture in mind
→Think beyond a single patient segment

→Start somewhere, don't expect it to be perfect
→Gather experience and see what the data tells you

But without measuring, you can only go so far.

But without a vision, you're only doing a pilot.

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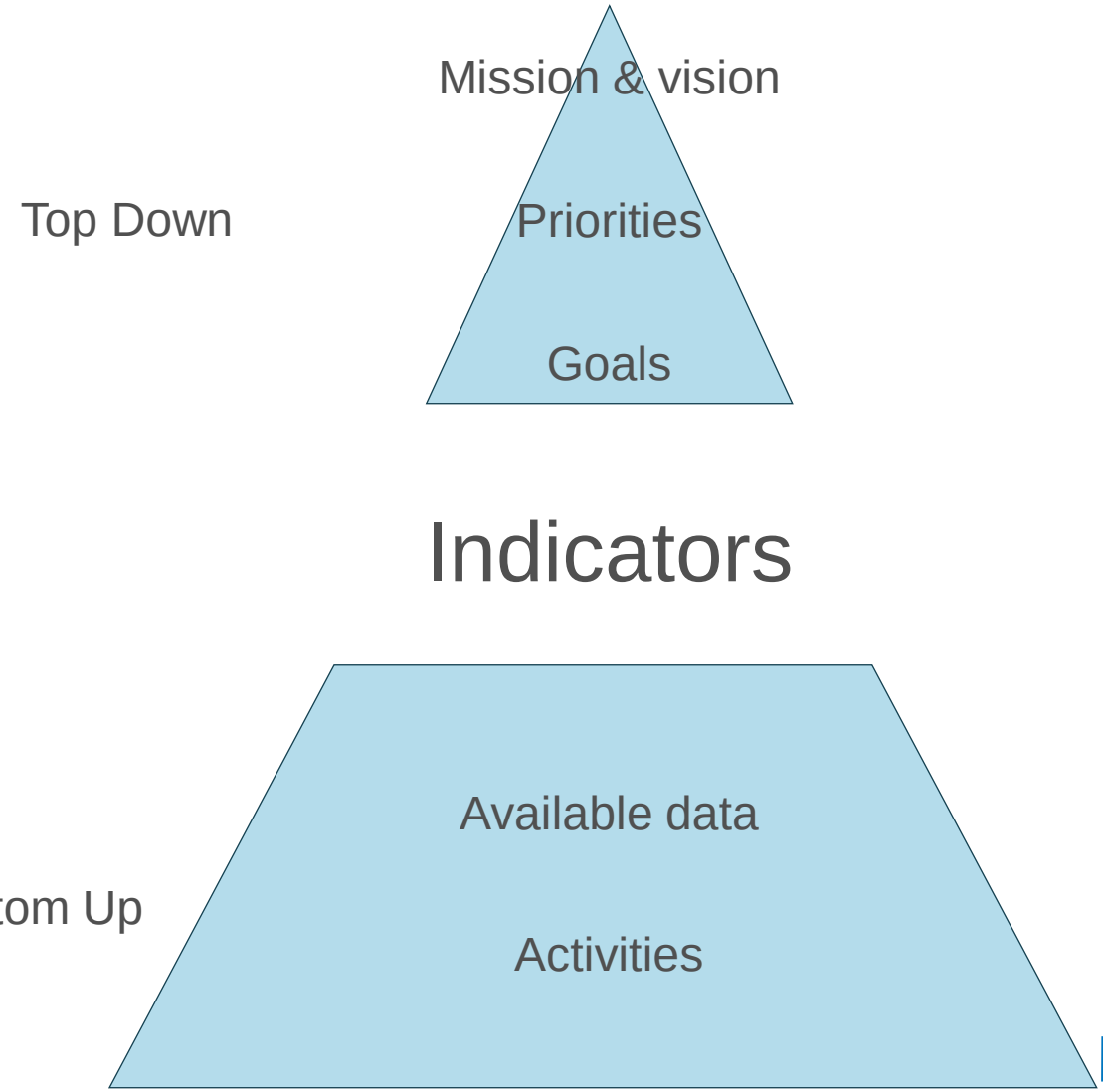
i. Define your value-based vision and objectives

- What is our vision? What do we want to be, in terms of value? **How do we define measurable objectives?**
- **Who are our patients? What is the value that we can provide them?**
- Setting objectives is often the most problematic part – deciding what we want to do and **what we don't want to do**
- Including value in strategy:
  - Is it already included?
  - If so, on what level?



Value should be an integral part on every level

In principle

In a value-based organization, value should be visible on every level

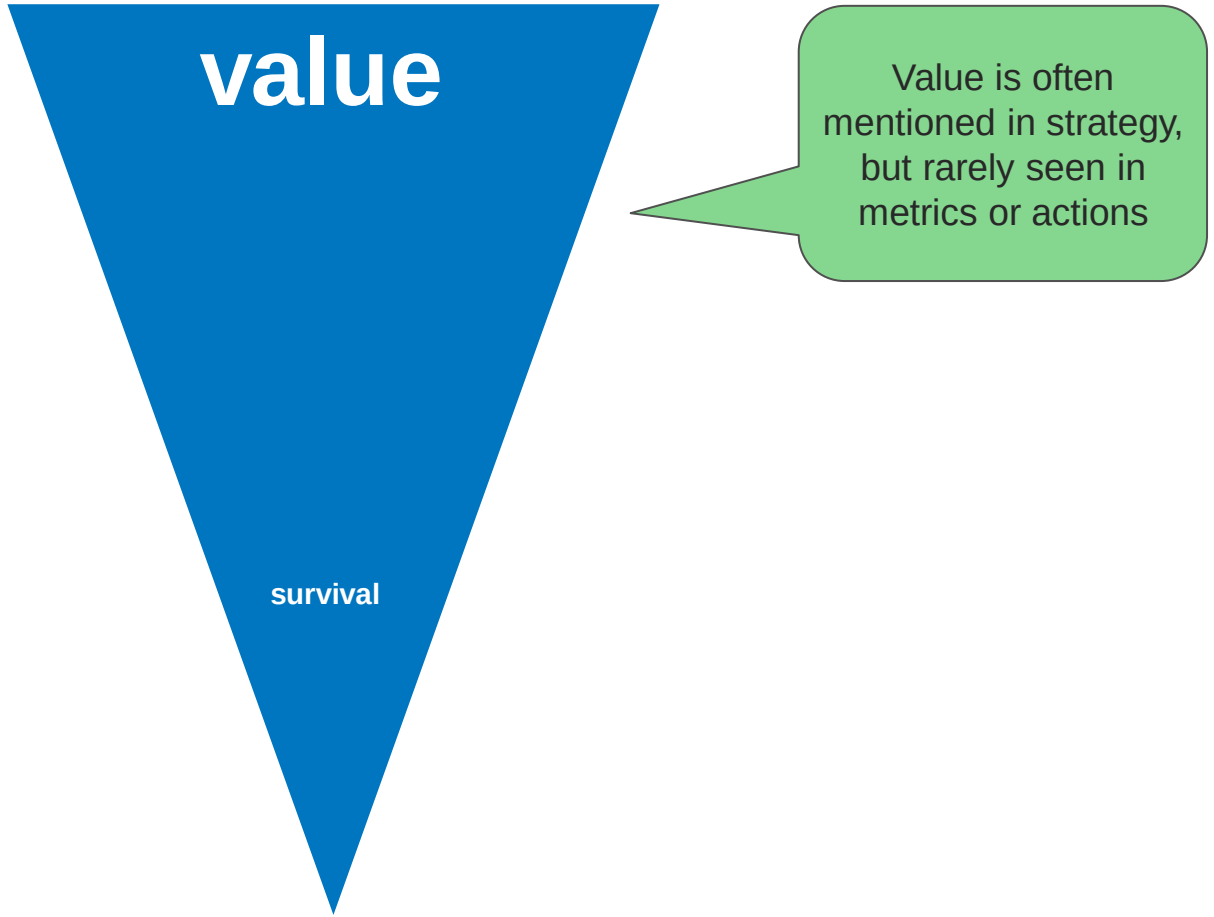
Strategy

Goals

Metrics

Actions

In reality



What is the most important benefit of collaborating with other units when piloting outcomes measurement?

1) **Comparing results (benchmarking)**
2) **Getting tips and ideas from someone who's further ahead**
3) **Having someone to discuss the pilot with**
4) **Sharing costs or workload**

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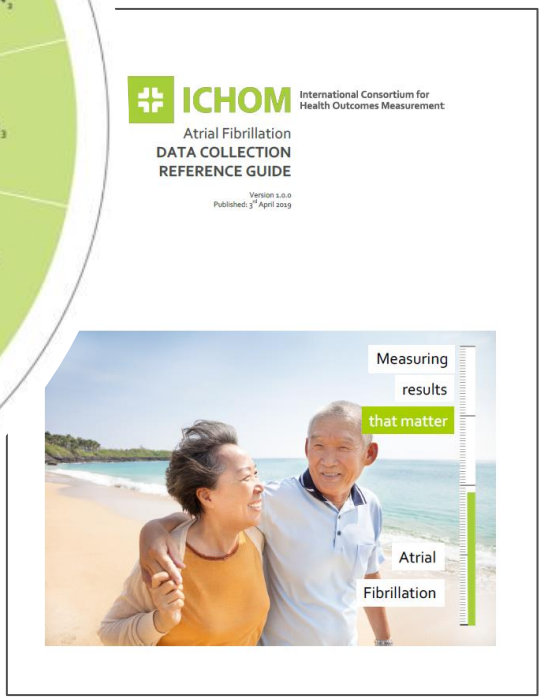
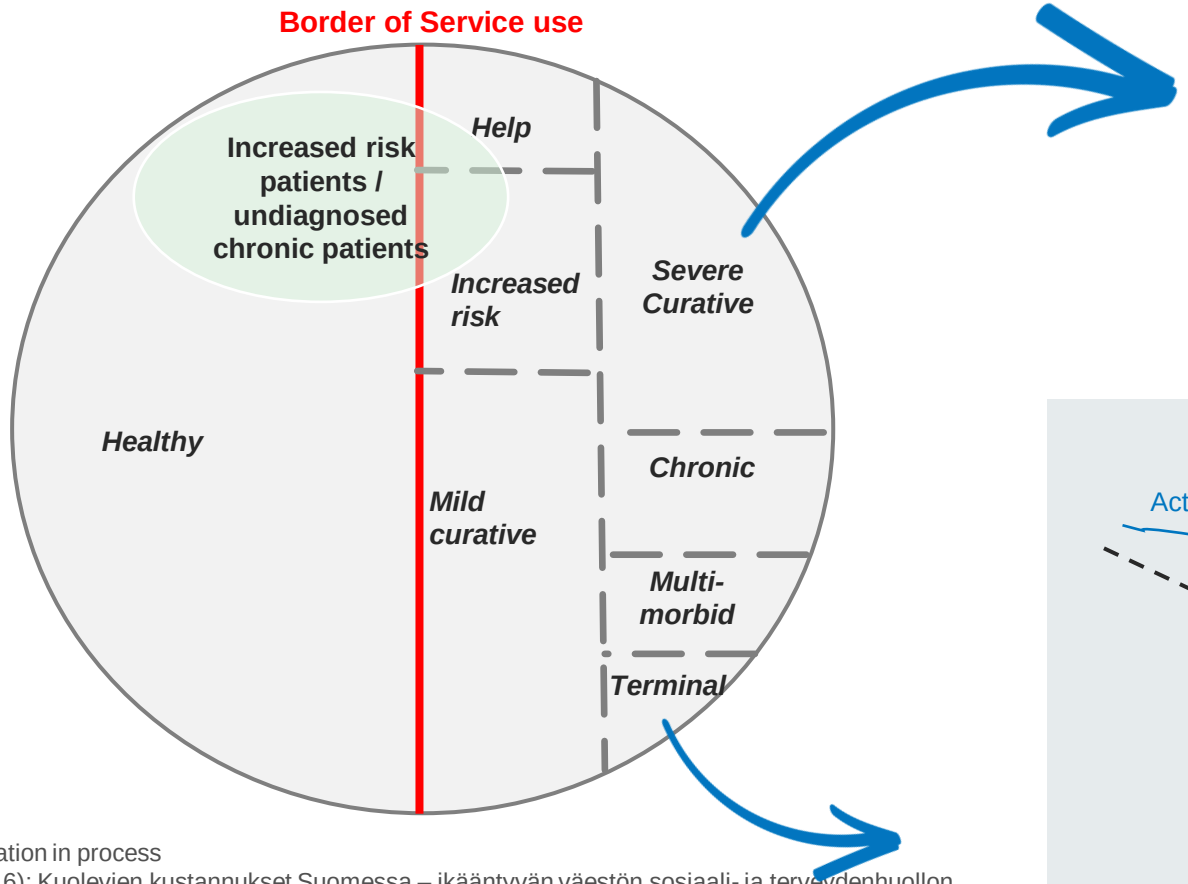
ii. Co-operate and network, and use international standards

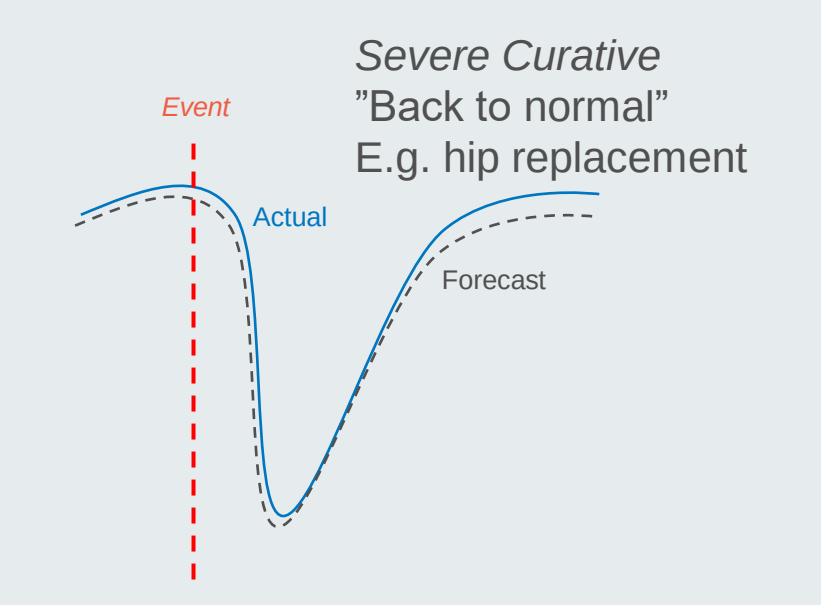
- Co-operation is key: saving resources, aligning actions, finding benchmarking partners, etc.
- Standardized sets of measures can be found for example at:
  - www.ichom.org
  - http://www.comet-initiative.org/ (RCT-focused)
- Whatever you do, don't make up your own measures! There are plenty already
  - That being said, there may be exceptions

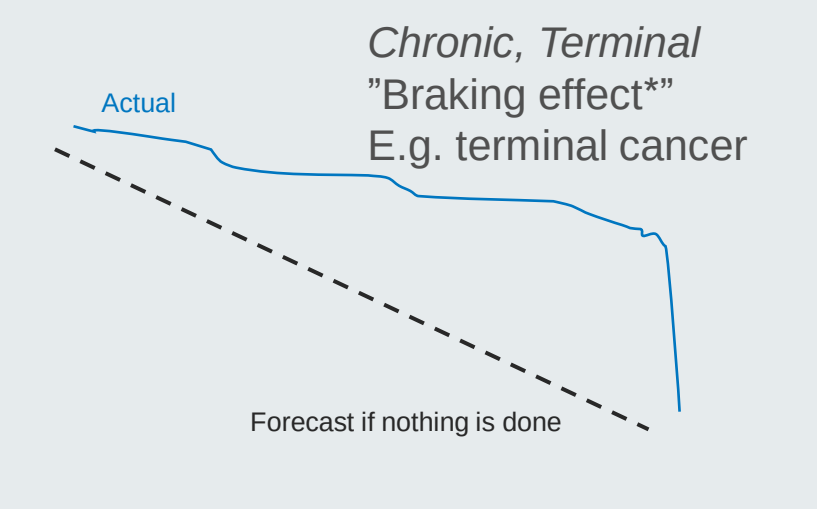


iii. Segment your patients based on needs or expected outcomes

- Segment your population based on needs or expected outcomes
  - This may differ from the segmentation that is the basis of service production
- Curative vs chronic etc. – expected outcomes differ







Source: Torkki et al., publication in process
* source: Olli Halminen (2016): Kuolevien kustannukset Suomessa – ikääntyvän väestön sosiaali- ja terveydenhuollon kustannukset kuoleman lähestyessä. Aalto University, Operations management, master's thesis.

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What do you see as the most important way of motivating patients to fill in PROM questionnaires?

1) **Nurses and physicians tell them it's important**
2) **Nurses and physicians utilize the data in their care**
3) **Patients get to see their own results and development**

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iv. Choose a significant segment

- The first patient segment can be chosen based on many criteria, for example:

a) Significant total cost
b) Significant patient volume
c) Great need for integration
d) Expected scalability of solutions developed
e) Possibility for national or international benchmarking
f) Buy-in of personnel
g) Earlier development that makes it easier to get started

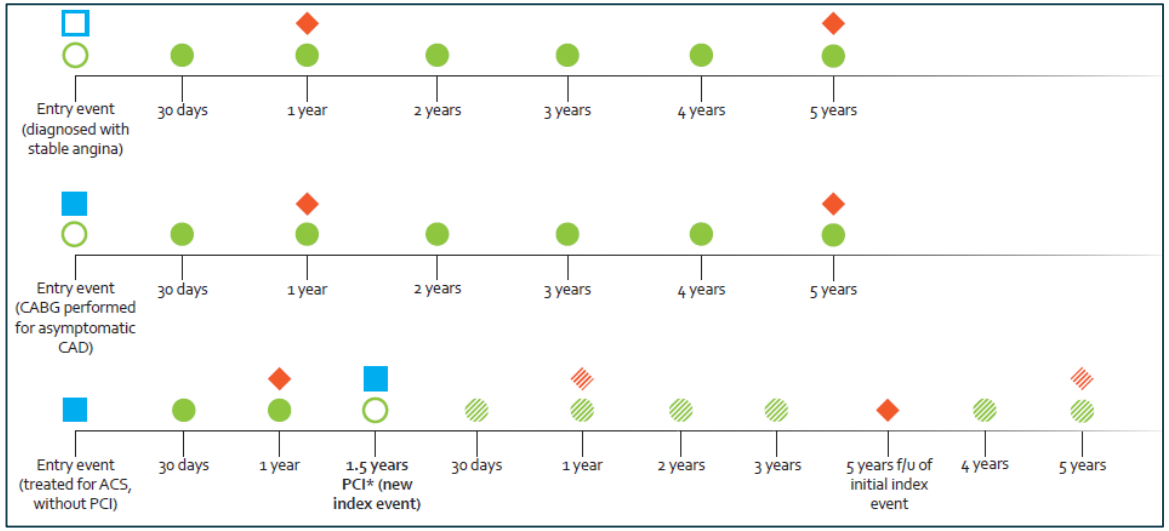
v. Define goals & plan outcomes measuring

- Even if you start with a Standard Set (ICHOM or similar), at least the following must be reviewed:
  - Inclusion criteria – *which patients?*
  - The measures – *what shall we measure? Metrics must often be chosen from a long list.*
  - Index events – *when do we start measuring?*
  - Measuring moments – *at what time points shall we measure? (esp. relevant for PROMs)*
- Think beyond your segment – a general QoL measure is important for inter-segment comparison
- To keep the momentum going, it's good to get results fast – add an early measuring moment if needed
- Remember comparability – when using a standard set, don't make any significant changes

Conditions and Treatment Approaches Covered for Coronary Artery Disease

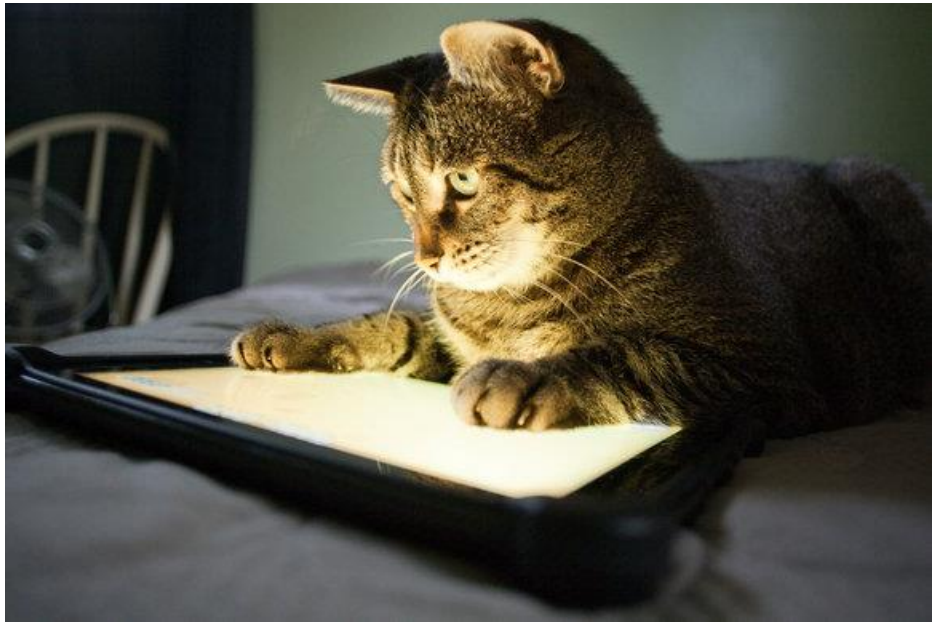
For Coronary Artery Disease, the following conditions and treatment approaches (or interventions) are covered by our Standard Set.

Conditions	Asymptomatic Coronary Artery Disease | Stable Angina | Acute Coronary Syndrome (Includes AMI)
Treatment Approaches	Lifestyle Modification | Drug Therapy | Percutaneous Coronary Intervention (PCI) | Coronary Artery Bypass Grafting (CABG)



How to collect the PROM data

- How to collect the data:
  - Digital, analog or both?
  - On site or at home?
- Does our EMR support PROM collection or do we need special software?
- What shall we do if a patient reports a worrying level of symptoms?
- What triggers the questionnaires?
  - Does data collection start for all patients at the same time, or one by one, as they visit the clinic?



How to collect the clinical data

- It’s never good if professionals need to record the same data several times / into several different systems
- Can we utilize EMR data?
  - Or quality registries?
  - Lab data?
  - Other data that we already have?
- Turning EMR data into clinical outcome measures requires some work and knowhow – using a Data Scientist instead of physician often saves resources

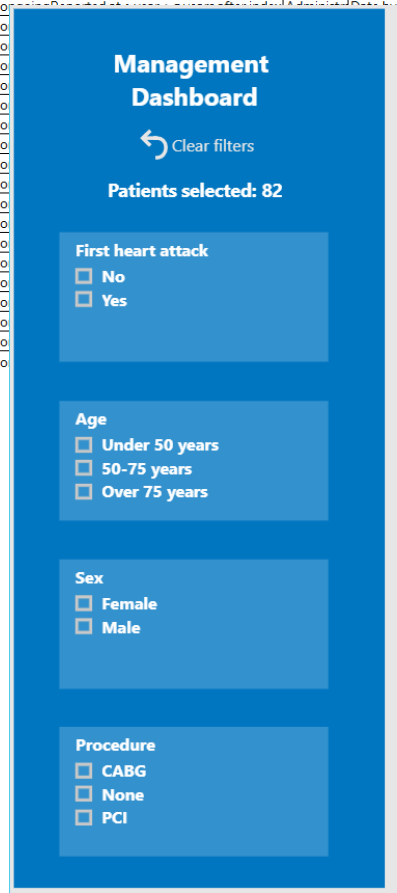
vi. Measure outcomes and costs

- Measure on a patient-level, systematically, as a part of the normal care process (real-effectiveness medicine, Malmivaara*)
- In motivating the patients to fill in the PROM questionnaires, **using the data** is key: patients must see that their answers matter
  - Use the PROM data whenever possible, as a starting point for a conversation
  - Also, nurses and doctors should verbally motivate patients to answer
  - Furthermore, an information letter for the patients may be useful
- Don’t forget about the costs / resource usage
  - Cost per patient is the other half of the value equation, yet costs are not included in the ICHOM standard sets
  - If cost were irrelevant, effectiveness could be increased almost infinitely - therefore, cost should be kept in mind
    - Or resource usage per patient (ward days per patient, outpatient visits per patient, etc.)
    - Especially for benchmarking purposes

* Antti Malmivaara 2013. Real-effectiveness medicine—pursuing the best effectiveness in the ordinary care of patients. Annals of Medicine.

vii. Utilize the data: data must be turned into information

B	D	E	F	G	H	I	J
emogra	Variable ID	ITEM	DEFINITION	SUPPORTING DE	INCLUSION C	TIMING	REPORTII	TYPE
	RD_Q04	Question 4 of Rose Dyspnea	When washing or dressing	N/A	All patients	Baseline30 days + annually up to 5 years after index ever	Patient-re	Single answer
	PHQ2_Q01	Question 1 of PHQ-2	Over the past 2 weeks, how often	N/A	All patients	Baseline30 days + annually up to 5 years after index ever	Patient-re	Single answer
	PHQ2_Q02	Question 2 of PHQ-2	Feeling down, depressed or hopel	N/A	All patients	Baseline30 days + annually up to 5 years after index ever	Patient-re	Single answer
ase prog	AMI	Acute myocardial infarction (AMI)	Indicate if the patient was admitte	N/A	All patients	Tracked ongoingReported at 1 year + 5 years after index	Administra	Single answer
	AMIARVDATE	Admission for acute myocardial infa	Indicate the date of each admissio	Date used to calcu	All patientsIf a	Tracked ongoingReported at 1 year + 5 years after index	Administra	Date by DD/MM/
	AMIDISDATE	Discharge for acute myocardial infa	Indicate the date of each discharg	Date used to calcu	All patientsIf a	Tracked ongoingReported at 1 year + 5 years after index	Administra	Date by DD/MM/
	HSTROKE	Stroke: Hemorrhagic	Indicate if the patient was admitte	N/A	All patients	Tracked ongoingReported at 1 year + 5 years after index	Administra	Single answer
	HSTROKEARVDATE	Admission for hemorrhagic stroke	Indicate the date of each admissio	Date used to calcu	All patientsIf a	Tracked ongoingReported at 1 year + 5 years after index	Administra	Date by DD/MM/
	HSTROKEDISDATE	Discharge for hemorrhagic stroke	Indicate the date of each discharg	Date used to calcu	All patientsIf a	Tracked o		
	ISTROKE	Stroke: Ischemic	Indicate if the patient was admitte	N/A	All patients	Tracked o		
	ISTROKEARVDATE	Admission for ischemic stroke	Indicate the date of each admissio	Date used to calcu	All patientsIf a	Tracked o		
	ISTROKEDISDATE	Discharge for ischemic stroke	Indicate the date of each discharg	Date used to calcu	All patientsIf a	Tracked o		
	USTROKE	Stroke: Unknown	Indicate if the patient was admitte	N/A	All patients	Tracked o		
	USTROKEARVDATE	Admission for unknown stroke	Indicate the date of each admissio	Date used to calcu	All patientsIf a	Tracked o		
	USTROKEDISDATE	Discharge for unknown stroke	Indicate the date of each discharg	Date used to calcu	All patientsIf a	Tracked o		
	HF	Heart failure	Indicate if the patient was admitte	Heart failure is defi	All patients	Tracked o		
	HFARVDATE	Admission for heart failure	Indicate the date of each admissio	Date used to calcu	All patientsIf a	Tracked o		
	HFDISDATE	Discharge for heart failure	Indicate the date of each discharg	Date used to calcu	All patientsIf a	Tracked o		
	REVASPROPCI	Previous revascularization procedu	Indicate if a PCI was performed	N/A	All patients	Tracked o		
	REVASPCIDATE1	Date of intervention #1	Indicate the date of the PCI	Restricted to PCI,	All patients	Tracked o		
	REVASPCIDATE2	Date of intervention #2	Indicate the date of the PCI	Restricted to PCI,	All patients	Tracked o		
	REVASPROCABG	Previous revascularization procedu	Indicate if a CABG was performed	N/A	All patients	Tracked o		
	REVASCABGDATE1	Date of intervention #1	Indicate the date of the CABG	Restricted to PCI,	All patients	Tracked o		
	REVASCABGDATE2	Date of intervention #2	Indicate the date of the CABG	Restricted to PCI,	All patients	Tracked o		
	DIALREQ	New requirement for dialysis	Indicate if the patient has a new re	N/A	All patients	Tracked o		
	DIALREQDATE	Date of documented first dialysis	Indicate the date the patient first l	N/A	All patientsIf a	Tracked o		
	DEATHADMIN	Death: Patient died, regardless of ca	Indicate if the patient has died, reg	N/A	All patients	Tracked o		



Interpreting outcome measures – benchmarking in different levels and perspectives

What is **good**, what is **bad**, what is **little,** what is **a lot**, what is **critical**, what is **”normal”**?

Strategic

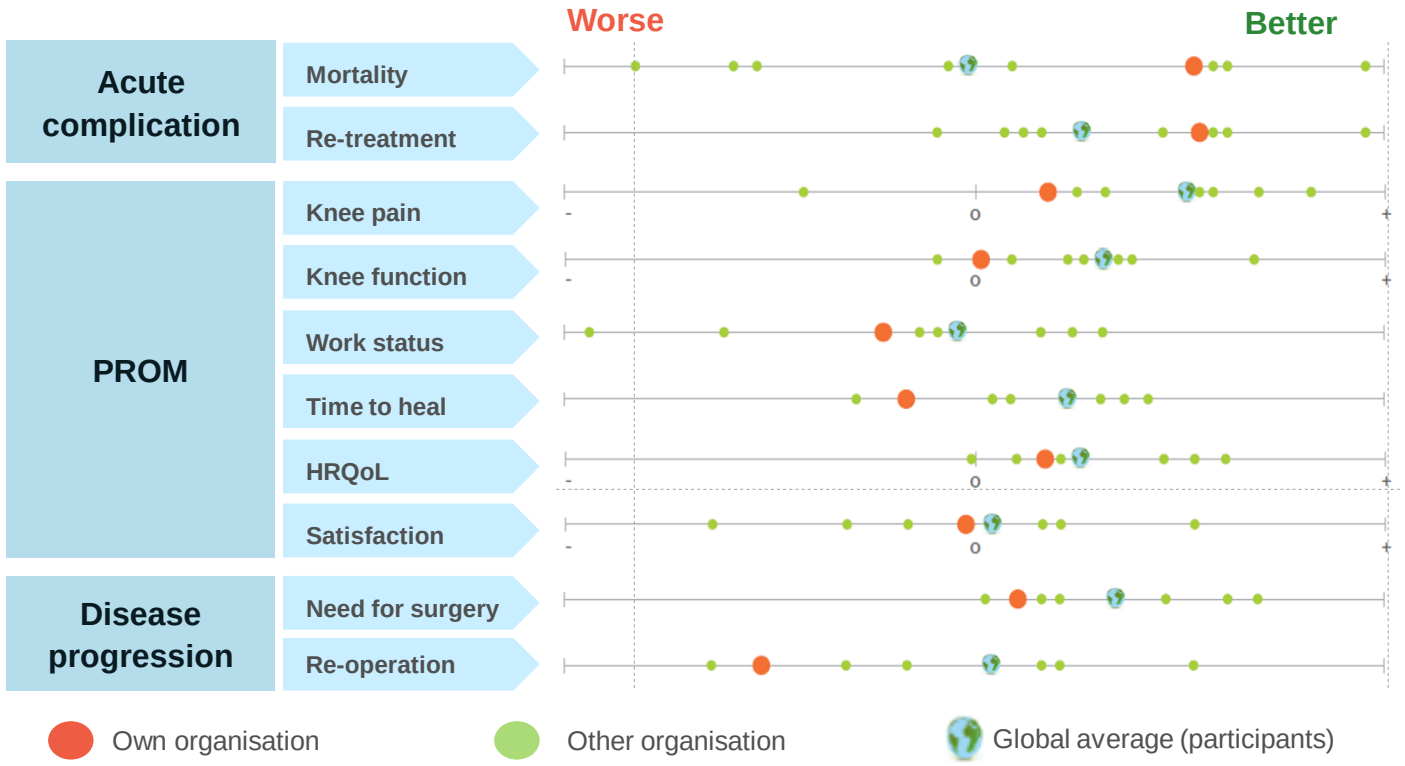
International comparison system and service comparison

National comparison of hospitals treating same patient groups

Team/ unit level comparison between teams who treat same patient groups

Peer-to-peer comparison and learning

Patient level comparison of different treatment options



Lähde: ICHOM

Case examples

1. Case Espoo – dental care
2. Central Finland central hospital – coronary artery disease
3. Tesoma – primary, social and dental care

Many stakeholders can utilize outcomes information in different ways. Which do you think is the most important?

1) **Politicians utilizing it for e.g. resource allocation**
2) **Management utilizing it in managerial decisions**
3) **Physicians utilizing it in their day-to-day work, e.g. treatment decisions**
4) **Patients utilizing it to track their own development**

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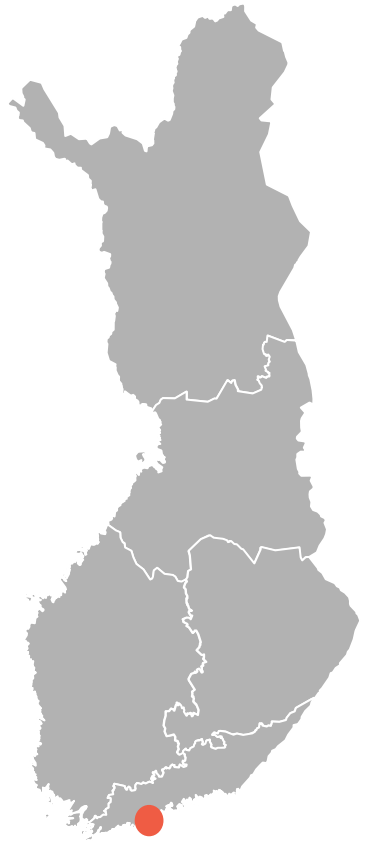
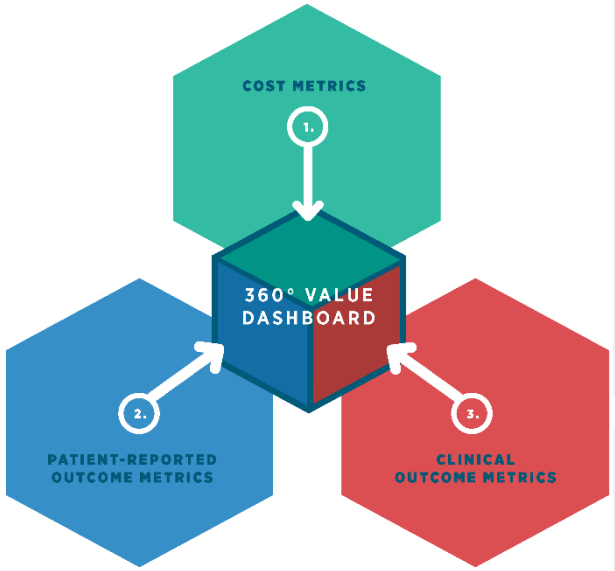
Case Espoo: developing the effectiveness of oral healthcare in Southern Finland

1. City of Espoo decides to start measuring outcomes for public dental care
2. Defines outcome measures together with NHG and other experts
3. Pilots outcome measurement in one unit
4. Expands to all units in Espoo
5. Defines and implements an ongoing process for measurement, interpretation of measures and a management structure
6. Other cities in Finland start using same outcome measures in dental care
7. Currently 26 public oral healthcare service providers and 1 private service provider use the developed measures. NHG conducts a benchmarking.
8. NHG shares the measuring set with ICHOM for possible use as a basis of ICHOM Oral Health standard Set



Lisää mittaristo

Case Central Finland Health Care District (KSSHP): Implementing ICHOM's Standard Set in Coronary Artery Disease



Project timetable

2018	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	2020-

1. Configuration of the system, planning data collection
2. Data collection, support for QuestLink and the design for dashboard
Break
3. Pilot evaluation
Potential expansion to other patient groups

- Kick-off 11/2018
- QuestLink deployment 3/2019
- Dashboard completed 6/2019

Outputs

1 Configuration of the system & data collection for the solution:

- Clinical outcomes: patient information system
- PROMs: QuestLink Implementation
- Costs: Prodacapo

2 Data collection & dasboard design:

- Contructing a holistic view to value (costs and outcomes)
- Data collection and validation, construction of the metrics

3 Pilot evaluation (& potential expansion to patient groups):

- Collecting lessons learned that can be used when scaling up to other patient groups
- 89 % of patients participating

Source: Pirjo Mustonen's presentation at the National VBHC Seminar (Kansallinen vaikuttavuusseminaari) 25.9.2019

Management Dashboard

Clear filters

Patients selected: 82

First heart attack
- No
- Yes

Age
- Under 50 years
- 50-75 years
- Over 75 years

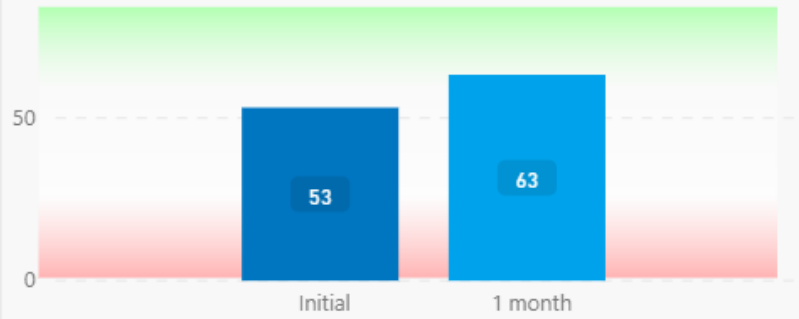
Sex
- Female
- Male

Procedure
- CABG
- None
- PCI

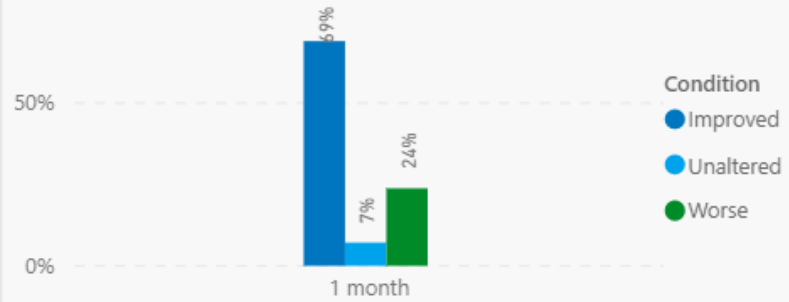
CAD Patients

Patient-reported outcomes | Clinical outcomes

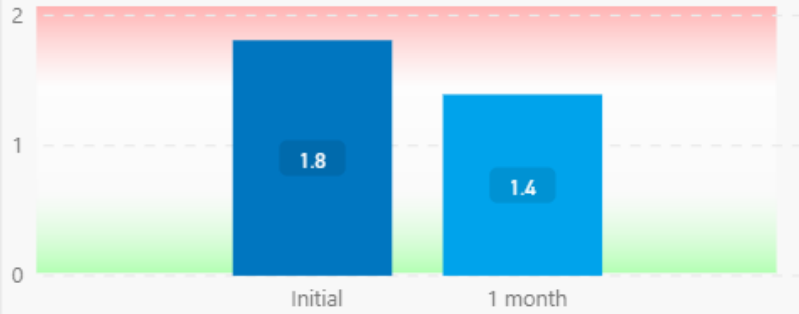
Chest pain (SAQ-7), average score



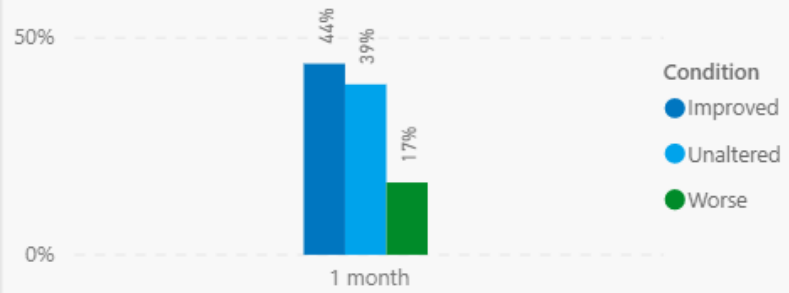
Chest pain (SAQ-7), patient condition



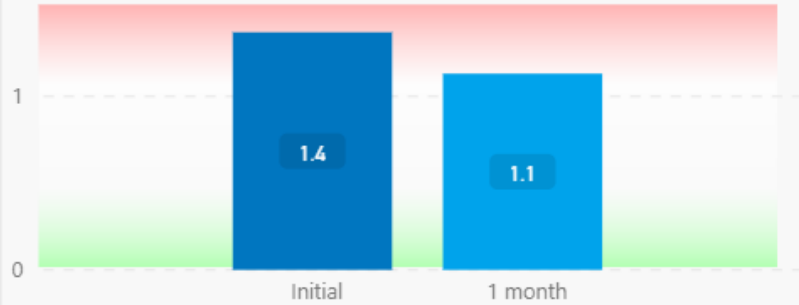
Dyspnea (ROSE), average score



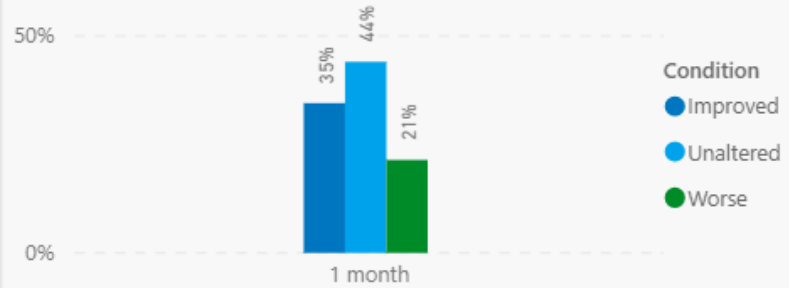
Dyspnea (ROSE), patient condition



Depression (PHQ-2), average score



Depression (PHQ-2), patient condition



Case Tesoma: an alliance between private and public, producing a wide array of services

Outcomes measurement is also an important part of the contract

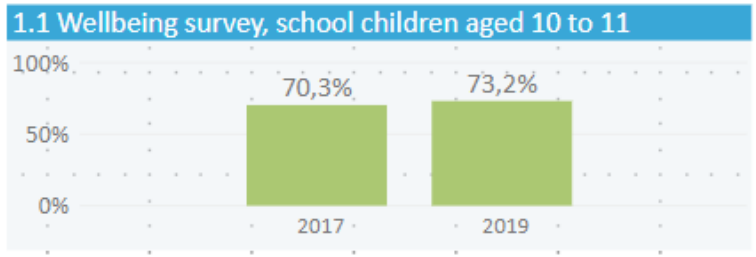
- Multi producer environment: services produced in cooperation by public, private, and third sector producers
- Services include primary care, dental care, library, a non-profit café, youth center, and businesses
- The alliance centers around the city of Tampere and the private healthcare service provider Mehiläinen, also smaller actors are included
- The outcomes-based remuneration is up to 2 % of the total remuneration
- Outcome measures on the next page

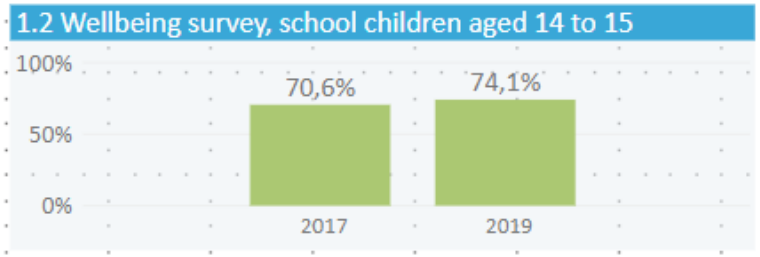
Outcomes are measured on 5 domains

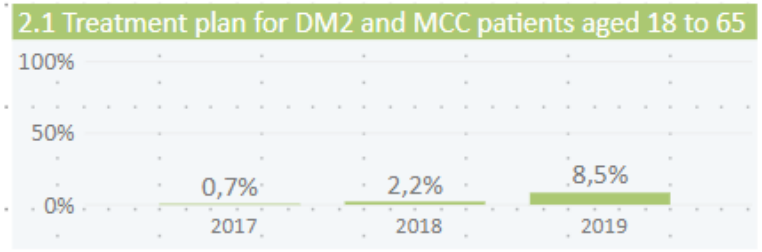
The 2% bonus was initially considered to be perhaps too low

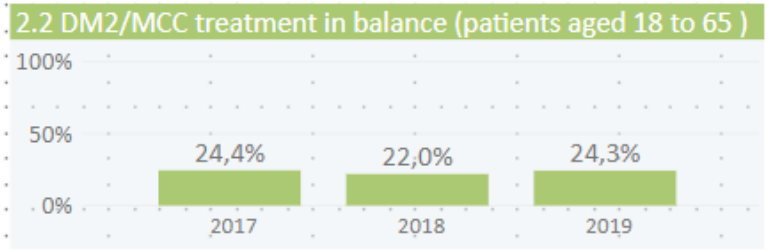
Domain	Theme	Metric	Weight
Well-being of children, adolescents, and families	**Well-being of primary school students in the annual national School Health Promotion survey**	Life satisfaction, experienced health status, oral health	7,5 %
	Well-being of upper comprehensive school students in the annual national School Health Promotion survey	Experienced health status, symptoms and diseases, sexual health, oral health, functioning of the everyday life of the family	7,5 %
Well-being, functioning and ability to work of adults	**Treatment of non-communicable diseases**	Treatment plan done, % of patients with type 2 diabetes or coronary artery disease	15 %
	Effectiveness of non-communicable disease care	Disease in control, % of patients with type 2 diabetes or coronary artery disease	15 %
	Coverage of dental care	Treatment plan done, % of patients in dental care	5 %
Well-being and functioning of the aged	**Ability of the elderly to live at home**	Functioning of home care customers	5 %
	Emergency department service use of the elderly	ED costs per patient, in comparison with the rest of the city	5 %
	Specialized care service use of the elderly	Specialized care costs per patient, in comparison with the rest of the city	5 %
Diminishing use of heavy services diminishes	**Spezialized care costs, annual change %**	Cost per patient, in comparison with the rest of the city	15 %
Satisfaction of the stakeholders	**Customer satisfaction**	NPS (by SMS)	10 %
	Collaborators' satisfaction	Satisfaction, as measured in an annual survey	10%

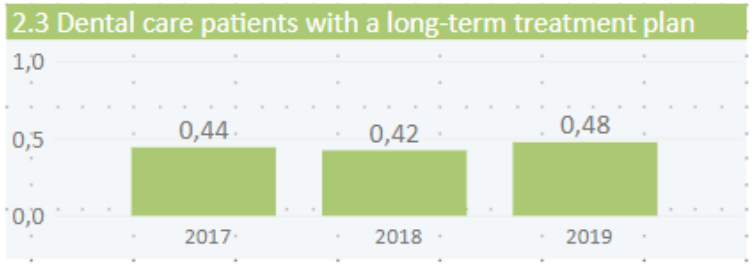
Results after 2 years of operation

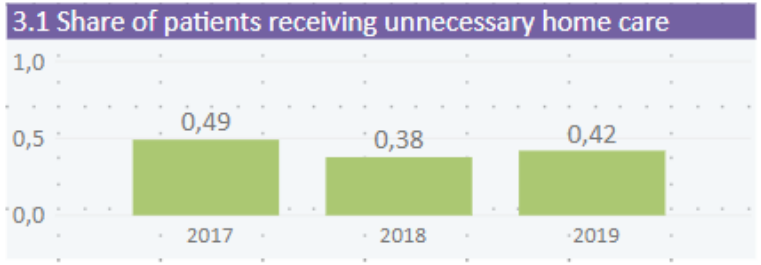


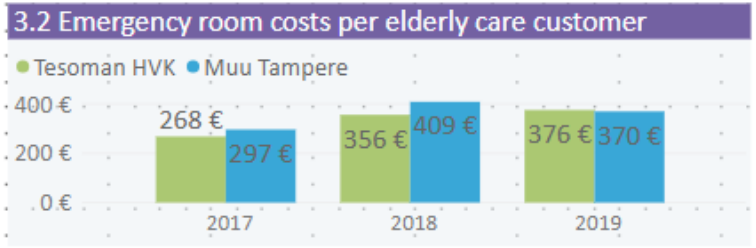


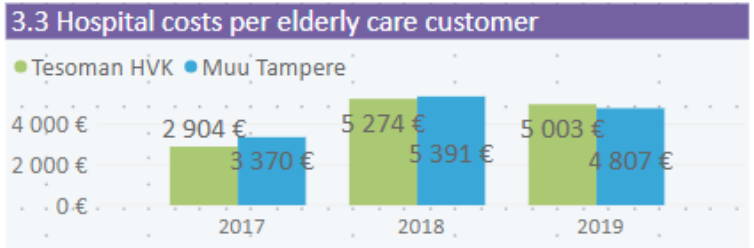


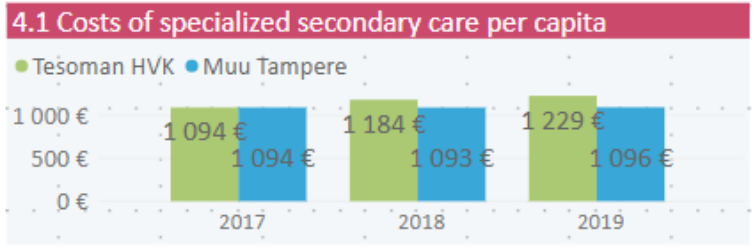






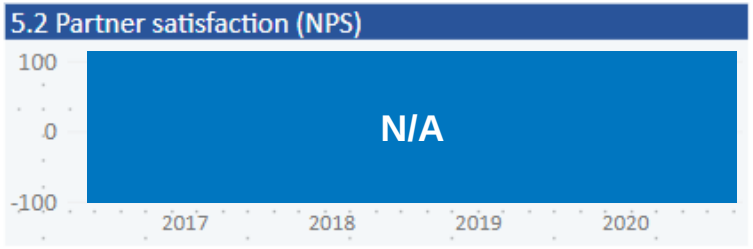






5.1 Customer satisfaction (NPS)

	Tesoma	Rest of the city
Health center	44	59
Dental clinic	60	61



What is the biggest challenge related to implementing VBHC?

1) Setting goals
2) Acquiring relevant data
3) Comparability of results
4) Measurement error
5) Change of mindset
6) Turning the data into information
7) Turning information into action

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Making use of the measurement on different levels for different purposes

> 1 y.	**Strategic level** Comparability, standard measures
< 1 y.	**Tactical level** Unit level information
monthly	**Operative level** Professional-level information
daily / hourly	**Patient interaction level** Using the data in daily patient work

Measuring in itself tends to bring a positive effect to what is measured, but the goal is to use outcome measures for better decision making on the managerial level and better clinical treatment on the operational level

NB: sharing the data with the patient motivates them to collect it, and possible to make changes in their lifestyle

On a piece of paper, write down how you would now, after this session, define VBHC. Compare to your earlier definition: did your thinking change?

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