



# VALUE-BASED PROCUREMENT

Partnering for patient-centric,  
sustainable health care

Value-based procurement—  
Partnering for patient centric,  
sustainable health care

VBP Case study library

JULY 2019



## Key insights from VBP case studies

Clear benefits for stakeholders

Challenges to overcome

VBP objectives

Criteria selection

## Individual VBP case studies

Case 1: TAVI (Hospital Clinic Barcelona)

Case 2: Diapers and underpads (Hospital Clinic Barcelona)

Case 3: Connected Hospital Bed Solution (Erasmus Medical Center)

Case 4: Anti-Coagulation Point of Care solution (NHS Wales)

Case 5: Cataract Surgery (Zilveren Kruis)



# Learnings from VBP early adopters



## VBP case studies

- Deep dive analysis with early adopters incl. interviews, document access and standard methodology



## What have we learned?



### VBP benefits gained

- Providers/procurers secure total cost of care savings and improve outcomes, improve patient centric care and staff involvement and long term financial stability
- Medtech suppliers build up VBP offerings, improve reward for value & innovation, co-create evidence with key accounts and improve R&D cycles



### VBP challenges

- Providers/procurers are facing time and resource constraints, internal resistance due uncertainty of value and not aligned incentives and lack of outcome data systems
- Medtech suppliers have to address insufficient solution focused sales model, lack of evidence and VBP expertise



### Range of VBP objectives

- VBP with single or multiple objectives, case-dependent
- VBP cases reflect a journey
  - from price only to full value focus
  - From product focus to solutions to integrated care



### Award criteria value focused

- Joint criteria selection with suppliers
- Multidisciplinary teams with strong end-user involvement
- Strong focus on outcomes, as they also drive cost
- Pain point based criteria selection

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# Key insights from VBP case studies



Analysis and interviews with VBP case study participants highlight best practices and benefits



# 5 VBP case studies completed jointly with protagonists



Procedure/ product focus	TAVI	Diapers + underpads	Connected hospital bed service	Anti-coagulation Point of Care Solution	Cataract surgery
Population segment	Aortic stenosis with high risk in open heart surgery	Incontinence patients	All hospital inpatients (solution focus on fragile, restless patients)	All patients in need for anti-coagulation (acute, outpatient and home)	Patients with cataract
Care pathway	Minimally invasive surgery	Acute hospital stay	Acute hospital stay	Entire pathway (testing, dosage, after-care)	Fully integrated care solution
Tender procedure	Learning project (no live tender)	Learning project (no live tender)	Competitive dialogue with open market consultation	Competitive dialogue with open market consultation	Best Value approach/ Competitive dialogue
Procuring entity	Hospital Clinic Barcelona (Spain)	Hospital Clinic Barcelona (Spain)	Erasmus MC (Netherlands)	NHS Wales (United Kingdom)	Zilveren Kruis (Netherlands)



# Additional 5 VBP case studies - work in progress



<b>Product focus</b>	Knee implants	Cochlear implants	Renal cancer personalised treatment	Prevention of perioperative hypothermia	ICD & home monitoring
<b>Procuring entity</b>	Region of Southern Denmark	Sykehusinnkjop (Norway)	Capital Region of Denmark	UniHA / Hospices Civils de Lyon (France)	St. Pau Hospital / AQUAS (Spain)
<b>Tender procedure</b>	Open procedure	Open procedure	Partnership agreement	Competitive dialogue with market consultation	Pilot case
<b>Features</b>	Open market consultation applied. Patient outcome criteria used. Risk-sharing pricing concept contracted.	Individual market dialogues applied. Willingness-to-pay method applied in tender award.	Patient tailored treatment based on DNA profile classification. Patient response monitoring & data collec. Using VBHC to optimize resources and care process	Full application of the MEAT-VBP-framework. Complete solution offering awarded.	Pilot on viability and innovation criteria. Focus on total cost of care delivery and process efficiency.



# Slide summarizing VBP case study methodology

## VBP Case summary

**Key value criteria used**

- Visual clarity
- Completion rates
- Reoperation rate
- Performance monitoring system

**Value impact on stakeholders**

- Value created for the payer
- Value created for the provider
- Value created for the patient

**Key learnings**

- Care provider engagement
- Value-based procurement approach

Provide overview on key parameters, key value criteria used, value impact and key learnings

## Key learnings overview

**Summary key learnings | Successes and areas for improvement**

- Payer BYP operating model**
- BYP pilot process**
- Care service provider BYP operating model**

Highlight key learnings on provider and supplier side, and concerning the VBP process itself

## Success factors

**Key learnings | successes and what worked well**

- Payer BYP operating model**
- BYP pilot process**
- Care service provider BYP operating model**

Demonstrate key learnings on what worked well from procurer, supplier and process perspective

## Areas for improvement

**Key learnings | areas for improvement**

- Payer VBP operating model**
- BYP pilot process**
- Care service provider VBP operating model**

Show key learnings on what needs to be improved upon on procurer, supplier and process side

## VBP criteria used

Level	Category	Criteria	Criteria used in BYP tender
Outcome	Quality	Visual clarity	Visual clarity
Product	Quality	Completion rates	Completion rates
Cost	Quality	Reoperation rate	Reoperation rate
Cost	Quality	Performance monitoring system	Performance monitoring system
Value created for the key stakeholders	Quality	Value created for the payer	Value created for the payer
Value created for the key stakeholders	Quality	Value created for the provider	Value created for the provider
Value created for the key stakeholders	Quality	Value created for the patient	Value created for the patient

Indicate and specify all VBP criteria which were applied within the MEAT framework

## Value criteria assessment process

**Value criteria assessment method used**

- Minimum requirements vs. awarding criteria**
- Scoring or willingness to pay method**

Guide through the VBP value criteria assessment method which was used in this tender

## Impact for stakeholders

**Value impact stakeholders Key aspects for integrated care provider**

- Economic**
- Cultural + Skills/ Training**

Extract value generated through this VBP tender for provider and separately for supplier

## Tender process

**VBP tender process | 11 months timeline, 7 months open market consultation**

Timeline: 08/2016 to 07/2014

Key process steps: Scoping VBP project, Competitive dialogue, Tender evaluation, Tender contract delivery.

Lead path through steps of tender process including timelines and involved stakeholders



# VBP case summary

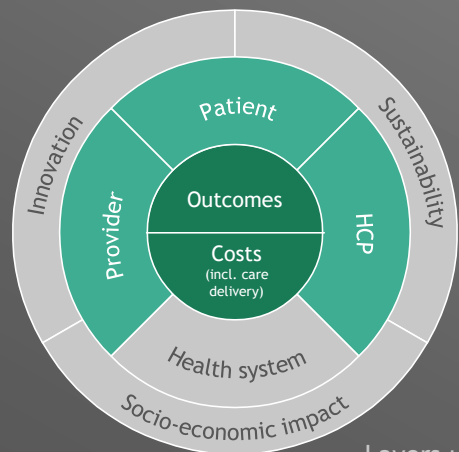
**Procedure/product focus:** TAVI

**Population segment:** Patients with aortic stenosis at high risk in open heart surgery

**Care pathway:** Minimally invasive aortic valve implant

**Procuring entity:** Hospital Clinic Barcelona (Spain)

**Tender procedure:** Learning project (no live tender) based on open procedure



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procurers

1 TAVI



## Key value criteria used



### Outcome focus

- Survival
- Aortic regurgitation
- Need for pacemaker
- Quality of life
- Risk sharing scheme



### Cost of care focus

- Purchase price of TAVI
- Consumables
- Economic contribution for training courses



### Other benefits for stakeholders

- Financial support for R&D
- Long-term cost of treatment



### Broader impact on society

- No key criteria used



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Estimated lower complications with potential to reduce total costs of care by 5-10% p.a.

#### Qualitative impact

- Clearer understanding of suppliers' TAVI technology offerings (e.g., service offering, evidence levels, product features)
- Improved, alternative care pathway (e.g., less invasive, patient centric procedure)
- Positioned hospital as innovation leader towards patients and payer

#### Cultural aspects

- Enabled multi-disciplinary purchasing team
- Initiated procurer culture change

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Estimated potential at 10-20% price premium over lower cost bid

#### Qualitative impact

- Deepened experience with VBP (e.g., value claims supported by evidence)
- Insight into needs of cardiac patients/care pathway and clinical benefits
- Strengthened internal VBP operating model, (e.g., tender shaping, value communication)

#### Cultural aspects

- Education of tender operations and sales representatives on MEAT<sup>1</sup> VBP process



## Key learnings

### Success factors and what worked well

**HCP commitment:** 'Was achieved because clinical and other criteria were considered besides price.'

**MEAT<sup>1</sup> VBP process:** 'The VBP process is rigorous, transparent but complex.'

**Information provision:** 'TAVI tech companies had detailed information on value of their products.'

### Proof of concept

“ When Willingness-to-Pay calculations were applied, the bid winner was not the one with the cheapest product. The winner was the MEAT<sup>1</sup> considering all the criteria in the framework

# VBP case summary

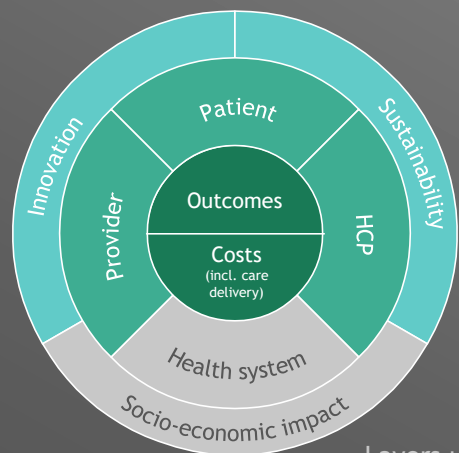
**Procedure/product focus:** Diapers/underpads (focus on technology only)

**Population segment:** Incontinence patients

**Care pathway:** Hospital stay

**Procuring entity:** Hospital Clinic Barcelona (Spain)

**Tender procedure:** Learning project (no live tender) based on open procedure



Layers used in MEAT<sup>1</sup> VBP

## Validated and approved by procures



### Key value criteria used



#### Outcome focus

- Absorption level
- Prospective evidence generation
- Willingness to offer risk-sharing



#### Cost of care focus

- Product purchase price
- Conversion staff training



#### Other benefits for stakeholders

- Visual identification of right diaper/underpad sizes



#### Broader impact on society

- Biodegradable raw materials
- Recycling bins
- Substantive innovations

2

Diapers/underpads



### Value impact on stakeholders

#### Value created for hospital

##### Quantitative impact (clinical and economic)

- Potentially less medical staff time required due to fewer diaper and underpad changes
- Reduced cost due to complications (e.g., Urinary tract infection at 3,200 Euro)

##### Qualitative impact

- Avoiding complicat. such as skin rashes and bladder infections caused by moist diapers or underpads
- Improved patient comfort due to fewer diaper changes and better fit
- Build-up of evidence via real-life testing

##### Cultural change

- Improved multi-disciplinary collaboration across hospital functions

#### Value created for bid winner

##### Quantitative impact (clinical and economic)

- Potential for price premium for higher quality product

##### Qualitative impact

- Reward for products with innovative technical features benefiting all hospitalised patients
- Deepened experience with VBP (e.g., value claims supported by evidence)
- Insights from real life testing for R&D

##### Cultural change

- Internal MEAT<sup>1</sup> VBP operating model set-up
- Fostered collaboration through dialogue on MEAT VBP within multi-disciplinary teams

##### Proof of concept

“ When Willingness-to-Pay calculations were applied, the winning company was not the one that offered the product at the cheaper price. The winner was the MEAT<sup>1</sup> considering all the criteria in the framework.



### Key learnings

#### Success factors and what worked well

**HCP commitment:** ‘We involved product users early on, thus achieved commitment of HCPs.’

**MEAT<sup>1</sup> VBP process:** ‘We appreciate that VBP values the service rather than just the product.’

**Information provision:** ‘The National Association helped us to identify well suited suppliers willing to participate.’

1. Most Economically Advantageous Tender

# VBP case summary

**Procedure/product focus:** Connected hospital bed solution

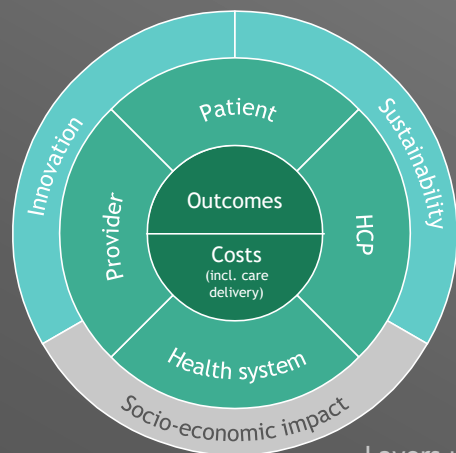
**Population segment:** All hospitalised patients

**Care pathway:** All in-hospital stay patients

**Tender procedure:** Competitive dialogue

**Procuring entity:** Erasmus MC (Netherlands)

**Supplier bid winner:** Hill-Rom<sup>2</sup>



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procurers

3

Connected hospital bed solution



## Key value criteria used



### Outcome focus

- Patient safety
  - Falls prevention
  - Prevention of HAI
- Pressure ulcers
- Patient mobilisation



### Cost of care focus

- Workflow efficiency
- Nurse staff time/bed
- Length of stay (LOS)
- Replacement with specialised beds



### Other benefits for stakeholders

- Staff safety
- HCP satisfaction
- Nurse staff availability
- Continuous monitoring of patients' outcome



### Broader impact on society

- CO<sub>2</sub> footprint
- Evidence based research
- New improved techn. developed



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Substantial total cost of care savings expected due to improved workflow/reduced staff time
- Improved financial performance due to avoided capital cost & flexible solution adapting to needs

#### Qualitative impact

- 15-yr long partnership enables adaption to care needs, workflow efficiency and future value proof
- Improved patient safety (decreased # of falls & pressure ulcers, prevention of HAI)
- Reduced carbon footprint
- Nurses' availability for patient centric care
- Improved patient experience tracked by KPIs

#### Cultural change

- Higher employee satisfaction/presence at work

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Large contract for ~ 840 hospital beds and mattresses over 15 years
- Financial reward for innovative solution

#### Qualitative impact

- Shorter R&D cycles due to opportunity and easy access to test and co-design future bed service products with academic center of excellence
- Reward and enhanced reputation for integrated bed and mattress service

#### Cultural change

- Fostered collaboration in multidisciplinary teams to prepare for VBP tender
- Built trusted partnership with provider

#### Proof of concept

“ Procuring hospital and bid winning supplier with significant medical and/or economic value in committing to a long term partnership to jointly improve medtech care solution. This will foster co-creation of evidence to demonstrate value gained for all stakeholders (HCPS, procurers, suppliers and patients) and to contract on value based solutions in the future



## Key learnings

### Success factors and what worked well

**Clear objectives:** ‘We shared our unmet needs with supplier to raise awareness for future opportunities’

**Early trust:** ‘it was crucial for us to create trust with suppliers early on to have them engaged in process’

**Value-based approach:** ‘The medtech supplier really bought into the value-based solution concept providing some and co-creating add. Evidence’

1. Most Economically Advantageous Tender 2. Publicly available information

# VBP case summary

**Procedure/product focus:** Anti-coagulation Point of Care Solution<sup>1</sup>

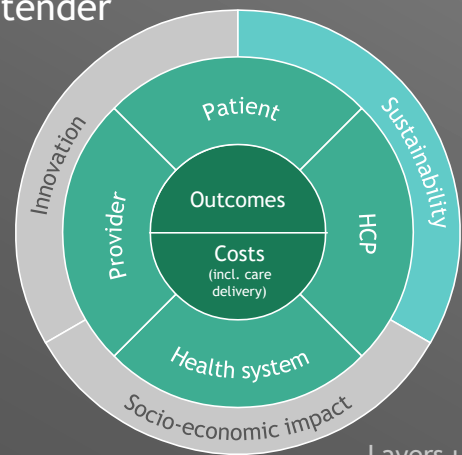
**Population segment:** Patients in need for anti-coagulation

**Care pathway:** Entire pathway (acute, outpatient and home)

**Tender procedure:** Open Procedure/Open market consultation

**Procuring entity:** NHS Wales

**Supplier bid winner:** Open tender



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procurers



## Key value criteria used



### Outcome focus

- INR value in therapeutic range
- Complications due to coagulation e.g., stroke



### Cost of care focus

- Total solution life cycle cost
- Staff training
- Techn. Support
- IT & Network



### Other benefits for stakeholders

- Connectivity of PoC meter to database
- Therapeutic advice w/o staff time



### Broader impact on society

- Sustainable products
- Waste disposal
- Patients' ownership of their health



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- 10-20% reduced cases for high cost ER setting due to more consistent patient monitoring
- Reduction in total cost of care/patient by shifting monitoring to outpatient/home care

#### Qualitative impact

- Patient convenience and reduced burden to HCP due to at/near home testing
- Ability to build up data and analytics to test intervention and improve care pathway
- Better symptom management and interconnectivity to secondary care

#### Cultural change

- Patient empowered to be more active & independent in own monitoring

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Increased revenue per patient due to full solution offering (PoC testing equipment plus 3<sup>rd</sup> party contract on dosing software)

#### Qualitative impact

- Jointly developing integrated care solution within long term partnership model
- Data offers insights into clinical pain points and solution impact along care pathway
- Improved reputation for VBP (e.g., value claims supported by measured evidence)

#### Cultural change

- Patient empowered to be more active & independent in own monitoring



## Key learnings

### Success factors and what worked well

**Solution offering:** 'Suppliers enabled PoC testing which allows patients to perform self testing, health monitoring and appointment scheduling.'

**VBP support:** 'We installed three dedicated VBP managers which ensured a successful VBP process for all stakeholders.'

### Proof of concept

“ During this VBP tender, we aimed to solve major pain points within the care pathway which led suppliers to compete for a comprehensive solution that more specifically fits our clinical, financial and organizational requirements

1. Most Economically Advantageous Tender

# VBP case summary

**Procedure/product focus:** Cataract surgery

**Population segment:** Patients with cataract

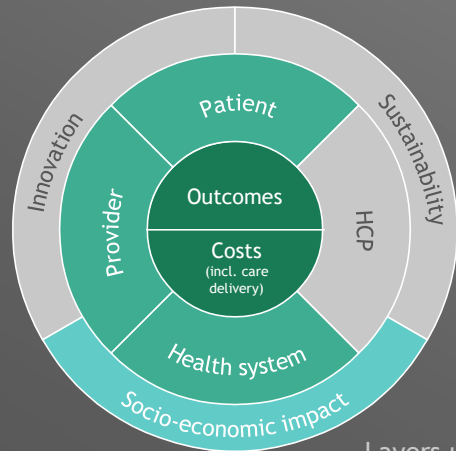
**Care pathway:** Fully integrated care solution

**Tender procedure:** Best Value approach

**Procuring entity:** Zilveren Kruis (Netherlands)

**Provider bid winners:** OLVG, Bravis, Rotterdam eye hospital, Deventer hospital, St. Jansdal

These are providers supplying fully integrated care service



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procures



## Key value criteria used



### Outcome focus

- Visual acuity
- Complication rates
- Re-operation rate
- Performance monitoring system



### Cost of care focus

- Price of procedure



### Other benefits for stakeholders

- Patient satisfaction
- Patient's waiting time



### Broader impact on society

- High Cataract Surgery rate (CSR)



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Lower complication and follow up surgery rate reduces long-term cost of care
- Long-term volume contracts with lower price per surgery
- Attraction of new members due to best service

#### Qualitative impact

- Developing and providing high-quality integrated cataract therapy within center of excellence
- Reward and enhanced reputation for being one of the first in offering best value cataract care
- Transparency on performance of providers

#### Cultural change

- Improved relationships with hospitals/HCPs
- Staff enabled in value-based procurement

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Revenue guaranty from 3-year contract
- High volume of performed surgeries due to no waiting time and short lead times to surgery

#### Qualitative impact

- Recognized as quality leader
  - Best BCVA<sup>2</sup> above 90%
  - Low complication rates
- Building out quality monitoring system improves overall clinical operations
- High patient satisfaction and net promoted score due to positive care experience

#### Cultural change

- Fostered collaboration in multidisciplinary teams to define value-based KPIs



## Key learnings

### Success factors and what worked well

**Care provider engagement:** '29 care service providers were interested and very engaged in VBP'

**VBP tender process:** 'We experienced value-creating learning in this first successful VBP tender process'

**Care provider solution:** 'The bidding care service providers really bought into the concept of VBP and developed sets of KPIs most valuable for high-quality and outcome oriented cataract care'

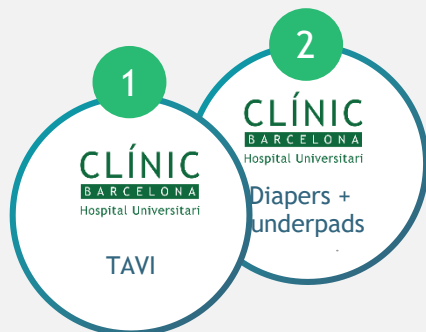
### Proof of concept

“The novel best-value procurement approach empowered the bidding care service providers with the responsibility for the selection of best value criteria. The definition of high-quality outcome measures achieved the best outcome in cataract therapy at an affordable price”

Note: This case study used a slightly different VBP method: the Best Value Procurement approach 1. Most Economically Advantageous Tender 2. BCVA = Best Corrected Visual Acuity; Source: Interviews and documents from case study protagonists; BCG analysis



# Overview key success factors for VBP case studies I/II



## Joint clinician-procurer team to shape criteria and evaluate bids

- Clinicians' needs reflected in tender criteria selection, thus broadening criteria and ensuring better clinician engagement
- MEAT<sup>1</sup> offer potentially improving financial stability for hospital
- Self-discovery of VBP benefits is resulting in clinician-procurer teaming model increasingly common approach to tenders

## Providers need to prioritize where to use VBP among portfolio

- Prioritize products/solutions with strong potential for clinical use
- Chose Clase III CE solutions due to depth of evidence base

## Install 3<sup>rd</sup> party as potential facilitator for outcome measurement

- Install independent 3<sup>rd</sup> party supported by an IT measurement solution to create evidence base for outcome improvement

## VBP process supported shift from buying products to solutions

- Early provider-supplier dialogue on provider helps to craft tender for new solution tailored to clinical needs
- Continuous outcome measurements and correlation of those to the use of the solution speeds up R&D cycle time

## VBP supports commitment to better patient care ...

- Supplier supports monitoring of outcomes as basis for continuous clinical improvement
- Supplier committed to support improved workflow efficiency

## ... and improved financial stability for provider

- Support in reduction of provider's cost of care pathways
- Financing solution aided provider to shift equipment payment from capital investment to operational cost

1. Most economically advantageous tender (MEAT)



# Overview key success factors for VBP case studies II/II

4



Anticoagulation PoC

5



Cataract

## Common outcome measures across care delivery settings to improve outcomes and lower overall total cost per patient group

- Standardised & comparable outcome measurement across delivery channels enabled through PoC device and software
- Cost reduction through avoidance of more expensive acute phase
- Contract with one main supplier and second subcontractor established as a solution to meet rigorous requirements on both PoC device and software (e.g., patients' self-testing)

## Newly installed specialised VBP managers drive VBP tenders

- Key tasks include selection of focus areas, identification of pain points in care pathway and definition of value criteria
- Enable setup of VBP solutions jointly with participating suppliers
- Need for rigid scoring process during the tender evaluation phase to mitigate possible clinical risks of proposed VBP solutions

## “Option space” for VBP criteria selection shaped jointly by both sides via early request from contracting authority

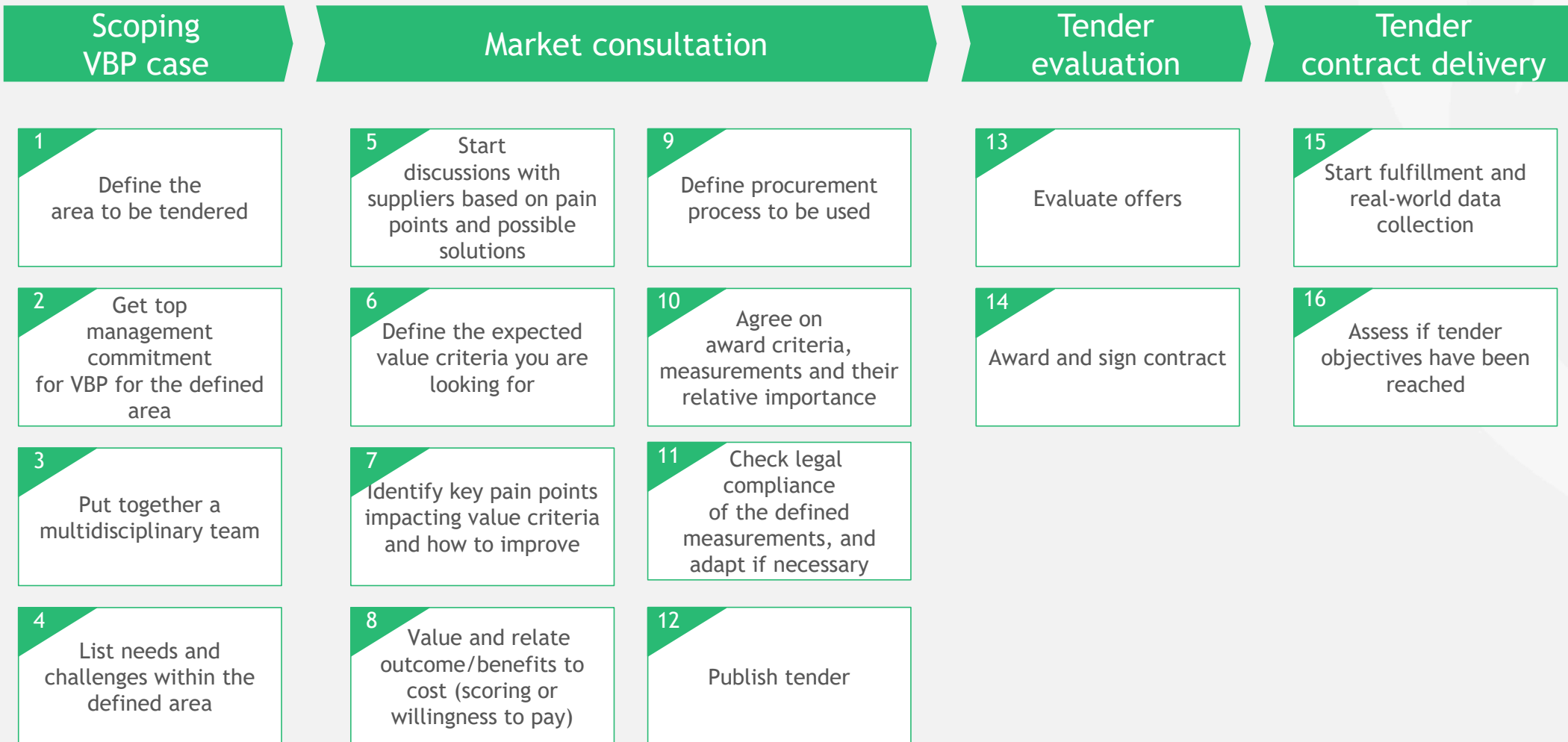
- Providers create network and collectively suggest implement-able & value oriented set of criteria, outcomes and cost
- Competitive tender process with variety of provider options due to high level of bidder engagement and participation

## Standardized outcome measures needed for successful VBP

- Need to develop standard criteria applied by all 5 winning bidders (provider like Rotterdam Eye hospital) to allow for benchmarking
- Relationship between payer and provider needs to be strengthened upon contract signature to enable close collaboration on outcome measurement



# A guide for procurers on VBP process steps





2



Clear benefits for  
stakeholders

A photograph of a healthcare professional in blue scrubs talking to a patient in a hospital room. The patient is sitting up in bed, smiling, and looking towards the professional. A doctor in a white lab coat and blue tie is standing to the right, holding a clipboard and smiling. In the background, there is a computer monitor displaying vital signs: 72, 10/94, and (107).

VBP case studies capture clear benefits for both  
procurer and provider

# Key benefits for providers and procurers



Improved patients health outcome



Reduction of total cost of care



Patient centric care model developed and improved staff involvement



Improved financial sustainability long-term

## Key benefits for providers and procurers



### Improved patients health outcome

- Improved transparency on outcomes (e.g., continuous monitoring and measuring of patient's weight in connected hospital beds)
- Continuous improvement possible and more effective, also supported by supplier (e.g., Medtech supplier in continuous dialogue with Erasmus MC concerning required adaptations based on clinical needs)
- Personalized treatment of patients depending on needs (e.g., Medtech supplier offers mattresses which avoid pressure ulcers without transfer between beds)



### Reduction of total cost of care

- Fewer complications (e.g., TAVI implant reduces neurological complications by ~ 3%)
- Optimized workflow and care pathway (e.g., connected hospital bed solution reducing need for paper documentation)
- High volume of performed surgeries decreases procedure costs per patient (e.g., lower cost per procedure in Silver Cross cataract contract)



### Patient centric care model developed

- Patient centric care model (e.g. PoC device in NHS Wales allows for patient self-testing of anti-coagulation needs)
- Recognized as value leader (e.g., Medtech supplier developed connected bed technologies)
- Improved patient flow and capacity due to improved workflow efficiency (e.g., Cataract patients of Silver Cross experience shorter lead time from first visit to surgery)
- Better patient centric care due to increased staff time (e.g., Nurse time increased in Erasmus MC due to fewer time spent on patient monitoring)



### Improved financial sustainability long-term

- Ability to shift cost from capital budget to operating costs (e.g., Erasmus MC renting hospital beds as a service)
- Lower cost long term due to due VBP solution flexibly adaptable to changing needs (e.g., Erasmus MC experiences shift of medical care needs within patient population and Medtech supplier adapts composition of required beds)
- Revenue guaranty from multi-year contract (e.g., Erasmus MC and Medtech supplier in service agreement for 15 years)

# Key benefits for medtech suppliers



VBP offerings build-up and financial reward for innovation and value secured



Long-term revenue generation through partnership



Partnership with providers for co-creation of evidence



Shortened R&D cycle times and co-develop with end-users

# Key benefits for medtech suppliers



## VBP offerings build-up and financial reward for innovation, value secured

- Newly innovated products (e.g., connected hospital beds with integrated scale) and wider recognition for value and innovation (e.g., media, awards)
- Strengthened value recognition of existing product portfolio (e.g., diapers with higher value due to fewer HAIs)
- Products with improved technical features (e.g., PoC device with EMR connectivity)
- Increased revenue per patient due to full solution offering (e.g., PoC device for INR time measurement with dosing software for therapy)



## Long-term revenue generation through partnership

- Contract of year-long service (e.g., connected hospital bed service over 15 years)
- Potential additional financial benefits over time (e.g., innovative TAVI solution lowering complication rate for HCB)
- Improved access to buyers of innovative products (e.g., PoC devices featured by NHS Wales)
- Experience with integrated solution offering (e.g., connected hospital solution offers better workflow efficiency)
- Reward for clear contribution to provider's sustainable financing



## Partnership with providers for co-creation of evidence

- Co-created real world evidence (e.g., Erasmus MC's patient monitoring in connected hospital bed solution)
- Enhanced outcome measurement expertise (e.g., measuring complications during TAVI surgery)
- Data offers insights into clinical pain points and solution impact along care pathway (e.g., patient ulcer rate in mattress service)
- Offering standardized outcome measurement across delivery channels (e.g., PoC device enables standardized INR measurements in-/out-patient and at home)



## Shortened R&D cycle times and co-develop with end-users

- Adapted R&D pipeline to clinical needs (e.g., supplier engineers connected beds to clinical needs of Erasmus MC's patients)
- Developed and refined solutions tailored to clinical pain points (e.g., integrated bed exit alarm to reduce patient falls at Erasmus MC)
- Collaborated with center of excellence (e.g., TAVI suppliers and HCB for cardiac surgery care)
- Experience with solutions benefitting clinical needs (e.g., PoC device supplier improves net promoter score with NHS Wales)

3



# Challenges to overcome



VBP case studies also show some key challenges that need to be overcome



# Key challenges for providers and procurers



Time and resource requirements



Internal resistance toward change



Insufficient readiness among suppliers



Insufficiently specific value proofs

# Key challenges for providers and procurers



## Time and resource requirements

- Planning and setting up the tender process, and criteria selection during the market consultation phase highly time and staff consuming
- Extensive expertise on VBP awarding criteria selection and assessment method needed in order to execute process successfully (depending on process chosen)
- Leverage VBP managers with expertise to support and streamline process, more quickly generate buy-in with stakeholders and leverage standard approaches/ templates



## Internal resistance due to uncertainty of value not aligned incentives

- In most hospital, stakeholders e.g., procurers and clinicians work in silos and procurers lacking insights into clinical pain points and needs
- Clinicians are unaware of the procurement process and thus, unable to appreciate the value of MEAT VBP tendering
- Essential to convince clinicians from the beginning of the process by demonstrating the added value for the patients' outcome by using an expanded proof of concept phase



## Insufficient readiness among suppliers

- Many suppliers are not ready yet for the VBP tender process due to insufficiently defined value propositions and lack of readiness for new contractual agreements
- Supplier offerings and evidence insufficiently specific to hospital setting, hospital pain points and patient cohorts
- Provide sufficient room for dialogue with the suppliers early on, educate and answer specific questions during feedback rounds and 1-on-1 with suppliers to understand the service offerings



## Insufficiently specific value proofs

- Existing evidence often insufficiently specific for hospital context
- Lack of data on existing pain points as well as infrastructure for specific outcome measurement
- Specific information on costs associated with care pathways and potential outcome improvements is difficult to obtain within the organization, and thus, estimating economic impact of VBP value is challenging
- Partner with suppliers to jointly perform real world evidence collection based on supplier's infrastructure and data systems integrated into the clinical operations

# Key challenges for medtech suppliers



Insufficient value  
focused sales  
model



Lack of evidence  
for value  
proposition



Insufficient VBP  
expertise and  
enablement



Insufficient  
internal alignment  
between functions

# Key challenges for medtech suppliers



## Insufficient value focused sales model

- Internal mentality and sales process setup in a traditional product focuses and transaction sales process specific model which leaves limited room for broader and integrated offerings
- Sales team unable to differentiate based on value driven offering since there is insufficient focus on clinical pain points and ways to address those
- Provide a sales force with training and toolkits to educate on clinical value of integrated solutions rather than products and thus, enable selling of



## Lack of evidence for value proposition

- Lack of specific value proposition for patient cohorts, validated measures and targeted supportive data to show evidence for clinical outcome improvement through value offerings
- Suppliers often have not yet set-up a cost-efficient and targeted operating model to generate real world evidence specific to health system or client contexts
- Insufficient partnerships with providers on clinical trials and proof of concept tests to co-create evidence for value (outcome, total cost and other benefits) improvement



## Insufficient VBP expertise and enablement

- In many medtech firms, employees across departments are not educated on/experienced in VBP yet and don't understand value of engaging in a VBP tender project
- Expertise and readiness for a VBP tender process are lacking (smaller companies often limited existing evidence, larger companies insufficient focus on pain points and value based selling)
- Educate and train own employees on process and requirements of VBP and create expert teams across departments to foster knowledge transfer



## Insufficient internal alignment between functions

- VBP tendering often held back by getting internal approval from management (at times challenging and highly time-consuming)
- Insufficient management attention existent for VBP, e.g., not all suppliers really backed by senior management and thus, hindered to engage in VBP projects
- Establish improved operating model on VBP to enable engagement in tenders across employee levels, e.g., setup of information and training sessions to reach consensus level

4



# VBP objectives



Value-based procurement objectives guide focus areas and shift towards full value focus over time



# Range of objectives tied to VBP case examples

## 8 key objectives for VBP tendering

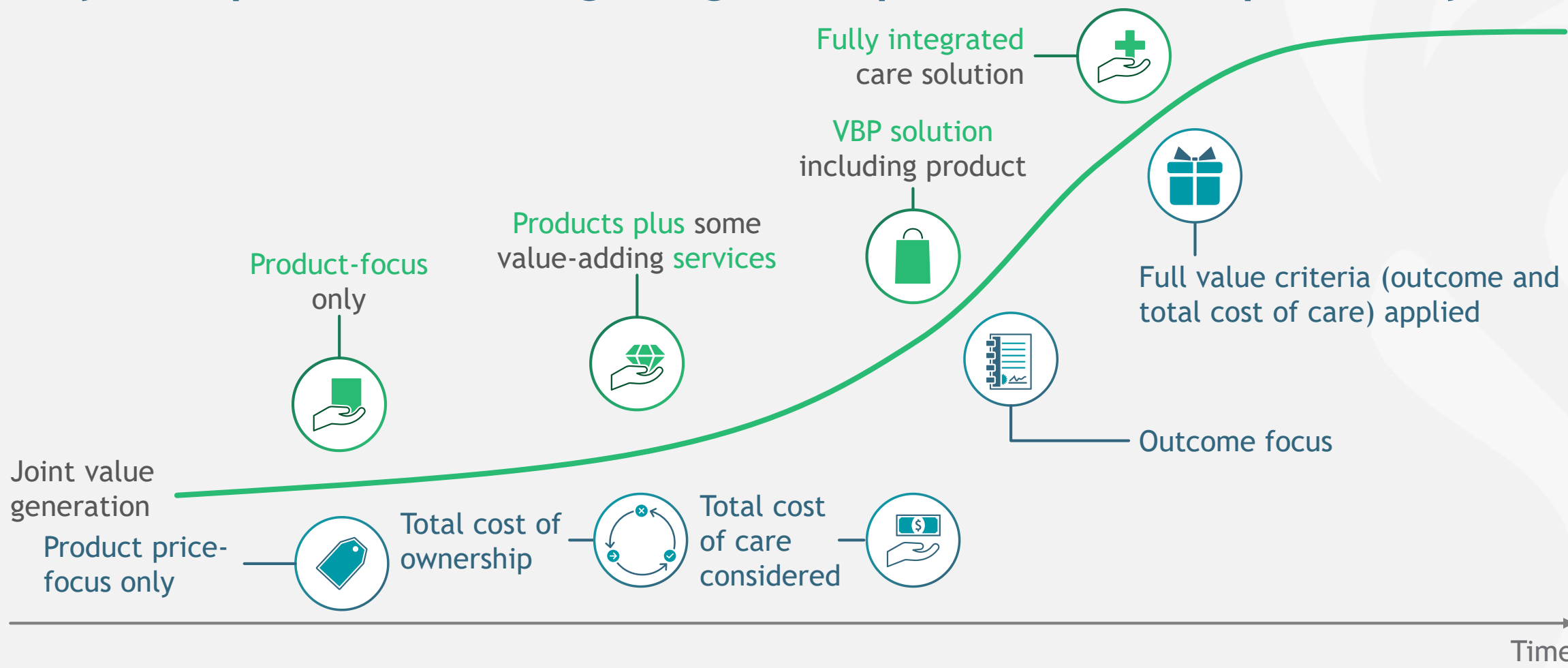
## Application in VBP case studies

Joint objectives	1. Shift from product to broader value offering		✓	✓
	2. Partner to co-create evidence on clinical, patient outcomes, cost of care delivery and other benefits	✓	✓	✓
	3. Tailor solution to mitigate clinical pain points	✓	✓	✓
Procurers' objectives	4. Identify clinical pain points through outcome measurement to optimize clinical practice		✓	✓
	5. Integrate care delivery across channels		✓	✓
Suppliers' objectives	6. Increase value recognition for medtech offerings	✓	✓	✓
	7. Ensure (long-term) reward for innovation	✓	✓	
	8. Reduce R&D cycle time via co-development		✓	✓

✓ Objective applied in case



# VBP approach is a journey broadening value propositions beyond price to bring larger impact on care pathway





5



# Criteria selection



Clarity on clinical and procedural pain points and supplier involvement key for meaningful criteria



# Best practice for choice of value-focused award criteria



## Key steps for procurement success

- 1 Setup multidisciplinary team for therapy focus area
- 2 Deep dive analysis on clinical, procedural and economic pain points and prioritize 3-5 major provider pain points
- 3 Identify 2-3 value criteria per major pain points
- 4 Conduct literature research and internal/external interviews on pain points and value criteria
- 5 Solicit input from suppliers and criteria for major pain points, e.g., how to specify and measure criteria
- 6 Consolidate own criteria and input from suppliers into one prioritized list of criteria

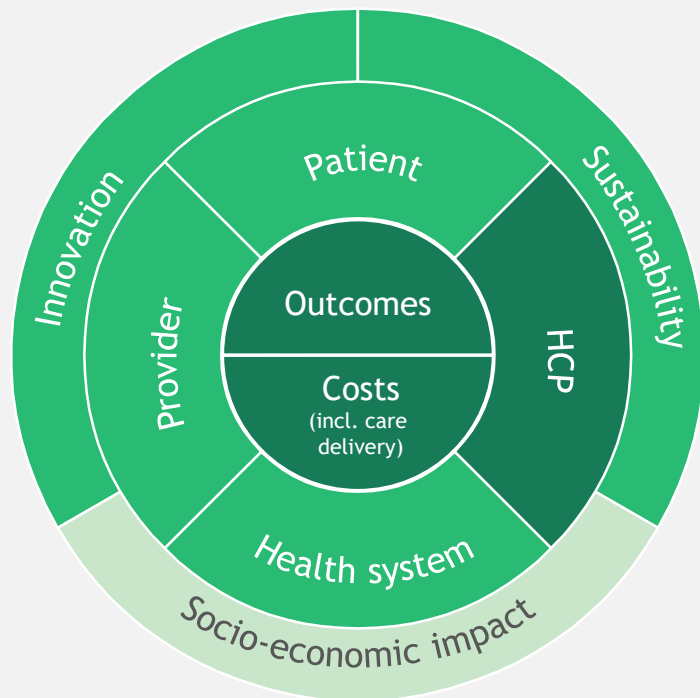


## Procurer/medtech feedback

- “ Our cross-functional team with strong clinician involved at the start really made the difference
- Our dedicated VBP managers helped us to map the pain points in the clinical care pathway
- The MEAT VBP really helped us to quickly identify and test relevant criteria for each pain point
- We conducted a targeted literature search to understand our criteria better and what impact we might expect
- We conducted 1-on-1 sessions and interviews with the suppliers to receive feedback and input on the criteria set
- Having a combined set of suppliers’ and providers’ criteria guaranteed both suppliers’ engagement as well as providers’ representation of needs during the bidding phase
- ”



# Key learnings for VBP criteria selection process from the 5 case studies



- While price still 25-40% of weight, **clear shift towards outcome and total cost of care criteria**
- **HCP value criteria** to **relieve burden** on caregivers were also especially valued
- Procurer **willingness to co-invest in innovation** if of strategic and economic interest
- Case studies learning emphasized the need to **focus on some few supplier differentiating criteria**
- Relevant, but **non differentiating criteria** can be used **as screening criteria/entry requirements**

Criteria applied at ■ High frequency ■ Medium frequency ■ Low frequency

Source: MedTech Europe; BCG



# VBP criteria applied I/II | Price still relevant, but outcomes used in these 5 cases with weight of 15-55%

Layer	Category	Criteria	Criteria <sup>1</sup> applied in VBP cases				Importance <sup>2</sup> Top 5 (Weight)	Comments		
			Not used	Low	Medium	High				
Outcomes	Outcomes & evidence	Evidence of relevant outcomes improvement				●	5/5 (25-40%)	In most cases, solutions with highest price can still win the tender due to strong focus on outcomes		
		Existence of high quality outcomes data				●				
	Outcomes focus	Support in measuring and reporting on outcomes		●						
		Willingness to offer outcomes-dep. risk-sharing			●					
Costs	Product	Purchasing				●	1/5			
		Price of purchasing/renting product				●				
		Delivery and installation		●						
		Compatibility: upgrades to systems/infrastructure		●						
	Maintenance	Conversion: staff training for new product				●				
		Spare parts		●						
		Technical staff time		●						
	Storage	Service contract		●					1/5	
		Storage room/infrastructure		●						
	Care delivery	Disposal	Replacement at end of shelf-life		●					
			Disposal/decommissioning		●					
		Operating/healthcare delivery	Medical staff time using device		●					
			Cost of consumables		●					2/5
			Ongoing staff training			●				
			Unplanned usage: failure rate		●					
Power/gas usage		●			5/5	5/5 (15-55%)	In all cases highly important as main aspect of VBP and improved clinical outcomes			
Infrastructure usage		●			5/5					
Reprocessing costs	●				1/5			In all cases highly relevant to monitor patients and measure outcomes, and thus, guarantee data		

1. Low = 1-2 times (20-40%), Medium = 3-4 times (60-80%), High = 5 times out of 5 (100%) 2. Top 5 criteria are selected based on weighted importance as used in each case study  
 Source: MedTech Europe; BCG



# VBP criteria applied II/II | The criteria with benefits for key stakeholders were applied at least once amongst 5 cases

Layer	Category	Criteria	Criteria <sup>1</sup> applied in VBP cases				Importance <sup>2</sup> Top 5 (Weight)	Comments
			Not used	Low	Medium	High		
Other benefits for key stakeholders	Patient's secondary benefits	Patient and/or relative comfort and convenience			●		1/5	
		Patient flexibility & mobility		●				
		Impact on treatment adherence		●				
	HCP benefits	Secure usage for care providers						
		Ease-of-use/handling & functionality				●	2/5	In NHS case important for clinical staff using PoC device and software; In EMC case to save nurse staff time
		Training and access to education			●		1/5	
	Provider benefits	Maintainability & technical service support			●		1/5	
		Support improving efficiency along patient pathw.		●				
		Alignment and support with reimburse. structure	●					
		Support on admin., storage and logistics			●			
	Health system benefits	Strategic fit for provider and support of strategy		●			1/5	
		Reduced long term costs of treatment		●				
Reduction of rehospitaliz./number of treatments			●					
Broader impact on society	Innovation	Development of new and improved technologies			●			
		Contribution to development of health care		●				
	Sustainability	Environmental impact			●			
		Socially responsible product value chain		●				
	Socio-economic impact	Impact of people not in the workforce	●					
		Burden carried by non professional care providers	●					
		Impact on competition in MedTech sector		●				

1. Low = 1-2 times (20-40%), Medium = 3-4 times (60-80%), High = 5 times out of 5 (100%) 2. Top 5 criteria are selected based on weighted importance as used in each case study  
Source: MedTech Europe; BCG

6



# Individual VBP case studies



# 5 VBP case studies completed jointly with protagonists



Procedure/ product focus	TAVI	Diapers + underpads	Connected hospital bed service	Anti-coagulation Point of Care Solution	Cataract surgery
Population segment	Aortic stenosis with high risk in open heart surgery	Incontinence patients	All hospital inpatients (solution focus on fragile, restless patients)	All patients in need for anti-coagulation (acute, outpatient and home)	Patients with cataract
Care pathway	Minimally invasive surgery	Acute hospital stay	Acute hospital stay	Entire pathway (testing, dosage, after-care)	Fully integrated care solution
Tender procedure	Learning project (no live tender)	Learning project (no live tender)	Competitive dialogue with open market consultation	Competitive dialogue with open market consultation	Best Value approach/ Competitive dialogue
Procuring entity	Hospital Clinic Barcelona (Spain)	Hospital Clinic Barcelona (Spain)	Erasmus MC (Netherlands)	NHS Wales (United Kingdom)	Zilveren Kruis (Netherlands)



1



# Case 1: TAVI (Hospital Clinic Barcelona)

# VBP case summary

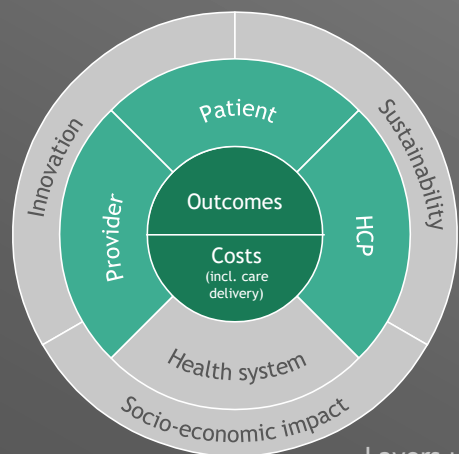
Procedure/product focus: TAVI

Population segment: Patients with aortic stenosis at high risk in open heart surgery

Care pathway: Minimally invasive aortic valve implant

Procuring entity: Hospital Clinic Barcelona (Spain)

Tender procedure: Learning project (no live tender) based on open procedure



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procurers

1 TAVI



## Key value criteria used



### Outcome focus

- Survival
- Aortic regurgitation
- Need for pacemaker
- Quality of life
- Risk sharing scheme



### Cost of care focus

- Purchase price of TAVI
- Consumables
- Economic contribution for training courses



### Other benefits for stakeholders

- Financial support for R&D
- Long-term cost of treatment



### Broader impact on society

- No key criteria used



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Estimated lower complications with potential to reduce total costs of care by 5-10% p.a.

#### Qualitative impact

- Clearer understanding of suppliers' TAVI technology offerings (e.g., service offering, evidence levels, product features)
- Improved, alternative care pathway (e.g., less invasive, patient centric procedure)
- Positioned hospital as innovation leader towards patients and payer

#### Cultural aspects

- Enabled multi-disciplinary purchasing team
- Initiated procurer culture change

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Estimated potential at 10-20% price premium over lower cost bid

#### Qualitative impact

- Deepened experience with VBP (e.g., value claims supported by evidence)
- Insight into needs of cardiac patients/care pathway and clinical benefits
- Strengthened internal VBP operating model, (e.g., tender shaping, value communication)

#### Cultural aspects

- Education of tender operations and sales representatives on MEAT<sup>1</sup> VBP process



## Key learnings

### Success factors and what worked well

**HCP commitment:** 'Was achieved because clinical and other criteria were considered besides price.'

**MEAT<sup>1</sup> VBP process:** 'The VBP process is rigorous, transparent but complex.'

**Information provision:** 'TAVI tech companies had detailed information on value of their products.'

### Proof of concept

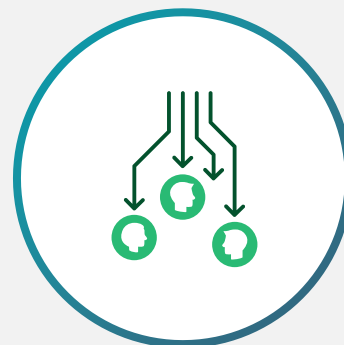
“ When Willingness-to-Pay calculations were applied, the bid winner was not the one with the cheapest product. The winner was the MEAT<sup>1</sup> considering all the criteria in the framework

# Key learnings overview | Successes and areas for improvement



## Procurer VBP operating model

- “ The involvement of final users of the technology in early stages of the project is key to achieve the commitment of health professionals along the pilot
- “ The evidence and supporting materials received from the companies and then for us to rate the products was very heterogeneous in either quality or quantity



## VBP pilot process

- “ The VBP learning project was perceived as rigorous, transparent and complex in terms of understanding of framework and process and criteria and sub-criteria, e.g., strategic fit for the provider,
- “ Criteria selection and weighting process is still focused too much on product and should be shifted more toward outcomes



## Supplier VBP operating model

- “ TAVI companies provided a good amount of information due to their knowledge base created during CE Level 3 certification
- “ Companies need to more closely interact with the procurers and clinicians to understand what the hospital expects and to make a proposal of criteria more in line with hospital pain points

# Key learnings: Success factors and what worked well

## Procurer VBP operating model

### Strong cross-stakeholder commitment

- + Achieving commitment of physicians and nurses as **final users** of the technology in the **criteria selection process** from the start is key for buy-in

### Good internal alignment between clinical and procurement

- + Stakeholders, especially HCPs, appreciated consideration of clinical and other crucial **values besides price**
- + **Value** of MEAT VBP well explained by HCB and **recognised** by HCPs and suppliers throughout the process

### Adaptability to local specifics

- + Be flexible to adapt to the specific local procurement processes/specific tenders

## VBP pilot process

### Clarity on characteristics of process

- + Process perceived as **rigorous, transparent but complex** (understanding of the system, interpretation of criteria and sub-criteria, e.g., strategic fit for the provider, environmental respect etc.)
- + Trust created within the **multi-disciplinary working team** during the collaborative criteria selection and evaluation process

### Successful suppliers participation

- + Pro-actively inform buyers before pre-tender phase and **engage different professional profiles<sup>1</sup>** with clear and comprehensive messaging

## Supplier VBP operating model

### Good information provision

- + Enrolled companies provided **sufficient information** on their TAVI products which were available due to the need for CE level 3 mark/regulatory requirements

### Development of own value proposition

- + Educate and train own employees on process and requirements of MEAT Value Based Procurement and **own value proposition**
- + Rethink and timely develop “value” proposition, **validated measures** and have **targeted supportive data** and contractual agreement commitments

1. E.g.; public officials, health technology scientists, HC professionals Source: Hospital Clinic Barcelona, MedTech Europe  
Source: Interviews and documents from case study protagonists; BCG analysis

# Key learnings: Areas for improvement

## Procurer VBP operating model

### Closer collaboration with suppliers

- Work closer with companies on the criteria definition and decision

### Need for homogeneity in information provision

- There is heterogeneity (e.g., length of stay in ICU) on how the different companies collect the information which is required for the evaluation

### Potential 3<sup>rd</sup> party to support process

- Consider naming a 3<sup>rd</sup> party for supporting data analysis and tender process and as potential tech provider for outcome measurement
- Facilitate buy-in from stakeholders within the organization due to fostered awareness of VBP process and its benefits

## VBP pilot process

### Awarding criteria selection process can be improved

- Clearly define key criteria, (e.g., unclear criteria included mortality (at discharge or at 30 days) and clinical results (for apical or transfemoral)
- MEAT VBP framework is considered as too theoretical and thus should be designed in more applicable interface

### Shift to value criteria needed

- Some criteria should not be included in a framework since they require a distinct evaluation (e.g., strategic fit for hospital)
- Highest weight of the criteria set is on the product and should be shifted to value criteria more relevant for VBP
- Currently still lack of culture favoring new value proposition model

## Supplier VBP operating model

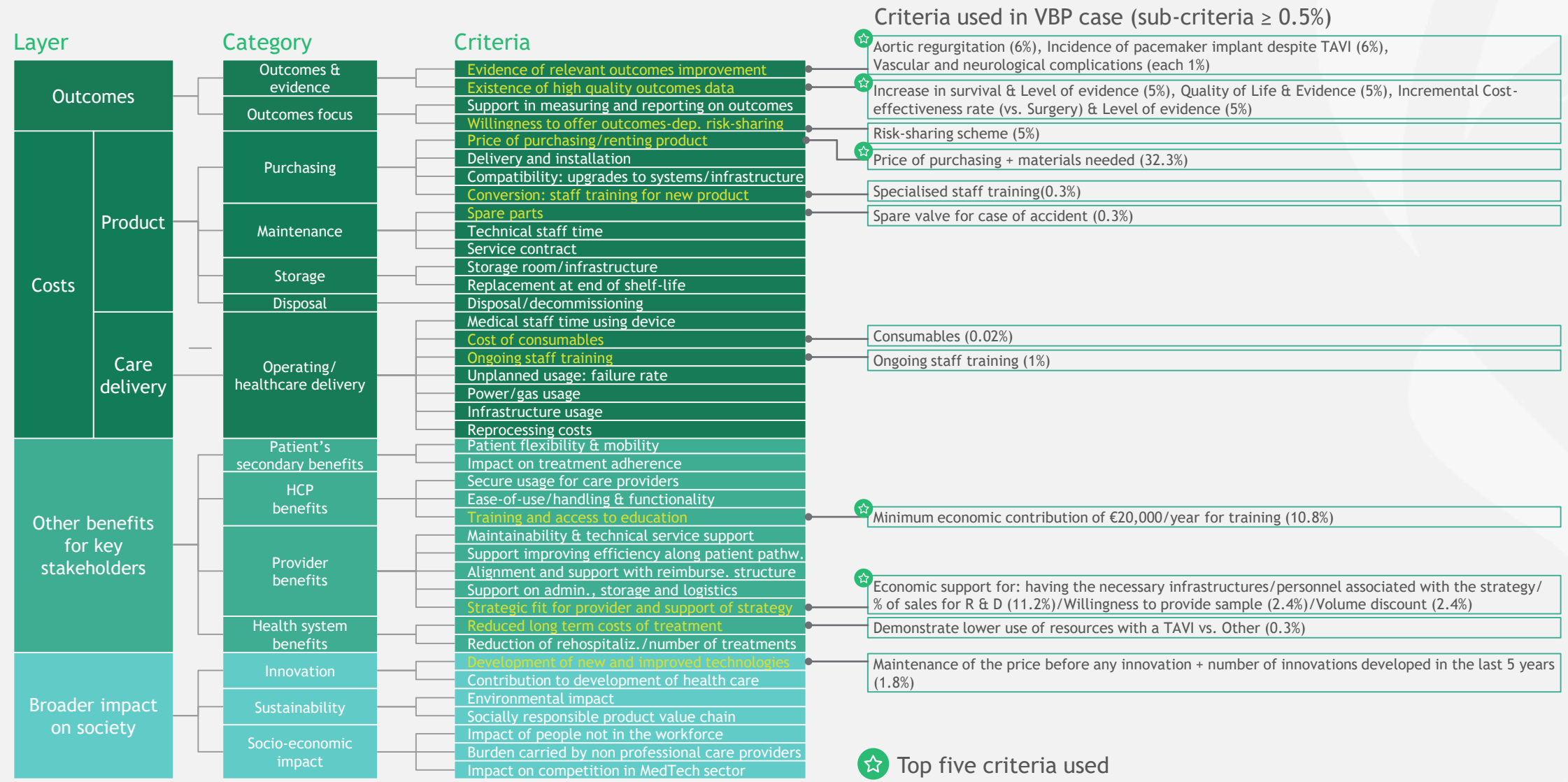
### Extend & clarity of evidence to be improved

- Clarify standard units, measures and weighting for all criteria to ensure comparability amongst companies
- Need of interaction with the hospital to see what the hospital expected and to make a proposal of criteria more in line with expectations

### Establish internal alignment and education

- Start informing all involved departments on VBP tender requirements to initiate preparation of requested information early on in common kick-off meeting
- The preparation of the list of criteria required a lot of work and time from different departments and thus, needs to become a more efficient process

# Awarding criteria used for TAVI



☆ Top five criteria used

1. Weighted importance of criteria below threshold of 0.2% Source: Interviews and documents from case study protagonists; BCG analysis

# VBP value criteria assessment approach

## Participation requirements and criteria definition process

### Minimum requirements

- All suppliers interested admitted (learning project, will differ in actual tender)
  - Existing HCB suppliers in relevant product category
  - Any additional suppliers listed by FENIN (Trade Association) as suppliers for products in scope
- As learning for actual VBP pilot, suppliers would have to partake in learning session and open market consultation as precondition for bid submission

### Awarding criteria

- “Outcomes” criteria defined based on literature review and clinician input
- “Costs” criteria (specifically for sub-layer “Product”) defined based on input from manager of clinical department
- Assessment done via collaboration in multidisciplinary teams<sup>1</sup> during 4-5 working sessions led by the HB-HTA team
  - 1 for MEAT VBP pilot presentation (agreement on tested products)
  - 2 for criteria selection (metrics/attributes)
  - 1 to match HCB’s criteria with the ones from supplier and relative weight establishment
  - 1 to present results, and discuss logic and appropriateness

1. Members of these groups included: 1) Health professionals (doctor for TAVI); 2) hospital procurement professionals, 3) managers from the clinical departments in charge of the purchasing and use of each technology; 4) one professional from the Infrastructure Department (that are in charge of big ticket equipment procurement) and; 5) professionals from the Innovation and New Technologies Evaluation Unit (Hospital based HTA Unit, HB-HTA)

Source: Interviews and documents from case study protagonists; BCG analysis

## Scoring process

### Working group followed 4 steps to evaluate bids

1. Adding a monetary value to each defined criterion and sub-criterion based on Willingness-to-Pay
2. Weighting the criteria/sub-criteria based on importance
3. Summing up all cost criteria to get total cost
4. Then distribute total cost across all non-cost criteria to get monetary value for outcomes/other benefits



Obtaining a monetary value for each product

# Awarding criteria used—selected details

Layer	Category	Criteria used in VBP case	Weight	Description of performance measures	Supplier A	Score	
Outcomes	Outcomes & evidence	<ul style="list-style-type: none"> <li>1. Aortic regurgitation, 2. Incidence of pacemaker implant despite TAVI, 3. Vascular and 4. neurological complications</li> </ul>	6% each	<ul style="list-style-type: none"> <li>1. Rate of moderate/severe PVL (&gt; 6% 0; 4- 6% 50; 0% 100)</li> <li>4. % all stroke (&gt; 6% 0; 6-4% 50; 0% 100)</li> </ul>	0.6%	xxxx	
	Outcomes focus	<ul style="list-style-type: none"> <li>1. Increase in survival &amp; Level of evidence, 2. Quality of Life &amp; Evidence, 3. Incremental Cost-effectiveness rate (vs. Surgery) &amp; Level of evidence Risk-sharing scheme</li> </ul>	1% each				
Costs	Product	Purchasing	<ul style="list-style-type: none"> <li>Price of purchasing + materials needed</li> </ul>	5% each	<ul style="list-style-type: none"> <li>1. Cardiovascular events free survival after TAVI at 12-mnth follow-up (%) &amp; Level of evidence (&lt; 75% 0; 75-85% 50; &gt; 85% 100)/(A/B/C/D)</li> </ul>	92.3%/B	
		Maintenance	<ul style="list-style-type: none"> <li>Specialised staff training</li> </ul>	5%			
		Storage	<ul style="list-style-type: none"> <li>Spare valve for case of accident</li> </ul>	32.3%			
		Disposal		0.3%			
	Care delivery	Operating/ healthcare delivery	<ul style="list-style-type: none"> <li>Consumables</li> </ul>		0.2%	18,000	xxxx
			<ul style="list-style-type: none"> <li>Ongoing staff training</li> </ul>		1%		
Other benefits for key stakeholders	Patient's secondary benefits				20,000	xxxx	
	HCP benefits	<ul style="list-style-type: none"> <li>Minimum economic contribution of €20,000/year for training</li> </ul>	10.8%	<ul style="list-style-type: none"> <li>Minimum economic contribution (€20,000/year, plus contribution plus points)</li> </ul>			
	Provider benefits	<ul style="list-style-type: none"> <li>1. Economic support for infrastructures/strategic personal/% of sales for R&amp;D/ 2. Willingness to provide samples/ 3. Volume discount</li> </ul>	11.2%	<ul style="list-style-type: none"> <li>Minimum support: €100,000 minimum and linear to more contribution 100 points</li> </ul>			
	Health system benefits	<ul style="list-style-type: none"> <li>Demonstrate lower use of resources with a TAVI vs. Other</li> </ul>	2.4% each				
	Innovation	<ul style="list-style-type: none"> <li>Maintenance of the price before any innovation + number of innovations developed in the last 5 years</li> </ul>	0.3%	1.8%			
Broader impact on society	Sustainability						
	Socio-economic impact						

★ Top five criteria used

1. Weighted importance of criteria below threshold of 0.2% Source: Interviews and documents from case study protagonists; BCG analysis



# Estimated value impact on stakeholders

## Key aspects for hospital

### Quantitative impact

#### (clinical and economic)

Estimated lower complications with potential to reduce total costs of care by 5-10% p.a.<sup>1</sup>

- Persisting aortic regurgitation/vascular complications
- Neurological complication e.g., delirium, incidence ~ 4.5% × €15,000<sup>2</sup>/possibly decreased to 1.5% (3% saving = ~ on average €450/patient)
- ~ 75% fewer pacemaker implantation required resulting in substantially lower cost of care (~ 1.1 Mio) (e.g., 25pp difference between # of pacemaker implantation required × 8,000€, for 500 patient)
- Possible to engage in risk sharing agreement e.g., sharing costs in case of complications during TAVI procedure

#### Decreased labor cost

- Decreased cost for staff hours due to performance of minimally invasive TAVI procedure vs. open surgery

### Qualitative impact

#### Clearer understanding of supplier landscape

- Receive early information from suppliers on their newest technological solutions for TAVI during the open market consultation process
- Connect early on with suppliers offering innovative and value maximizing TAVI technologies
- Define and select criteria which are highly relevant for delivering best qualitative care

#### Improved, alternative care pathway

- Better understanding of the holistic patient care pathway e.g., minimally invasive TAVI methodologies and imaging systems
- Improved, alternative patient care resulting in lower incidence rate for pacemaker implant, and thus, avoiding high-risk surgery for patients

#### Positioned hospital as innovation leader towards patients and payer

- Collecting real-life evidence on patients' outcome improvement upon TAVI application
- Improved patient satisfaction and net promoter score improve the reputation of the VBP contracting hospital

### Cultural aspects

#### Multi-disciplinary tender teams

- Set-up multi-disciplinary tender teams (e.g., procurement, legal, finance) and health care professionals product-specific expert teams
- Allow for exchange of expertise and ideas within the MEAT VBP process

#### Staff training and education on VBP

- Educate staff on values that are crucial for the VBP process (e.g., transparency, confidentiality, learning)
- Generate expertise for future VBP tendering processes with high-tech products such as TAVI
- Create independence amongst staff members to drive future VBP efforts

1. Case estimation of economic impact since only learning project without realised impact; 2. <https://www.ncbi.nlm.nih.gov/pubmed/?term=cost+of+frequency+of+Neurological+complications+in+TAVI>; <https://www.ncbi.nlm.nih.gov/pubmed/30549428>  
Source: Interviews and documents from case study protagonists; BCG analysis

# Estimated value impact on stakeholders

## Key aspects for medical technology firms

### Quantitative impact (clinical and economic)

#### Reward for Innovation

- Revenues for innovative TAVI solutions which were not recognized before due to higher price points
- Revenue streams extended for product (e.g., TAVI) plus staff trainings
- Coverage of costs for R&D of new innovative TAVI products
- Build up connection to new potential buyers of innovative TAVI products

#### Long-term contract generation

- Build long term partnerships with procurers interested in innovative TAVI solutions
- Generate consistent and long-term revenue streams for TAVI products throughout the learning project
- Build awareness for innovative products upon publication of successfully completed learning project and thus, attract potential new buyers of innovative high-quality TAVI products

### Qualitative impact

#### Deepened experience with VBP

- Create value claims supported by evidence based on outcome measurement
- Adapt R&D pipeline accordingly based on early information on clinical needs for TAVI products and service (e.g., avoidance of complications, safety of procedure)

#### Insight into needs of cardiac care

- Learn about the needs of cardiac patients/ care pathway and clinical benefits of highly sophisticated innovative TAVI products
- Rank the MEAT VBP criteria based on experienced relevance for providing best care to the patient receiving TAVI

#### Strengthened internal VBP operating model

- Create awareness for qualitative innovative TAVI solutions through tender shaping, value communication etc.
- Improved internal operating model and experience with VBP

### Cultural aspects

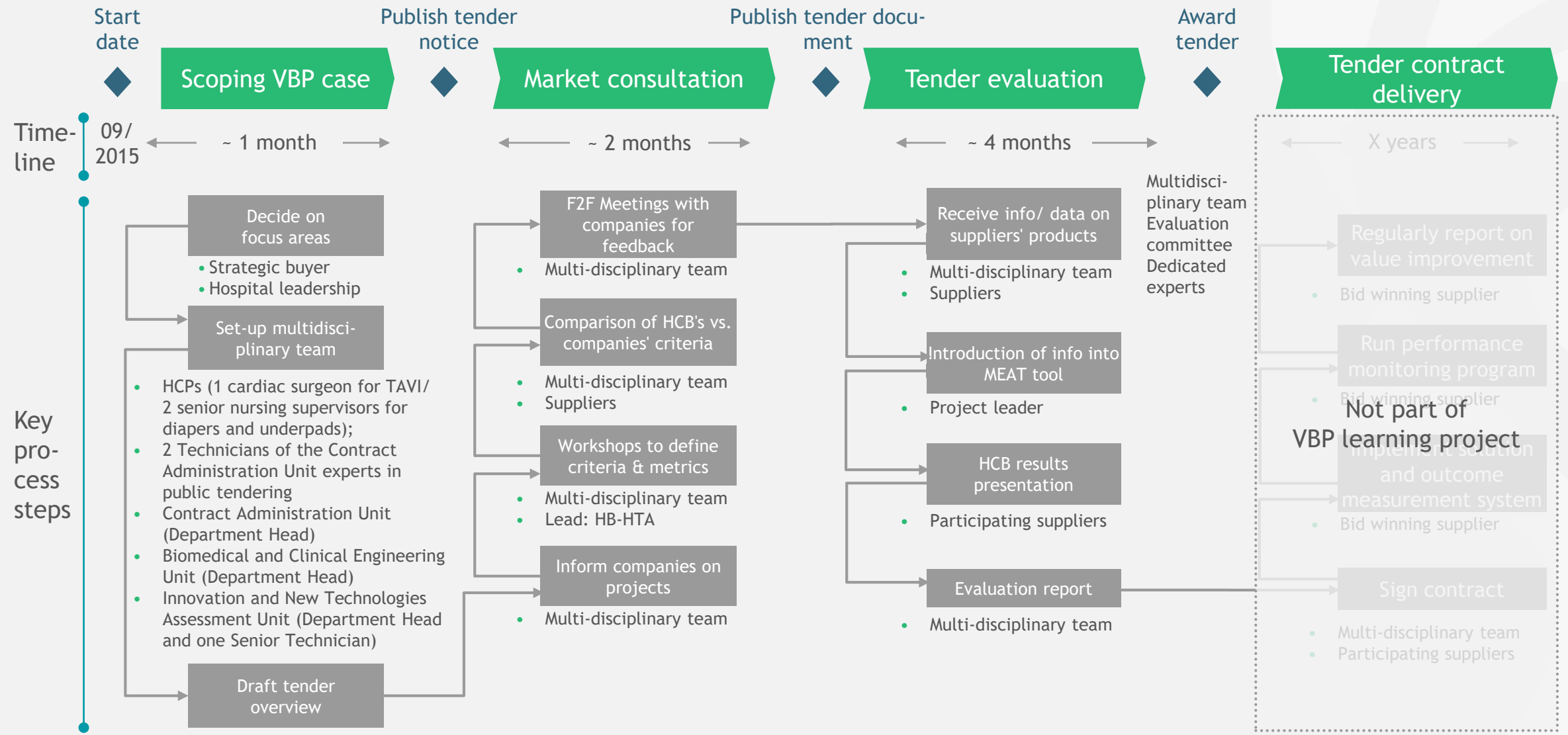
#### Multi-disciplinary VBP teams

- Set-up multi-disciplinary tender teams across functions (e.g., procurement, legal, finance) involved in the process of TAVI production and selling
- Allow for exchange of expertise on TAVI, knowledge and ideas within the MEAT VBP process (also with procurers)

#### Staff training and education on VBP

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Educate staff e.g., tender operation and sales team on benefits of MEAT VBP and generate expertise for future VBP tenders involving high-tech products
- Create independence amongst staff members to drive future VBP efforts
- Educate employees for R&D of innovative and value-adding TAVI products

# VBP tender process overview



Source: Interviews and documents from case study protagonists; BCG analysis

2



# Case 2: Diapers and underpads (Hospital Clinic Barcelona)

# VBP case summary

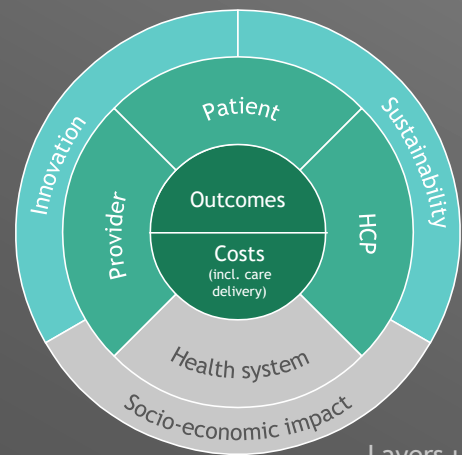
**Procedure/product focus:**  
Diapers/underpads (focus on technology only)

**Population segment:**  
Incontinence patients

**Care pathway:** Hospital stay

**Procuring entity:** Hospital Clinic Barcelona (Spain)

**Tender procedure:** Learning project (no live tender) based on open procedure



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procures

2

Diapers/underpads



## Key value criteria used



### Outcome focus

- Absorption level
- Prospective evidence generation
- Willingness to offer risk-sharing



### Cost of care focus

- Product purchase price
- Conversion staff training



### Other benefits for stakeholders

- Visual identification of right diaper/underpad sizes



### Broader impact on society

- Biodegradable raw materials
- Recycling bins
- Substantive innovations



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Potentially less medical staff time required due to fewer diaper and underpad changes
- Reduced cost due to complications (e.g., Urinary tract infection at 3,200 Euro)

#### Qualitative impact

- Avoiding complicat. such as skin rashes and bladder infections caused by moist diapers or underpads
- Improved patient comfort due to fewer diaper changes and better fit
- Build-up of evidence via real-life testing

#### Cultural change

- Improved multi-disciplinary collaboration across hospital functions

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Potential for price premium for higher quality product

#### Qualitative impact

- Reward for products with innovative technical features benefiting all hospitalised patients
- Deepened experience with VBP (e.g., value claims supported by evidence)
- Insights from real life testing for R&D

#### Cultural change

- Internal MEAT<sup>1</sup> VBP operating model set-up
- Fostered collaboration through dialogue on MEAT VBP within multi-disciplinary teams



## Key learnings

### Success factors and what worked well

**HCP commitment:** ‘We involved product users early on, thus achieved commitment of HCPs.’

**MEAT<sup>1</sup> VBP process:** ‘We appreciate that VBP values the service rather than just the product.’

**Information provision:** ‘The National Association helped us to identify well suited suppliers willing to participate.’

### Proof of concept

“ When Willingness-to-Pay calculations were applied, the winning company was not the one that offered the product at the cheaper price. The winner was the MEAT<sup>1</sup> considering all the criteria in the framework.

1. Most Economically Advantageous Tender

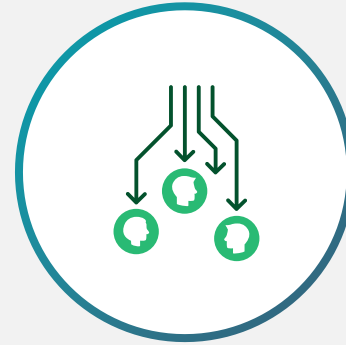
# Key learnings overview | Successes and areas for improvement



## Procurer VBP operating model

“ Stakeholders, especially HCPs, appreciated consideration of clinical and additional outcome focused values besides price

“ A lot of work was required from the HCB team to search for and review scientific outcome measures and other type of information requested from the supplier



## VBP pilot process

“ Throughout the pilot project, learning curves were higher than expected, especially for involved companies, and afterwards people were more sensitive to VBP arguments

“ The time it takes to receive the requested information on the products as well as the analysis of this data was underestimated and took longer than initially planned



## Supplier VBP operating model

“ 7 suppliers appreciated the value which VBP delivered to their operations incl. a novel information collection on the value of their products

“ Companies were not internally aligned on the MEAT VBP process and involved requirements toward information provision on their products

# Key learnings: Successes and what worked well

## Procurer VBP operating model

### Strong cross-stakeholder commitment

- + Achieving commitment of physicians and nurses as **final users** of the technology in the **criteria selection process** from the start is key for buy-in

### Good internal alignment between clinical and procurement

- + Stakeholders, especially HCPs, appreciated consideration of clinical and other crucial **values besides price**
- + **Value** of MEAT VBP well explained by HCB and **recognised** by HCPs and suppliers throughout the process

### Adaptability to local specifics

- + Be flexible to adapt to the specific local procurement processes/specific tenders

## VBP pilot process

### Clarity on characteristics of process

- + Process perceived as **rigorous, transparent but complex** (understanding of the system, interpretation of criteria and sub-criteria, e.g., strategic fit for the provider, environmental respect etc.)
- + Trust created within the **multi-disciplinary working team** during the collaborative criteria selection and evaluation process

### Successful suppliers participation

- + **12 interested suppliers** identified through **involvement of FENIN** (national association) before kick-off presentation
- + Pro-actively inform buyers before pre-tender phase and **engage different professional profiles<sup>1</sup>** with clear and comprehensive messaging

## Supplier VBP operating model

### Development of own value proposition

- + Educate and train own employees on process and requirements of MEAT Value Based Procurement and **own value proposition**
- + Rethink and timely develop “value” proposition, **validated measures** and have **targeted supportive data** and contractual agreement commitments
- + Developed **insights into needs** of hospitalized patient care based on generated outcome evidence of innovative diaper and underpad products
- + Once we introduce value proposal and measures, we wouldn't ask for incontinence product anymore, the supplier would rather offer an innovative more comprehensive solution that goes beyond diapers

1. E.g.; public officials, health technology scientists, HC professionals Source: Hospital Clinic Barcelona, MedTech Europe Source: Interviews and documents from case study protagonists; BCG analysis

# Key learnings: Areas for improvement

## Procurer VBP operating model

### Need for clear information provision

- Suppliers would have preferred to discuss and clarify the selected criteria and expected information with HCB
- Need for homogeneous way to obtain information for all measurement units to enable comparability of products (e.g., absorption measurement)

### Potential 3<sup>rd</sup> party to support process

- Consider naming a 3<sup>rd</sup> party for supporting data analysis and tender process and as potential tech provider for outcome measurement
- Facilitate buy-in from stakeholders within the organisation due to fostered awareness of VBP process and its benefits

## VBP pilot process

### Simple and realistic process required

- The process was perceived as complex, especially the tool
- The pilot has been carried out just for one type of product (e.g., one size of diaper, the reality needs that all sizes be evaluated) and thus, does not reflect real life
- Criteria need to be more specific and explained (some may be ambiguous) (e.g., start of change time, patient segmentation etc.)

### Need for compatibility of MEAT VBP with the Spanish law

- Current legislation and public budgeting limit the ability to actually carry out VBP
- Much benefit from stronger focus to outcome and overall value dimensions
- Lack of culture favoring value focus

## Supplier VBP operating model

### Improvable evidence base via product tests

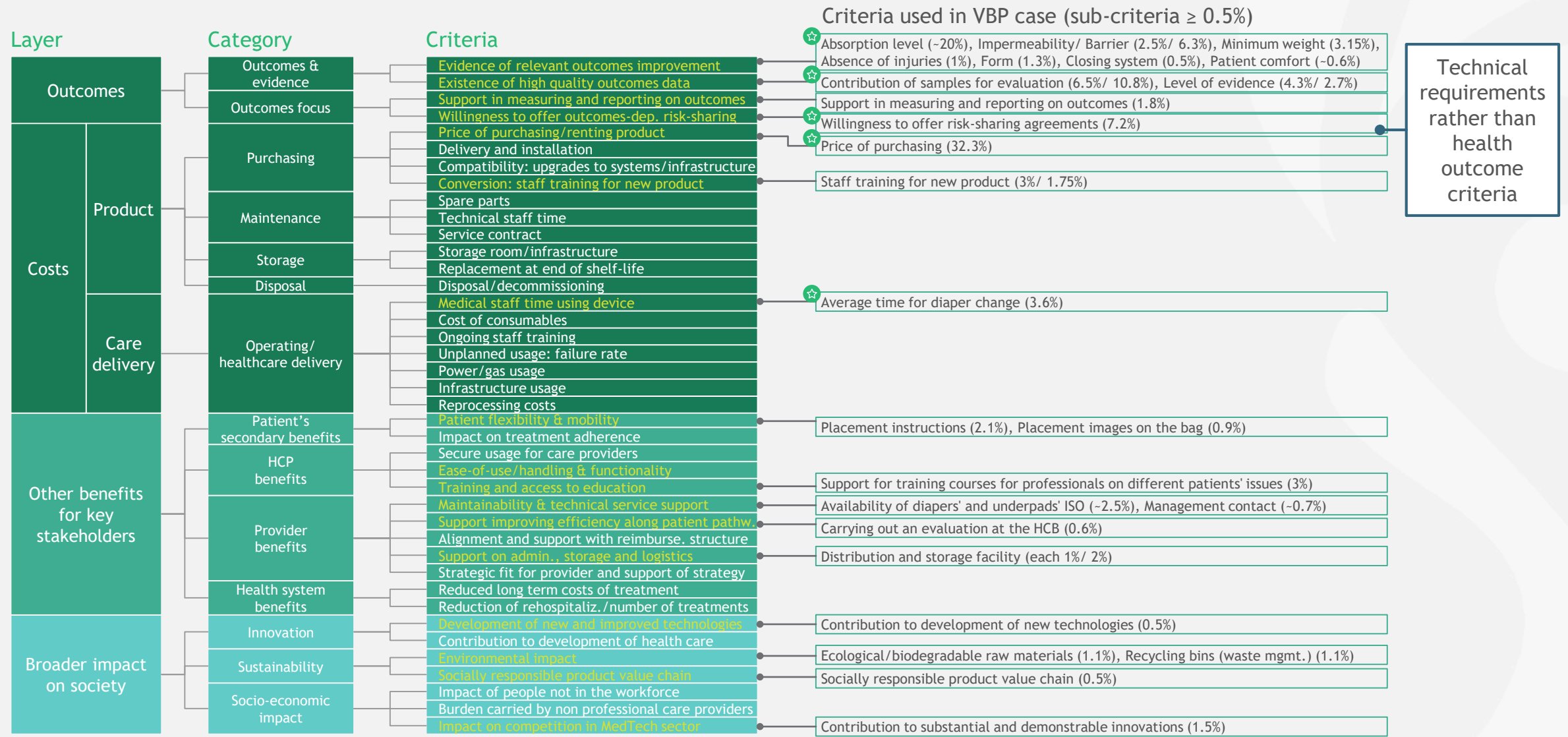
- A “test for performance” of the products is indicated within each specific health care center would guarantee comparability
- Evidence for some criteria depend on several factors and not just on the performance and thus, test should include handling of the product
- This performance test could also be a solution for small companies that cannot produce some type of information (e.g., clinical studies)

### Need for criteria clarification early on

- Difficulty to obtain the information, because suppliers were not prepared or the info does not exist
- Heavy additional work and time for the company required
- More internal education on MEAT VBP required



# Value criteria used for diapers & underpads



Technical requirements rather than health outcome criteria

☆ Top five criteria used

Source: Interviews and documents from case study protagonists; BCG analysis

# VBP value criteria assessment approach

## Participation requirements and criteria definition process

### Minimum requirements

- All suppliers interested admitted (learning project, will differ in actual tender)
  - Existing HCB suppliers in relevant product category
  - Any additional suppliers listed by FENIN (Trade Association) as suppliers for products in scope
- As learning for actual VBP pilot, suppliers would have to partake in learning session and open market consultation as precondition for bid submission

### Awarding criteria

- “Outcomes” criteria defined based on literature review and clinician input
- “Costs” criteria (specifically for sub-layer “Product”) defined based on input from manager of clinical department
- Assessment done via collaboration in multidisciplinary teams<sup>1</sup> during 4-5 working sessions led by the HB-HTA team
  - 1 for MEAT VBP pilot presentation (agreement on tested products)
  - 2 for criteria selection (metrics/attributes)
  - 1 to match HCB’s criteria with the ones from supplier and relative weight establishment
  - 1 to present results, and discuss logic and appropriateness

1. Members of these groups included: 1) Health professionals (nurses for diapers and under pads); 2) hospital procurement professionals, 3) managers from the clinical departments in charge of the purchasing and use of each technology; 4) one professional from the Infrastructure Department (that are in charge of big ticket equipment procurement) and; 5) professionals from the Innovation and New Technologies Evaluation Unit (Hospital based HTA Unit, HB-HTA).

Source: Interviews and documents from case study protagonists; BCG analysis

## Scoring process

### Working group followed 4 steps to evaluate bids

1. Adding a monetary value to each defined criterion and sub-criterion based on Willingness-to-Pay
2. Weighting the criteria/ sub-criteria based on importance
3. Summing up all cost criteria to get total cost
4. Then distribute total cost across all non-cost criteria to get monetary value for outcomes/other benefits



Obtaining a monetary value for each product

## Case estimates

# Estimated value impact stakeholders

## Key aspects for hospital

### Quantitative impact (clinical and economic)

#### Estimated decrease in cost for complications

- Potential reduction in total cost of care due to lower complication rates e.g., urinary tract infections, skin rashes from bacteria infections
- [Possible complication x cost of complication]
- Suppliers' willingness to offer risk sharing agreements in case of higher complication rate than expected

#### Estimated decrease in labor cost

- Potentially decreased staff utilization due to decreased rate of diaper and underpads changes
- Decreased number of changes ( $\Delta$ ) x materials purchased x labor cost per min.

### Qualitative impact

#### Better understanding of supplier landscape

- Better understanding of product value besides price e.g., absorption level of diapers, average time needed for change etc.
- Choice of products based on valued criteria e.g., estimation of appropriate diaper size for individual patient

#### Improved patient health outcome

- Avoiding complications such as skin rashes and bladder infections possibly caused by moist diapers or underpads
- Improved patient comfort due to fewer diaper changes

#### Long term improvement of patients' health

- Build-up evidence on patients' health outcome improvement upon diaper and underpad product usage
- Better understanding of patients' needs in terms of diaper and underpad product characteristics due to real-life evidence generation
- Build-up of evidence through real-life testing

### Cultural aspects

#### Multi-disciplinary tender teams

- Improved collaboration amongst stakeholders across hospital units
- Create VBP expertise in multi-disciplinary tender teams (e.g., procurement, legal, finance) and HCPs

#### Fostered staff training and education on VBP

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Educate staff on benefits of VBP and generate expertise for future VBP processes on low-cost non sophisticated products such as diapers and underpads
- Set-up internal VBP operating model through staff education and trainings

# Estimated value impact stakeholders

## Key aspects for medical technology firms

### Quantitative impact (clinical and economic)

#### Potential price premium for higher quality products

- Financial reward for innovative diaper and underpad products
- Revenue streams extended for product (e.g., diapers/underpads) plus staff trainings

#### Potential additional financial benefits over a long-term period

- Coverage of R&D costs for innovative diaper and underpad products
- Build awareness for advanced product features (e.g., better absorption) and thus, added revenues from new buyers
- Build long term partnerships for continuously updated innovative diaper/underpad solutions

### Qualitative impact

#### Reward for products with improved technical features

- Create awareness for qualitative innovative features of diaper/underpad products generating value beyond competitive pricing

#### Deepened experience with VBP

- Create value claims supported by evidence from outcome measurement
- Understand and respond to clinical pain points such as HAIs and bottlenecks in wound care

#### Insights from real life testing for R&D

- Learn what the market may need e.g., diaper and underpad solutions through real-life testing of own products
- Adapt R&D pipeline accordingly based on early information on clinical needs for diaper and underpad products

### Cultural aspects

#### Fostered collaboration through dialogue on MEAT VBP

- Set-up multi-disciplinary tender teams within functions (e.g., procurement, legal, finance) involved in production and selling of diapers and underpads
- Enable product- and process-specific exchange of expertise, knowledge and ideas within the MEAT VBP process

#### Internal MEAT VBP operating model set-up

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Create independence amongst staff members to drive future VBP efforts on low cost non-sophisticated products such as diapers and underpads
- Educate employees for R&D of innovative features adding value for diaper and underpad products

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# Case 3: Connected Hospital Bed Solution (Erasmus Medical Center)

# VBP case summary

**Procedure/product focus:** Connected hospital bed solution

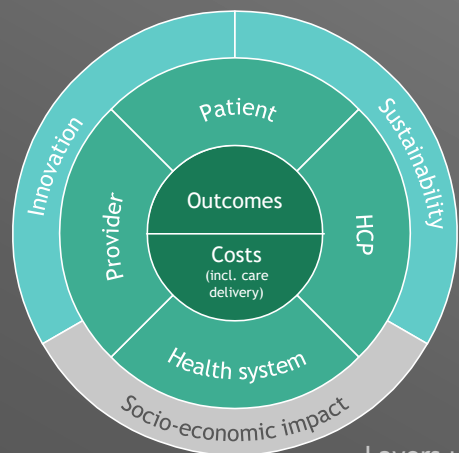
**Population segment:** All hospitalised patients

**Care pathway:** All in-hospital stay patients

**Tender procedure:** Competitive dialogue

**Procuring entity:** Erasmus MC (Netherlands)

**Supplier bid winner:** Hill-Rom<sup>2</sup>



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procurers

3

Connected hospital bed solution



## Key value criteria used



### Outcome focus

- Patient safety
  - Falls prevention
  - Prevention of HAI
- Pressure ulcers
- Patient mobilisation



### Cost of care focus

- Workflow efficiency
- Nurse staff time/bed
- Length of stay (LOS)
- Replacement with specialised beds



### Other benefits for stakeholders

- Staff safety
- HCP satisfaction
- Nurse staff availability
- Continuous monitoring of patients' outcome



### Broader impact on society

- CO<sub>2</sub> footprint
- Evidence based research
- New improved techn. developed



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Substantial total cost of care savings expected due to improved workflow/reduced staff time
- Improved financial performance due to avoided capital cost & flexible solution adapting to needs

#### Qualitative impact

- 15-yr long partnership enables adaption to care needs, workflow efficiency and future value proof
- Improved patient safety (decreased # of falls & pressure ulcers, prevention of HAI)
- Reduced carbon footprint
- Nurses' availability for patient centric care
- Improved patient experience tracked by KPIs

#### Cultural change

- Higher employee satisfaction/presence at work

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Large contract for ~ 840 hospital beds and mattresses over 15 years
- Financial reward for innovative solution

#### Qualitative impact

- Shorter R&D cycles due to opportunity and easy access to test and co-design future bed service products with academic center of excellence
- Reward and enhanced reputation for integrated bed and mattress service

#### Cultural change

- Fostered collaboration in multidisciplinary teams to prepare for VBP tender
- Built trusted partnership with provider

#### Proof of concept

“ Procuring hospital and bid winning supplier with significant medical and/or economic value in committing to a long term partnership to jointly improve medtech care solution. This will foster co-creation of evidence to demonstrate value gained for all stakeholders (HCPs, procurers, suppliers and patients) and to contract on value based solutions in the future



## Key learnings

### Success factors and what worked well

**Clear objectives:** ‘We shared our unmet needs with supplier to raise awareness for future opportunities’

**Early trust:** ‘it was crucial for us to create trust with suppliers early on to have them engaged in process’

**Value-based approach:** ‘The medtech supplier really bought into the value-based solution concept providing some and co-creating add. Evidence’

1. Most Economically Advantageous Tender 2. Publically available information

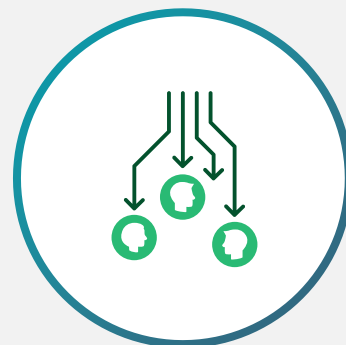
# Key learnings overview | Successes and areas for improvement



## Procurer VBP operating model

“ By putting the focus on the future objectives and needs plus describing challenges that we expect as a result of the new hospital, we gave room for suppliers to truly make use of their knowhow and ideas

“ It is very important to find internal sponsors within the clinical organisation that are able to see the bigger picture, capable of being flexible and are willing to support when it gets difficult



## VBP pilot process

“ We have taken the approach to confront the market with a challenge and applied the ‘forward committed approach’ towards innovation procurement. In our opinion, innovation happens when companies change their solutions from product to service focus

“ In the early phase of designing the tender, Erasmus MC needs to be more crisp and ensure that complex policies and processes are clarified early on to suppliers



## Supplier VBP operating model

“ Hill-Rom really bought into the VBP approach offering a holistic solution package of connected hospital beds and mattress incl. training and outcome measurement which will be integrated in our existing platforms and devices

“ Putting together our solution offering, managing the VBP process and getting all the internal approvals was cumbersome—we need to standardize our approach

# Key learnings: successes and what worked well

## Procurer VBP operating model

### Offering true integrated care service

- + The care process starts at the moment in which a patient is **referred to the Erasmus MC** and **recording** will be applied
- + Erasmus MC achieves performance around the use of hospital beds and mattresses, a high degree of **variety in medical supply and patients**, both in complexity and numbers

### Applying a creative approach during the market consultation phase

- + Performed several rounds of meetings, incl. **1-on-1 with suppliers** to exchange on the service offerings
- + Provide sufficient **room for suppliers' opinion**, specific questions and feedback rounds
- + Using an **expanded proof of concept phase** as part of the selection process was key to convince internal stakeholders to work with **outcome based requirements** in stead of very specific and detailed criteria

## VBP pilot process

### Tender offerings fit requirements

- + The tender and the proposed solution meet the set preconditions and requirements to **offer an innovative service**
- + The tender turned out to completely meet the MEAT VBP requirements due to its **value creating outcomes** even though it was initially thought as a conventional tender process

### Clear existence of valuable benefits

- + The total cost for the service are **fully transparent**
- + The **added value of the service** is convincing and not regarded as an end in itself
- + **Both sides benefit** from partnership based on significantly created value

## Supplier VBP operating model

### True VBP solution offering

- + The holistic bed solution provided by Hill-Rom were **very sophisticated**, and perfectly equipped for this tender
- + Hill-Rom **tailored** their bed and mattress service **solution** to Erasmus MC's needs (e.g., bed exit alarm on nurse's smartphone) and will **integrate their service** to existing platforms and devices
- + Hill-Rom's service package offers **continuous measurement** of patients' outcomes and correlation of those to the use of the solution which enables conclusions on health-care needs and **speeds up R&D cycle time**



## Deep dive: Erasmus MC's challenge was a limited visual on patient-in-bed status ...



Closed doors without windows/nurses can only see patients when entering the patient's room



Patient safety at risk due to falls when exiting the bed (in particular restless patients)



... and Hill-Rom developed a tailored solution

Hill-Rom's solution



Hill-Rom offered a bed exit alarm as an innovative solution tailored to Erasmus MC's specific needs

# Key learnings: Areas for improvement

## Procurer VBP operating model

### Better tender preparation

- Spend more time in preparation phase for clarification of goals and following time-saving in later stages of the process
- Preselect equipped suppliers which understand VBP vision and send invitation specifically to those to maximize possible benefits gained from invested time

### Resistance against VBP tendering present internally

- Evidence of a successful MEAT VBP tender outcome required to demonstrate value
- Clearly communicate benefits to internal stakeholders and consequently involve Key opinion leaders in the process

## VBP pilot process

### Shifting to implementation is challenging

- Putting the data systems and processes in place with external partners is very time and resource consuming
- Criteria selection process needs to be standardized based on the experience gained through this process
- There needs to be lots of efforts taken to clearly translate the VBP needs into the culture of the organisation

### Outcome measurement systems not in place—need to be newly created

- Setting up outcome measurement systems requires time, effort and taking risks—ideally more defined/set-up for start

## Supplier VBP operating model

### Improved preparation required

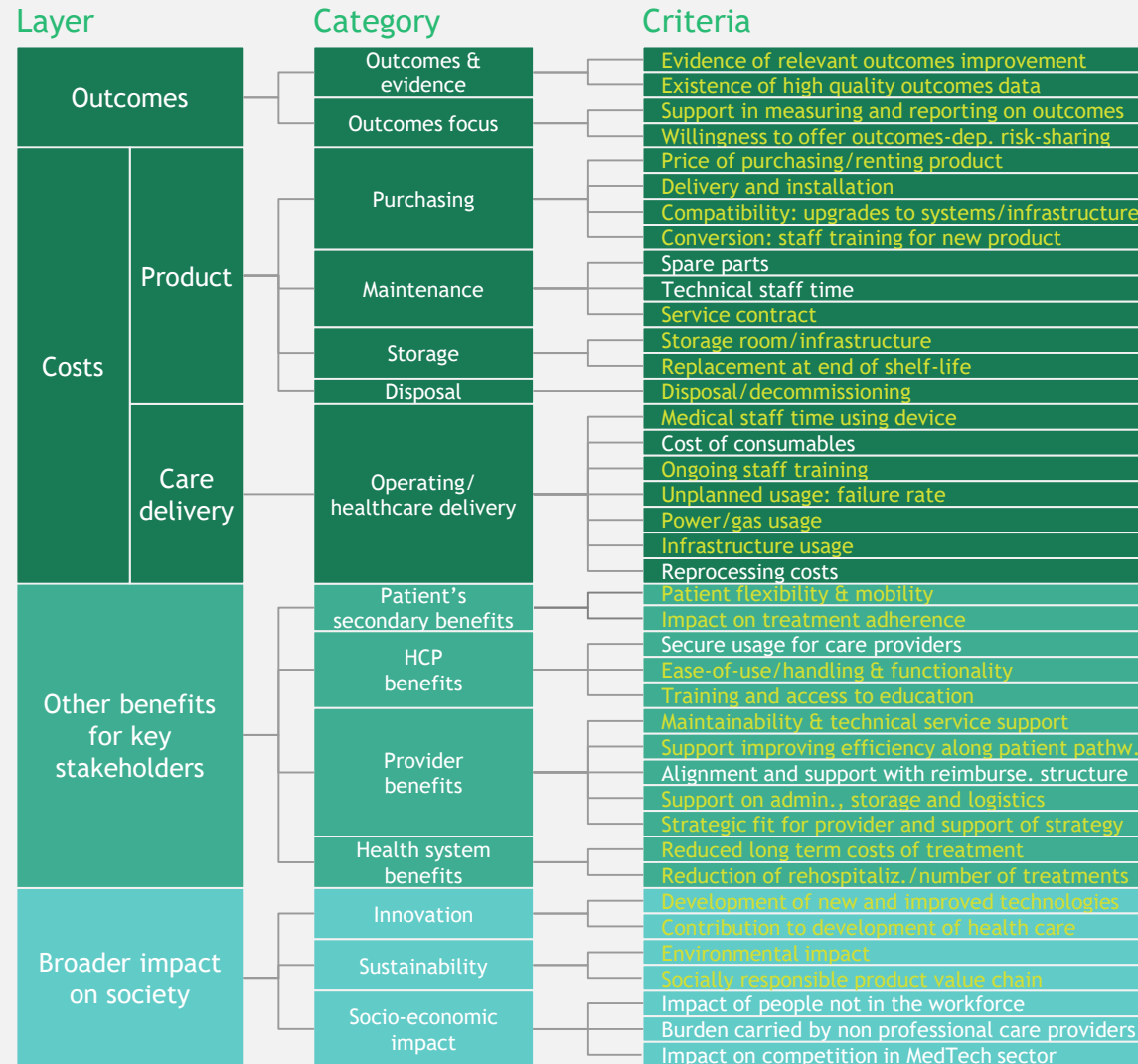
- Better preparation and education for the market consultation due to extensive product adaptation that was required to meet Erasmus MC's needs
- Collaboration between involved departments needs to be started at the beginning of the MEAT VBP process to avoid a delay due to required approval of internal stakeholders

### Need to shift strategic vision toward implementation

- Due to the novelty of the approach, the market expertise is limited
- Spend more time in assessing the market's understanding of providers' new approach/needs
- Educate the supplier on increased responsibility within an established service contract for a solution versus a product purchase

# Awarding criteria used for tender

EMC did not use the MEAT VBP framework in preparing their tender. Instead, they used their own proprietary approach, which, however, aligns well with the MEAT VBP approach and criteria shown below



## Criteria used in VBP case

- ☆ Patient safety (Prevention of falls and HAI), Pressure ulcers
- ☆ Measuring outcome data over long-term period (15 years)
- ☆ Continuous measurement through in-built systems e.g., scale
- ☆ Willingness to offer risk-sharing agreements
- ☆ Cost of service (beds, mattresses, bedside tables, installation, maintenance, replacement, removal)
- ☆ Installation of beds and side tables
- ☆ Hospital equipment upgrade
- ☆ Staff training for new product
- ☆ Long-term service contract (15 years)
- ☆ Bed return to supplier rather than own storage
- ☆ Replacement of beds based on need for specialisation
- ☆ Removal of beds upon contract expiration
- ☆ Nurse time with patient/hospital bed
- ☆ Training for continuous adaptations
- ☆ On-time availability
- ☆ Energy reduction
- ☆ Workflow efficiency
- ☆ Number of bed transfers
- ☆ Mobilisation of the patient
- ☆ Ease of use for healthcare worker, Bed exit alarm on nurse smartphone
- ☆ Support for training courses for professionals on different patients' issues
- ☆ Maintenance and service contract with supplier
- ☆ Continuous patient monitoring during in-hospital stay
- ☆ Storage provided by supplier
- ☆ Support in nurse time reduction and mitigating shortage in nurse staff
- ☆ Length of stay (LOS), ventilator days in ICU
- ☆ Reduction in complication rates e.g., pressure ulcers and falling rates
- ☆ Development of connected bed features based on provider's health care needs
- ☆ Research published in peer-reviewed scientific journals; Own results
- ☆ Environmental impact and carbon footprint (lifetime) of beds
- ☆ Value creation vs. waste, Lifespan of products; Value chain responsibility

## ☆ Top eight criteria used

Source: Interviews and documents from case study protagonists; BCG analysis

# VBP awarding criteria assessment method used

## Minimum requirements vs. awarding criteria

### Minimum requirements

Several requirements needed to be met

- E.g., capability to quickly develop new solutions
- Based on feedback from medical staff

### Awarding criteria

1. Determined by multi-disciplinary team incl. 7 members<sup>1</sup>
  - a) Total Cost of Service: 40%
  - b) Positive effects on patients/staff: 30%
  - c) Continuity of business operations and provision of care to patients: 30%
2. For these 3 awarding criteria multiple ‘subcriteria’/ aspects identified
3. All criteria discussed and verified in the market consultation phase with input from suppliers

## Scoring or willingness to pay method

Multi-disciplinary team<sup>1</sup> evaluate each supplier's bid on these multiple criteria and sub-criteria

1. Overall, the best price/quality ratio was applied
2. Rate outcome criteria with max. 30 points
  - a) Each sub-criteria with a score of 1 (‘does not meet’) to 10 (‘exceeds expectations’)
  - b) Score for each sub-criterion must be 6 or higher
  - c) Sub-criteria score of 10 equals the max. 30 points
3. Assessed Total Cost of Service (TCS) with max. 40 points
  - a. 30 on lowest TCS (based on NPV)
  - b. 10 on transparency, entrepreneurship (risk-taking), others e.g., energy reduction
4. Summed up the scores for the all sub-criteria per category
5. Weighted the awarding criteria at 40% (Cost)/30% (Patient)/30% (Continuity) to determine supplier’s overall bid score

1. Member Nursing Council, Advisor programme ‘Innovative Working Erasmus MC’, Manager Hospital Care facilities, Research coordinator Woundcare, Advisor Sustainability & Environment, Strategic Buyer, Project Leader

Source: Interviews and documents from case study protagonists; BCG analysis

# Estimated value impact on stakeholders

## Key aspects for hospital

First results to be expected in 2019 Q3

### Quantitative impact

#### (clinical and economic)

Cost savings due to improved workflow efficiency and reduced LOS

- Reduce complications such as hospital acquired infections, patient falls and pressure ulcer can substantially reduce length of stay (LOS) and total cost of care
- Estimated savings on total cost of care per patient with avoided HAI up to ~ €10,000<sup>1</sup>
- Substantially lower average LoS through avoiding HAI with incidence of severe HAI at 4-10% and add. 2-8 days/patient
- Estimated reduction of most costly ventilator days in intensive care unit also

#### Financial stability & increasing return for 15 yrs

- Payment tailored to patients' needs, e.g., change total number of beds, or exchange standard beds for obese ones if portfolio requires it at a certain time point
- Agree on service contract with annual operating cost, no upfront capital invest. required
- Have equipment timely available due to improved workflow efficiency
- Hill-Rom offered a lower price on the service contract in exchange for gaining access academic center for testing, co-designing and gathering scientific proof of the positive effects on their products

### Qualitative impact

15-yr long partnership for continuous outcome and workflow improvement and value demonstration

- Jointly implement outcome reporting system to monitor and improve outcome and cost efficiency

#### Improved patient safety

- Decrease incidence of pressure ulcers (PU) due to
  - Use of all-round mattresses w/o required transfer
  - Decreased length of stay
- Prevent hospital acquired infections (HAI) due to 98%<sup>2</sup> reduction in microorganisms
- Prevent falling incidents due to bed exit alarm on nurse smartphone

#### Reduced carbon footprint

- Impact supply chain from environmental and social point of view in with decreased carbon footprint

#### Increased nurse time for patient centric care

- Offer optimal and personalised care conditions through patient adapted bed solutions
- Allow quality patient time through workflow efficiency

#### Improved patient experience

- Deliver positive effects on patients and staff, e.g., improved level of comfort
- Bed exit alarm provided nurses with confidence to switch patient care from 4-bed to single bedroom
- Offer a progressive mobility program

### Cultural aspects

Higher employee satisfaction/ presence at work

- Create improved workflow efficiency
- Foster employee satisfaction due to corporate social responsibility (CSR)
- Improve working conditions

#### Enabled staff education on MEAT VBP

- Educate of staff on experienced benefits of VBP contracting
- Test proof of concept with awarded supplier
- Establish VBP multidisciplinary task force concept and enabled team

1. 20190311 ProQuest - Cost of Hospital-Acquired Infection 2. Voor in 't holt A.F., Verhaegh S., Waltmans-den Breejen M., de Boer E.L., van Bavel A.P.M., Vos M.C. Methods to Prove Disinfection of Hospital Beds by an Automated Robotic Bed-Washer with Steam: a Pilot Study. 2018 Source: Interviews and documents from case study protagonists; BCG analysis

# Potential cost savings estimated: Connected hospital bed solution may result in nurse salary savings for Erasmus MC of ~ €0.5M/year in 2025

		MIN		MAX
		2018-2020	2020-2024	2024-2032
Nurse time savings per year	Nurse time savings per bed/day	2 min. 30 sec. (2.5)	3 min. 20 sec. (3.333)	4 min. (4.0)
	No. of beds		840	
	Utilized beds		714	
	Hospital days		365	
	Nurse time savings all utilized beds/day [min]	1,785	2,380	2,856
	All utilized beds/year [min]	651,525	868,613	1,042,440
	All utilized beds/year [hours]	10,859	14,477	17,374
Monetary savings per year	Estimated salary for nurse in NL/year [€]		€50,000	
	Working hours/week		40	
	Worked weeks (excl. holidays, vacations, sick days)		45	
	Working hours/year		1,800	
	Salary per hour		€27.78	
		€301,632	€402,136	€482,611
Savings in nurse salary costs for all beds per year		6.0	8.0	9.7
Savings in nurse staff [FTEs]				

This model is based on *Estimates to be verified* Confirmed assumptions Calculated values  
 Source: Interviews and documents from case study protagonists; BCG analysis

# Estimated value impact stakeholders

## Key aspects for medical technology firms

### Quantitative impact

#### (clinical and economic)

Large contract for ~ 840 hospital beds and mattresses over 15 years

- Generate revenues from large contract for ~ 840 hospital beds and mattresses
- Guaranteed revenues over a time period of 15 years (contract duration)

#### Jointly developed opportunity also attractive for other hospitals

- Improved product and solution offering provides additional revenue upsides in other accounts/markets
- Potential additional revenue streams through contracting with further hospitals on innovative solutions

### Qualitative impact

Developed and refined integrated solution with center of excellence

- Generate real world evidence of the bed service contracted through MEAT VBP tendering
- Adapt R&D pipeline accordingly based on early information on needs for bed and mattress products/services/solutions

#### Co-creating real world evidence to further improve hospital bed services

- Create awareness for qualitative bed and mattress service offerings adaptable to the patients' needs
- Learn what hospitalized patients may need based on 15 year long experience with bed and mattress service offering

#### Reward and enhanced reputation for integrated bed and mattress service

- Improve reputation for VBP (e.g., value claims supported by user evidence)
- Reward for beds with improved technical features fostering safety of all hospitalised patients

### Cultural aspects

Fostered collaboration in multidisciplinary teams to prepare for VBP tender

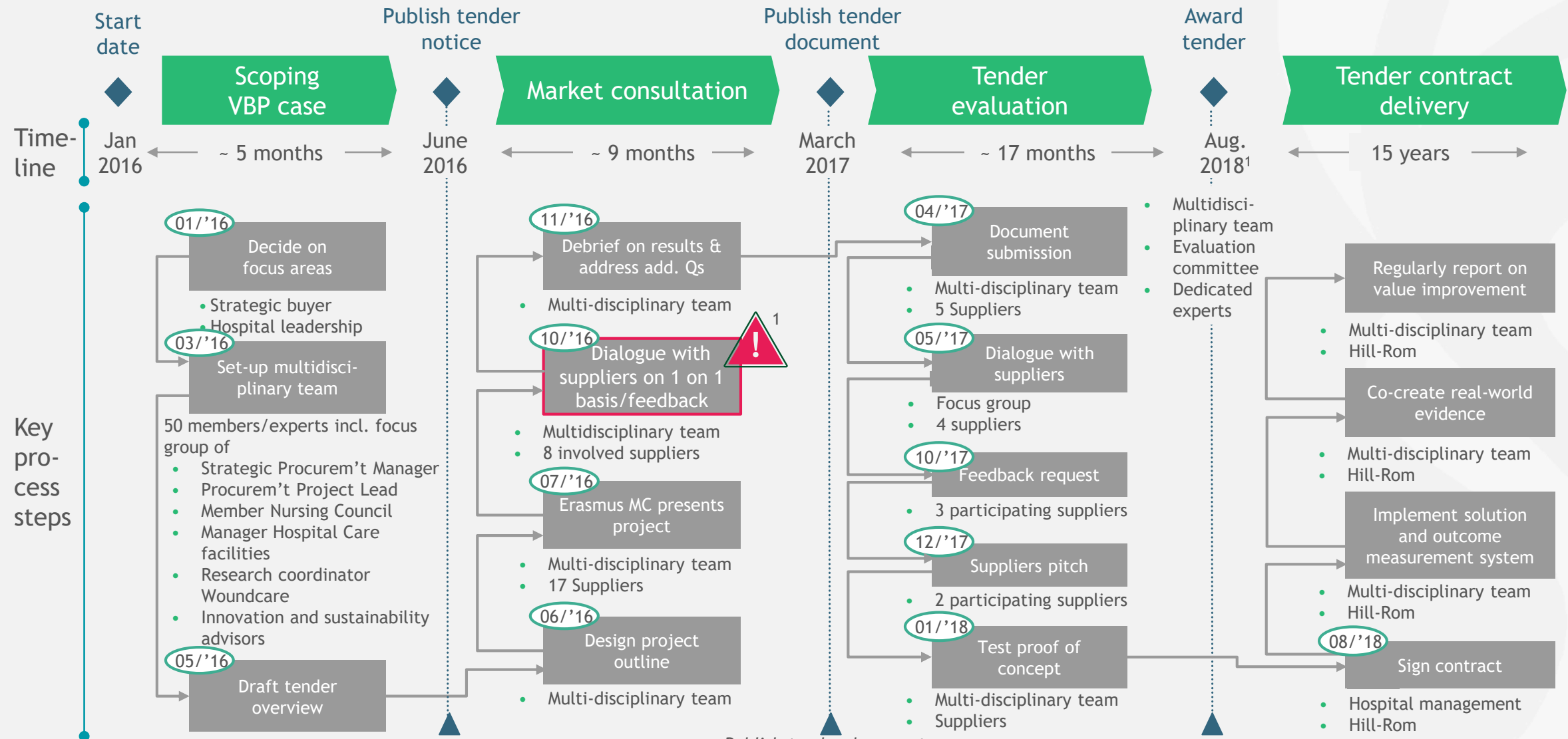
- Set-up multi-disciplinary tender teams within functions (e.g., procurement, legal, finance), users, experts and divisions
- Enable exchange of expertise, knowledge and ideas with procurers during the MEAT VBP process

#### Enabled staff education on MEAT VBP

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Create independence amongst staff members to drive future VBP efforts on long-term service contracts
- Educate employees on patient needs with regard to hospital bed features e.g., safety and comfort fostering ones

# VBP tender process followed

Illustrative



1. Extended dialogue phase - Key success factor here  
 Source: Interviews and documents from case study protagonists; BCG analysis

*Publish tender document on TED and send note to all involved suppliers*

*15 year contract awarded to Hill-Rom*



4



# Case 4: Anti-Coagulation Point of Care solution (NHS Wales)

# VBP case summary

**Procedure/product focus:** Anti-coagulation Point of Care Solution<sup>1</sup>

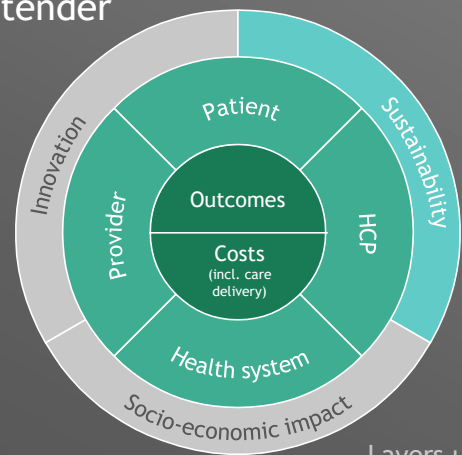
**Population segment:** Patients in need for anti-coagulation

**Care pathway:** Entire pathway (acute, outpatient and home)

**Tender procedure:** Open Procedure/Open market consultation

**Procuring entity:** NHS Wales

**Supplier bid winner:** Open tender



Layers used in MEAT<sup>1</sup> VBP

Validated and approved by procures



## Key value criteria used



### Outcome focus

- INR value in therapeutic range
- Complications due to coagulation e.g., stroke



### Cost of care focus

- Total solution life cycle cost
- Staff training
- Techn. Support
- IT & Network



### Other benefits for stakeholders

- Connectivity of PoC meter to database
- Therapeutic advice w/o staff time



### Broader impact on society

- Sustainable products
- Waste disposal
- Patients' ownership of their health



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- 10-20% reduced cases for high cost ER setting due to more consistent patient monitoring
- Reduction in total cost of care/patient by shifting monitoring to outpatient/home care

#### Qualitative impact

- Patient convenience and reduced burden to HCP due to at/near home testing
- Ability to build up data and analytics to test intervention and improve care pathway
- Better symptom management and interconnectivity to secondary care

#### Cultural change

- Patient empowered to be more active & independent in own monitoring

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Increased revenue per patient due to full solution offering (PoC testing equipment plus 3<sup>rd</sup> party contract on dosing software)

#### Qualitative impact

- Jointly developing integrated care solution within long term partnership model
- Data offers insights into clinical pain points and solution impact along care pathway
- Improved reputation for VBP (e.g., value claims supported by measured evidence)

#### Cultural change

- Patient empowered to be more active & independent in own monitoring



## Key learnings

### Success factors and what worked well

**Solution offering:** 'Suppliers enabled PoC testing which allows patients to perform self testing, health monitoring and appointment scheduling.'

**VBP support:** 'We installed three dedicated VBP managers which ensured a successful VBP process for all stakeholders.'

### Proof of concept

“ During this VBP tender, we aimed to solve major pain points within the care pathway which led suppliers to compete for a comprehensive solution that more specifically fits our clinical, financial and organizational requirements

1. Most Economically Advantageous Tender

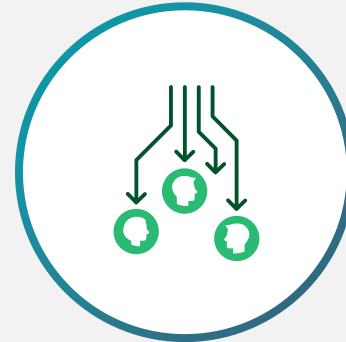
# Key learnings overview | Successes and areas for improvement



## Procurer VBP operating model

“ We leveraged specialised VBP managers to support tender project team and organization, and drive awareness as well as adoption

“ The concept of Value Based Healthcare is emerging but not well established in all areas of NHS Wales which is partially due to a lack of health outcome data



## VBP pilot process

“ Clinically relevant outcome criteria were determined and weighted based on the identified pain points within the patient care pathway

“ It was challenging to apply a monetary value to the selected criteria which were coupled to outcome rather than cost



## Supplier VBP operating model

“ MedTech players deliver tailored solution to allow for a standardized monitoring & outcome measurement and patient involvement in and adherence to their own therapy

“ The suppliers were not ready yet to fully engage in all aspects of the MEAT VBP process e.g., risk-sharing agreements still overwhelming

# Key learnings: Successes and what worked well

## Procurer VBP operating model

### Build specialised VBP manager capabilities

- NHS Wales leveraged specialised VBP managers to support selection of focus areas, identification of pain points in care pathway, definition of value criteria, and setup of innovative ways
- Dedicated VBP project manager and senior leader doing VBP roadshows and thus, ensured awareness and buy-in from the start on
- Initiated pre-tender engagement with potential bidders to give them early opportunity to feed into VBP

### Adapt clinical pathway based on measurement outcome

- Need to identify outcome measures that are actionable for clinical practice
- INR value in therapeutic range allows identification of issues and adaptation of care pathway

## VBP pilot process

### Collaborate in cross-functional team

- A crossfunctional<sup>1</sup> team with full expertise owned the full process and really made the difference

### Focused criteria selection process

- Using the MEAT VBP tool provided with guidance along the process and ensured focus on true value criteria
- Several outcome criteria were selected based on mapping of pain points within the patient care pathway

### Contract with main supplier and second subcontractor

- Established as a solution to meet rigorous requirements on both PoC device and software (e.g., patients' self-testing)
- Need for rigid scoring process during the tender evaluation phase to mitigate possible clinical risks of proposed VBP solutions

## Supplier VBP operating model

### Tailored solution to the patient's needs

- PoC solution offers patient's self testing at home, as well as his/her digital interconnectivity to HCPs
- Improves patient comfort, engagement in and adherence to therapy

1. Laboratory PoC leads, primary care leads for each of the our 7 NHS health boards, pharmacy specialist, specialist and general nurse, VBP project manager guiding process and key procurement manager

Source: Interviews and documents from case study protagonists; BCG analysis

# Key learnings: Areas for improvement

## Procurer VBP operating model

Need to achieve full buy-in for VBHC within NHS Wales

- NHS Wales is generally creating awareness for Value Based healthcare and moving toward its implementation
- Currently, there is still a lack of health outcomes data, and thus, VBHC is not fully established yet

Stronger input from supplier side on criteria definition

- Pre-tender engagement worked well to learn about available solutions available and adjust KPIs accordingly
- Possibly change procedure and use competitive dialogue in place of open market consultation to continue discussion in future tenders including more suppliers

## VBP pilot process

Need to establish the process as long-term and sustainable solution

- Was a standalone approach as pilot tender, moving forward we need to really integrate Value Based thinking as normal procurement to make this sustainable and most impactful where applicable

Highly time and resource consuming—need to optimize VBP operating model

- Very time consuming process, need to industrialize a more efficient processes

## Supplier VBP operating model

Suppliers readiness needs to be improved

- The process is so complex, and suppliers are not ready yet, thus, we were not able to include risk-sharing yet. But this needs to happen

Suppliers' offering should be more solution focused

- Most suppliers currently focus on conventional features of their products
- Need for more suppliers in the market offering value based solutions on PoC meters and software (incl. patients' self testing functionality)



# VBP awarding criteria assessment method

## Minimum requirements vs. awarding criteria Scoring or willingness to pay method

### Minimum requirements

1. Round 1: Bidders capacity—Pass/Fail
2. Round 2: Response to Specification
  - Core Requirements—Pass/Fail—Lot 1 / 2
  - IT & Networks—Pass/Fail—Lot 1
  - Implementation—Pass/Fail—Lot 1 / 2
  - Supply Chain & Logistics—Pass/Fail—Lot 1
  - Data and Audit—Pass/Fail—Lot 2

### Awarding criteria

1. Lot 1 PoC testing equipment and Lot 2 Anti-coagulation dosing software
2. Bidders for Lot 1 are required to provide a number of meters and consumables as samples for evaluation
3. Bidders may bid for Lot 1 and 2 or either one
4. KPI's include Management Information KPI requiring successful Bidder of each Lot to provide quarterly reports as to TTR (therapeutic range)

1. Scoring of product based on performance in each criteria
2. Weighting of scores from each outcome criteria
3. Summing up the overall score based on the outcome/cost ratio for each lot
  - Lot 1 Technical/Quality = 60%, Whole Life Cost = 40%
  - Lot 2 Technical/Quality = 70%, Whole Life Cost = 30%



Based on the achieved score, the willingness to pay for each product will be assigned

# Estimated value impact on stakeholders

## Key aspects for hospital

### Quantitative impact

#### (clinical and economic)

##### Reduction of cases in high cost acute care setting

- Better testing through PoC device results in better anti-coagulation therapy and dosage, avoiding costly acute in-patient stays due to complications
- Further, good testing results in less deviation of dosage and thus, lower prescription costs e.g. on Warfarin

##### Reduction in total cost of care/patient

- NHS Wales with currently ~ 385,000 counted PoC tests/year and 9,000 tests performed by patients at home
- Through the PoC device tender, the ambition is to significantly shift to an increased no. of tests performed at home
- Reduction in need for cost associated with hospital transport
- Decreased administration costs due to patient's self scheduling of next required appointment

### Qualitative impact

#### Patient convenience and reduced burden to HCP

- Patients can monitor their INR time in an outpatient facility or at home which reduces travel time for the patient and increases comfort
- HCP can monitor remotely without staff time used for testing

#### Ability to build up data and analytics

- Based on comparable data available from PoC testing and following therapy, best practice can be established to improve the anticoagulation care pathway

#### Better symptom management and interconnectivity to secondary care

- Patients receive their test results immediately from their PoC meter as well as information on whether a therapy or change thereof is indicated
- Patient's app allows to connect to HCP and schedule an appointment if required

### Cultural aspects

#### Patient empowered to be more active & independent in own monitoring

- Patient can measure INR time independently of HCPs if preferred
- Patient is responsible for regularly testing their INR time and possibly scheduling an appointment if indicated
- This allows patients to own their therapy in a comfortable and efficient manner
- Through this self monitoring, patient is more involved and aware of the needs and consequences of a good therapeutic setting
- Improved patient adherence to required anti-coagulation therapy



# Estimated value impact on stakeholders

## Key aspects for medical technology firms

### Quantitative impact

#### (clinical and economic)

Increased revenue per patient due to full solution offering

- Generate revenues from contract on PoC testing equipment plus dosing software
- Higher number of devices sold since patients monitoring at home require their own device
- Additional revenues generated through maintenance and staff training services
- $XX\%$  increase in revenues/patient = Add Vol. x Add. Price/patient

### Qualitative impact

Offering standardized outcome measurement across delivery channels

- All delivery channels (ER acute stay, outpatient stay, at home testing) use the same PoC device to measure INR time and thus, deliver standardised measurement
- Therapeutic range can be determined based on the same data measurement

Data offers insights into clinical pain points and solution impact along care pathway

- Collecting data from patients across all delivery channels allows for analysis of an extensive analysis of patient outcomes and bottlenecks/pain points
- Addressing those pain points by changing therapeutic standards and care delivery solutions, care pathway for anti-coagulation therapy will be improved

Improved reputation for VBP

- Solution offering enables value claims supported by measured evidence and thus, improves net promoter score

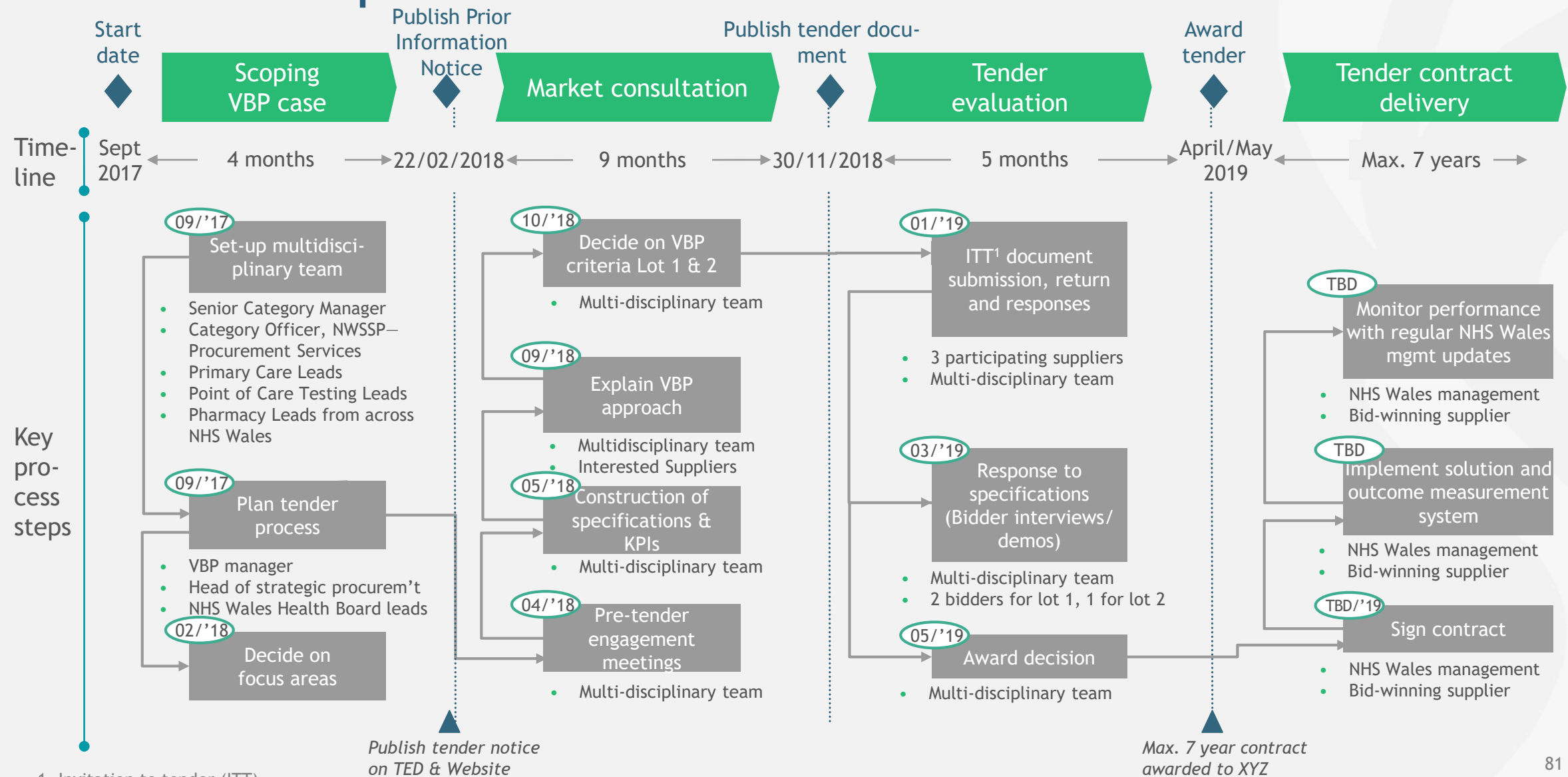
### Cultural aspects

Staff training and education on VBP

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Create independence amongst staff members to drive future VBP efforts
- Educate employees on patient needs with regard to hospital bed features to foster improved product development



# VBP tender process followed



1. Invitation to tender (ITT)  
 Source: Interviews and documents from case study protagonists; BCG analysis

5



# Case 5: Cataract Surgery (Zilveren Kruis)

# VBP case summary

**Procedure/product focus:** Cataract surgery

**Population segment:** Patients with cataract

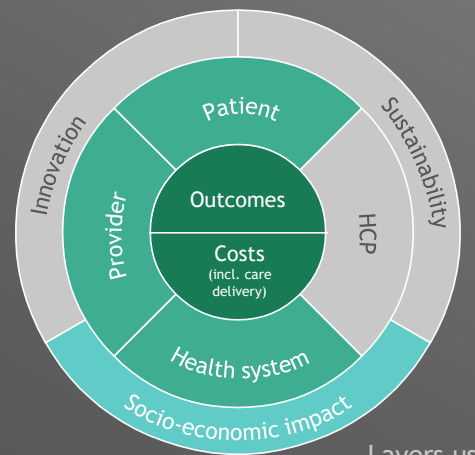
**Care pathway:** Fully integrated care solution

**Tender procedure:** Best Value approach

**Procuring entity:** Zilveren Kruis (Netherlands)

**Provider bid winners:** OLVG, Bravis, Rotterdam eye hospital, Deventer hospital, St. Jansdal

These are providers supplying fully integrated care service



Layers used in MEAT<sup>1</sup> VBP



## Key value criteria used



### Outcome focus

- Visual acuity
- Complication rates
- Re-operation rate
- Performance monitoring system



### Cost of care focus

- Price of procedure



### Other benefits for stakeholders

- Patient satisfaction
- Patient's waiting time



### Broader impact on society

- High Cataract Surgery rate (CSR)



## Value impact on stakeholders

### Value created for hospital

#### Quantitative impact (clinical and economic)

- Lower complication and follow up surgery rate reduces long-term cost of care
- Long-term volume contracts with lower price per surgery
- Attraction of new members due to best service

#### Qualitative impact

- Developing and providing high-quality integrated cataract therapy within center of excellence
- Reward and enhanced reputation for being one of the first in offering best value cataract care
- Transparency on performance of providers

#### Cultural change

- Improved relationships with hospitals/HCPs
- Staff enabled in value-based procurement

### Value created for bid winner

#### Quantitative impact (clinical and economic)

- Revenue guaranty from 3-year contract
- High volume of performed surgeries due to no waiting time and short lead times to surgery

#### Qualitative impact

- Recognized as quality leader
  - Best BCVA<sup>2</sup> above 90%
  - Low complication rates
- Building out quality monitoring system improves overall clinical operations
- High patient satisfaction and net promoted score due to positive care experience

#### Cultural change

- Fostered collaboration in multidisciplinary teams to define value-based KPIs



## Key learnings

### Success factors and what worked well

**Care provider engagement:** '29 care service providers were interested and very engaged in VBP'

**VBP tender process:** 'We experienced value-creating learning in this first successful VBP tender process'

**Care provider solution:** 'The bidding care service providers really bought into the concept of VBP and developed sets of KPIs most valuable for high-quality and outcome oriented cataract care'

### Proof of concept

“The novel best-value procurement approach empowered the bidding care service providers with the responsibility for the selection of best value criteria. The definition of high-quality outcome measures achieved the best outcome in cataract therapy at an affordable price”

Note: This case study used a slightly different VBP method: the Best Value Procurement approach 1. Most Economically Advantageous Tender 2. BCVA = Best Corrected Visual Acuity; Source: Interviews and documents from case study protagonists; BCG analysis

# Key learnings overview | Successes and areas for improvement

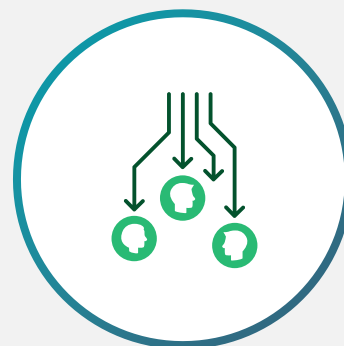


## Procurer VBP operating model

“ Zilveren Kruis was able to identify providers that distinguish themselves as expert providers and were perfectly prepared to select most valuable KPIs

“ Despite the promise to providers we have not initiated any outcome measurements as of now, and thus, can't report any evidence on the best quality in cataract care delivered through this VBP tender process

Note: This case study used a slightly different VBP method: the Best Value Procurement approach  
Source: Interviews and documents from case study protagonists; BCG analysis



## VBP pilot process

“ The evaluation of the selection phase showed that health care providers are very enthusiastic about this approach to provider selection. Even those that participated but did not get a preferred provider contract, generally preferred this process over the traditional process

“ Efficiency of the total tender process needs to be improved to reach tender agreement within a shorter time period



## Supplier VBP operating model

“ Out of the invited 31 care service providers, 29 enrolled in the VBP tender process and were highly engaged in setting KPIs and providing outcome measurements which were requested in the documents for tender evaluation

“ Providers experience a significant lack of evidence base and performance metrics due to absence of (inter-) national consensus on valid and reliable measurement of health outcomes

# Key learnings: Successes and what worked well

## Payer VBP operating model

### Identification of experts providers

- + Zilveren Kruis was able to identify providers which were experts in delivering and measuring high-quality cataract care
- + 5 providers were selected offer the best cataract care conditions rather than the best price

## VBP pilot process

### Tender offerings fit requirements

- + The tender and the proposed solution meet the set KPIs developed by providers to deliver best value
- + The criteria selection process provides plenty of room for the providers to define their KPIs based on experienced relevance

### Clear existence of valuable benefits

- + Both sides benefit from partnership based on significant value created, e.g., improved quality and value of cataract care service
- + Both stakeholders improve their reputation upon VBP tendering due to fostered patient/member satisfaction
- + The process helped to reshape relationship dynamics between HCPs and payers during the preparation phase

## Care service provider VBP operating model

### True VBP solution offering

- + The integrated cataract solutions presented by the care service providers were very sophisticated and perfectly prepared for this tender
- + All the involved 29 providers were highly engaged and elaborated their sets of KPIs as well as performance measures within the requested documents

### Fast realization on importance of outcome transparency

- + Outcomes were more important for the buyer than the process itself
- + There was much value in communicating outcomes to different stakeholders

## Key learnings: Areas for improvement

### Payer VBP operating model

#### Missing outcome measurement performance

- The performance on outcome measurements still needs to be undertaken to create evidence on the quality of cataract care
- The continuous performance measurement was part of the contract with the provider and thus, implementing these would reinforce the relationship with providers
- Relationship between payer and provider needs to be strengthened upon contract signature to enable close collaboration on outcome measurement

### VBP pilot process

#### Need for improvement on the efficiency of the tender process

- The process of VBP tender took several months incl. all phases and should be shortened based on developed expertise and understanding of the process

#### Influence of price still significant impact on provider selection

- Prices are still part of the evaluation process (20% weight) and thus, purchasers should think carefully about how to assess price versus expertise
- Price could possibly be excluded from the preferred provider selection procedure

### Care service provider VBP operating model

#### Lack of evidence base

- (Inter-) national standards and agreements on commonly used performance measures need to be created so that providers receive a basis for evidence measurement
- Providers need to implement monitoring programs to continuously measure performance of their cataract care service, e.g., complication rates, BCVA

## VBP awarding criteria assessment method used


### Minimum requirements vs. awarding criteria

#### Minimum requirements

- N.a. (not applied in VBP approach)

#### Awarding criteria

- This VBP tender is based on 5 main criteria
  - Support in quality claims with performance information on the level of outcome measures
  - Ambition on improving quality of healthcare, efficiency and business process (continuous improvement)
  - Understanding of the purchasers' aims
  - Vision on what health care should look like in the future
  - Sufficiently SMART (specific, measurable, attainable, relevant and time-bound)

 **In this tender, provider define outcome criteria (KPIs) which they consider highly relevant for a best value procurement (VBP) approach**

Note: This case study used a slightly different VBP method: the Best Value Procurement approach  
Source: Interviews and documents from case study protagonists; BCG analysis

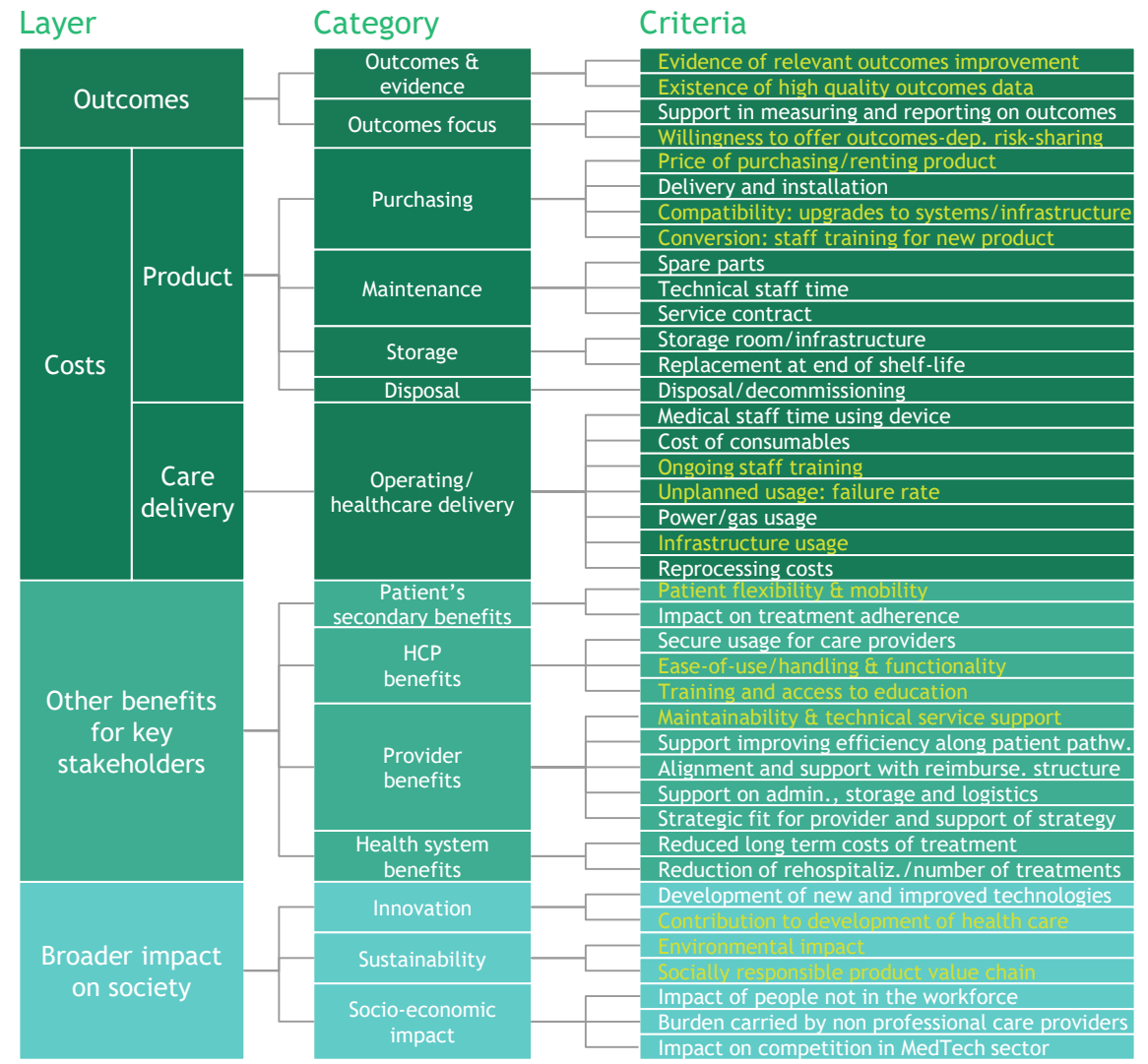
### Scoring or willingness to pay method

A review committee evaluates the documents prepared by the providers

1. Based on defined KPIs, providers prepare 4 documents to provide evidence for the quality of their service
  - Level of expertise (LE) (*valued 1.5x*)
  - Risk assessment (RA)
  - Value added (VA)
  - How to prevent under- and over-treatment (UO) (*valued 1.5x*)
  - Two interviews (*valued 1.5x*)
2. Documents were given a score (0, 2, 4, 6, 8, 10) based on the awarding criteria
3. The total of points was summed up
  - Total Max of 80 points
    - Max. of 60 points on outcome criteria
    - Max. of 20 points on total cost of care
  - Threshold of 69 points for provider selection



# VBP awarding criteria used for VBP tender



## Criteria used in VBP case

- ☆ BCVA above 90%, patient safety (Peri- and postoperative complications<sup>2</sup> max. -1.2%, front vitrectomy Max. 0.2%)
  - ☆ Measuring outcome data over long-term period (3 years)
  - ☆ Programming for performance monitoring by care service provider
  - ☆ Willingness to offer risk-sharing agreements
  - ☆ Cost of service<sup>1</sup>
- 
- Hospital equipment upgrade
  - Staff training for new product
- 
- ☆ Training for continuous adaptations
  - ☆ On-time availability of operating room 100%, no waiting time
- 
- Workflow efficiency
- 
- ☆ Patient satisfaction of outpatient visit ≥90%, Waiting time for surgery ≥90%; Net promoter score (NPS)
  - ☆ Lead time for first hospital visit - operation max. 30 days
- 
- Simplicity of cataract care flow for healthcare worker
  - Support for training courses for professionals on best value approach
  - Long-term contract with providing care giver

## ☆ Top five criteria used<sup>3</sup>

1. The cost for surgery and related costs (such as necessary drugs, medical rehabilitation, consults, diagnostic checks and check-up visits; 2. Endophthalmitis, posteriorcapsular opacification within one year; 3. Weights/importance attached in assessment (information provided during interview) Note: This case study used a slightly different VBP method: the Best Value Procurement approach Source: Interviews and documents from case study protagonists; BCG analysis

# Value impact on stakeholders

## Key aspects for payer

### Quantitative impact (clinical and economic)

#### High surgery volume

- Enabled due to improved efficiency within the cataract care pathway
- Short lead times with max. 30 days from first hospital visit to operation
- Savings on total cost of care due to decreased price per cataract surgery

#### Financial stability during multi-annual contracting

- Rental and service contract over 3 years with annual operating cost, no upfront capital investments required
- Timely availability of equipment due to improved workflow efficiency and no waiting time for patients

#### Lower cost for complications

- Reduced complications such as peri-and post-operative types, and low level of re-operation rate optimize the total cost of care

### Qualitative impact

#### Transparency on performance on providers

- Providers agree to continuously monitor care outcome measurements based on defined KPIs
- Co-creating real world evidence to further improve cataract therapy
- Enable to improve processes in cataract care
- Show patients the effectiveness of certain treatment
- Payments are value based, thus high-quality patient care is fostered

#### Developing and providing high-quality integrated cataract therapy within center of excellence

- Create very high patient satisfaction due to optimal care conditions (e.g., no waiting time, low complication rate etc.)
- Enable short lead time of 30 days to offer fast cataract care to patient and fast vision recovery
- Providers pro-actively define health outcomes and thus, are more engaged and motivated to deliver high-quality outcomes
- Reward and enhanced reputation for being one of the first in offering best value cataract care

### Cultural aspects

#### Reshaped relationships with HCPs

- Convince health insurers about providers' level of expertise
- Providers are seen as experts, lead the VBP process, select KPIs and receive trust and responsibility by the payer

#### Providing method training on best value case

- Educate staff on method and experienced benefits of VBP contracting
- Test proof of concept with awarded cataract care provider
- Engage working group members throughout the process
- Establish VBP multidisciplinary task force concept and enabled team

# Value impact stakeholders

Key aspects for integrated care provider

## Quantitative impact (clinical and economic)

### Revenue guaranty from 3-year contract

- ZK invested in cataract innovations developed by the selected providers
- Generated revenues from large volume contracts on integrated cataract care services
- Additionally generated revenues through maintenance and staff training services

### High volume of performed surgeries

- No waiting time and lower lead times to surgery increases volume of surgeries performed by provider/year
- Additional margin for solution concept and outcome improvement over time

## Qualitative impact

### Recognized as a quality leader

- Reward for integrated cataract care pathway with qualitative benefits to the patient, e.g., better vision improvement, low rates for complications and follow-up surgeries
- High patient satisfaction and net promoter score due to positive care experience
- Improved reputation for VBP (e.g. value claims supported by user evidence)

### Building out quality monitoring system improves clinical operations overall

- Partially leverage criteria defined by ICHOM to select outcome criteria most applicable in cataract care pathway
- Generate real world evidence of cataract care contracted through VBP tendering
- Learn what cataract patients may need based on experience with cataract service offering and monitoring outcomes over 3 year period
- Adapt R&D pipeline accordingly based on early information on needs for cataract care

## Cultural aspects

### Fostered collaboration in multidisciplinary teams

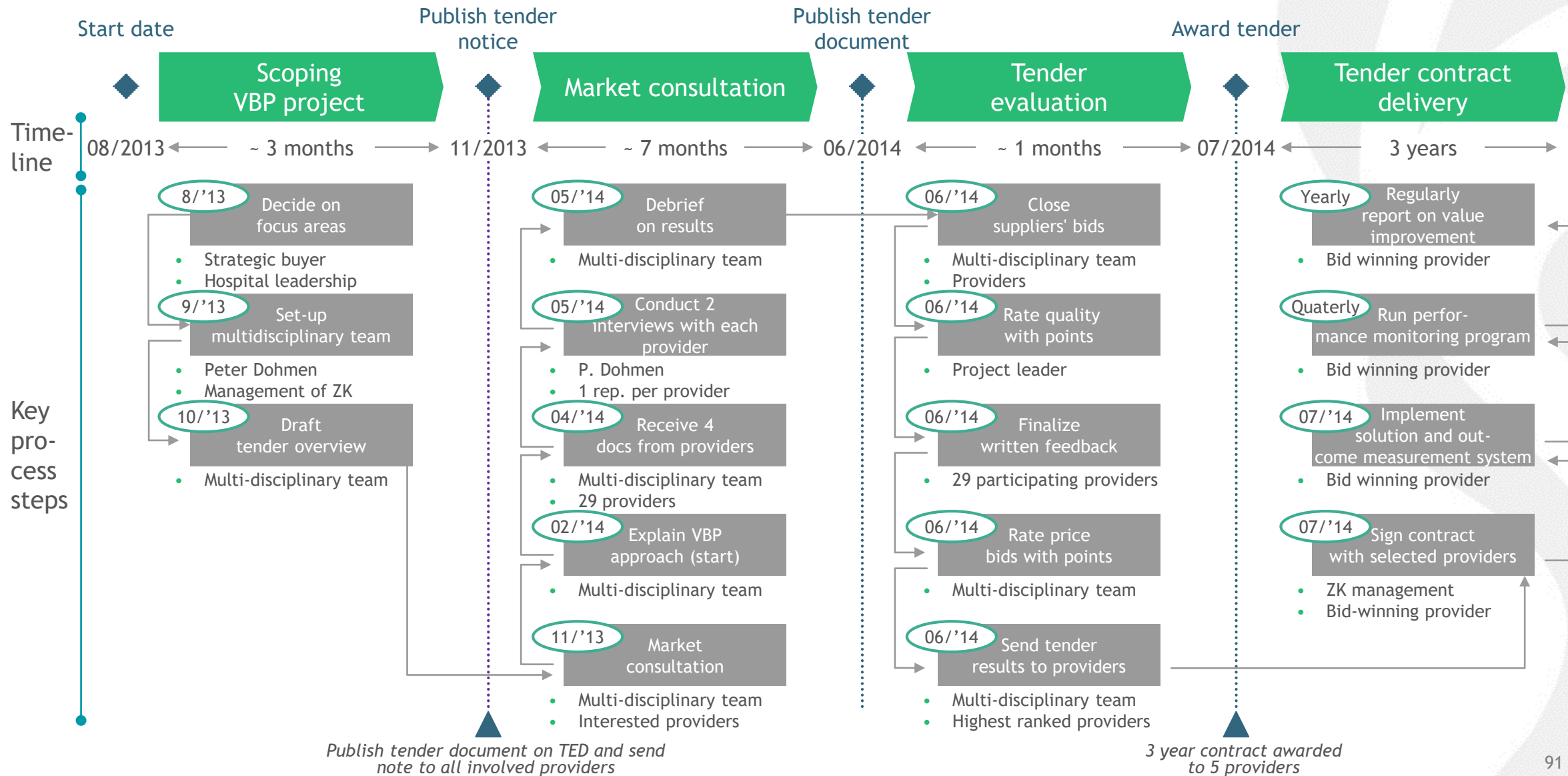
- Set-up multi-disciplinary tender teams within functions (e.g., procurement, clinical etc.)
- Enable exchange of expertise, knowledge and ideas with procurers during the VBP process
- Define on and set KPIs ranked as highly relevant for delivering high-quality cataract surgery with best value for the patient
- Progress was made to change the relationship with provider from transactional towards relational which is a crucial step towards value based purchasing of health care

### Staff training and education on VBP

- Educate staff on values that are crucial for VBP process (e.g., transparency, confidentiality, learning)
- Create independence amongst staff members to drive future VBP efforts during long-term service contracts
- Educate employees on patient needs with regard to cataract care e.g., safety and quality

Note: This case study used a slightly different VBP method: the Best Value Procurement approach  
Source: Interviews and documents from case study protagonists; BCG analysis

# VBP tender process | 11 months timeline, 7 months open market consultation



Note: This case study used a slightly different VBP method: the Best Value Procurement approach  
 Source: Interviews and documents from case study protagonists; BCG analysis