



VALUE-BASED
PROCUREMENT

Partnering for patient-centric,
sustainable health care

1st European Value-Based Procurement Conference

A new paradigm in Health Care



EVENT REPORT

12 December 2019, Brussels

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Summary

By focusing on value, including cost of care and outcomes criteria instead of price alone, procurement authorities can play a role in delivering better quality care more efficiently. Some healthcare providers across Europe are already testing new approaches to value-based procurement (VBP). Partnership and sharing experience are essential to developing VBP. Conferences, workshops and ongoing virtual collaboration among the procurement community, but also with industry, have a key role to play.

The 1st European Value-Based Procurement conference was organised by the Value-Based Procurement Community of Practice and supported by the European Health Public Procurement Alliance ([EHPPA](#)), the European Regional and Local Authorities ([EUREGHA](#)) and [MedTech Europe](#), the European trade association representing the medical technology industries, including diagnostics, medical devices and digital health, on 12 December 2019 in Brussels. It brought together procurement agencies, companies, government officials, European representatives, academics and other healthcare stakeholders to discuss and partner for patient-centric, quality and sustainable healthcare by adopting VBP and changing procurement practice.

Participants shared a variety of experiences of new approaches to purchasing, including pre-tender dialogues, risk-sharing models, and building value-based awarding criteria into tenders. The meeting explored the legal, technical and cultural challenges to widespread adoption of value-based and innovation procurement. Among the key themes were: **improving access and use of data; training for procurement and industry professionals; new metrics for assessing value; and the need to incorporate patient perspectives.**

This document summarises some of the key themes addressed during this meeting of senior leaders of procurement organizations, procurement experts from hospitals, authorities and industry. It is designed to be shared with interested parties; and to encourage all players to engage in an ongoing dialogue and partnership about the future purchasing of medical technologies and solutions in healthcare.



Introduction

Value-based procurement (VBP) is a collaborative, multidisciplinary approach to partnering for patient-centric, better quality and more financially sustainable healthcare. VBP involves **pursuing better outcomes for patients and other healthcare actors while optimising the cost of delivering care**. It represents a shift away from the traditional focus on price of supplies (inputs), towards a new approach that emphasises what is valued (outputs). Rather than choosing products based only on price, hospital procurement and contracting authorities are devising more sophisticated approaches that reward quality and focus on outcomes while at the same time positively impact the total cost of care delivery (see Annex I). This approach is aligned with the 2014 EU Public Procurement Directive which seeks new methodologies to identify the best quality-price ratio for Most Economic Advantageous Tendering (value for money)¹.

A Value-Based Procurement Community of Practice (VBP CoP)

To accelerate the adoption of value-based procurement, dialogue between stakeholders and the sharing of best practices are essential. **The 1st European Value-Based Procurement conference**, organised by the **Value-Based Procurement Community of Practice** (VBP CoP) and supported by the **European Health Public Procurement Alliance** (EHPPA), the **European Regional and Local Authorities** (EUREGHA) and **MedTech Europe**, the European trade association representing the medical technology industries, including diagnostics, medical devices and digital health, laid foundations for further formalization of a VBP CoP.

More than 250 delegates registered for the event to exchange policy initiatives and strategies to drive this evolutionary transition, as well as tools to put new approaches into practice. Attendees included 30 medtech companies and 35 procurement agencies from 17 countries – representing around 2,500 hospitals with responsibility for approximately 20 million patients. The conference featured **sessions showcasing pioneering applications of value-based procurement across Europe**. Participants were also able to avail of networking opportunities with experts, share best practices, and explore future partnerships.

I. VBP in reality

It was agreed that building a collaborative hub can help to put value on the procurement agenda and build bridges between stakeholders. This approach provides opportunities to share strategies, address problems together, and raises standards across Europe. Some hospitals and health systems already have experience with this kind of cross-functional collaboration from which others can learn.

In the UK, for example, health managers increasingly see potential for procurers to share data and information, which can be married with clinical insights, to drive better quality of care and inform value-based procurement. When it works best, **this approach not only supports better value, it can also help to address persistent inequalities of outcome**. Bringing CEOs, CFOs and procurement teams together comes with challenges and requires high-level support if it is to work effectively. Breaking down silos can be difficult but brings considerable benefits to procurement and the wider health system by fostering a joined-up approach to care delivery.

Healthcare leaders with experience of value-based procurement have found that successful implementation is achieved step-by-step. For example, some services have prioritised specific disease areas such as orthopaedics to build experience with this model of procurement. By analysing outcomes data, they can address clinical variations between institutions and demonstrate which products and interventions offer the best return on investment – whether that means investing in technology or changing how services are delivered in hospitals and communities. It is widely agreed that **dialogue and partnership between healthcare providers and industry remains essential to the adoption of value-based procurement**.

In a nutshell:

- A value-based approach to procurement, can deliver greater efficiency, avoid costs, provide better outcomes and help to address inequalities in quality care, leading to uptake of the most economically advantageous solutions.
- Collaboration is a key driver of advancing value-based procurement.
- Building a Community of Practice will bring together procurement organisations, experts, clinicians, industry and others to share expertise and experiences in order to advance and adopt VBP.

The global experts' view

Dr [Rifat Atun](#), Professor of Global Health Systems at Harvard University, indicated that **transforming health systems to value-based healthcare was not a question of whether, but rather of how quickly it can be achieved**. He pointed out that the challenges facing healthcare systems are identical in all countries: an epidemiological transition, from acute to chronic illnesses with multi-morbidities; this trend being exacerbated by an ageing demographic. He highlighted that new models of care delivery are needed and that massive inefficiencies were a major part of the rising costs with a waste representing between 20 to 40% of the expenditure. Prof Atun called for a transition **to incorporating value in decision making in health**² – a shift that will require payers and procurers to become strategic purchasers of solutions.

Partnering for procurement: examples across European countries

United Kingdom

Lessons learned by leaders in value-based procurement can help to guide those who are in the early stages of shifting to this approach. By sharing ‘tricks of the trade’ they can support others and help them to accelerate the transition. NHS Wales, a pioneer in the field of value-based healthcare, found that instigating culture change is vital to moving forward together. Connecting key players, and collecting and analysing data, are central to reaching a common definition of value. Value-based procurement is one of the key drivers of value-based healthcare.

Norway

In Norway, an important insight has been the need for partners to have a shared vision and to speak the same language. For example, to bring clinicians on board, addressing clinical and service improvements is more relevant than focusing on cost savings or management efficiencies. Early engagement with suppliers has also helped considerably.

Denmark

Illustrating impact is crucial to convincing sceptical partners: Denmark has run a ‘shadow’ contracting exercise which allowed for a comparison between the existing procurement method and the new value-based approach.

Spain

The success of value-based procurement in Catalonia can be attributed to positioning value as a central component of sustainable healthcare. As all stakeholders can sign up to this vision, it offers a shared starting point on which to build. From there, involving payers, IT departments and private sector partners can help to ensure this aspiration is turned into action. Capturing value created across the system helps to support the case for this approach to procurement.

France

Procurement professionals play an important role in developing targets and metrics for procurement which can replace price as a key criterion. In France, leading hospital groups are devising new ways to capture benefits such as improved healthcare experiences, reduced hospital stays and lower readmission rates. Procurement is no longer a 'backroom function', but a vital source of innovation within the system.

In a nutshell:

- Value needs to be the driver of decision-making in healthcare
- Lessons learned from early VBP adopters need to be shared
- Sparking cultural change within buying organisations that builds a shared focus on value is essential
- Training for procurement, IT and other key professionals can help accelerate adoption of value-based procurement
- Early engagement with suppliers can improve alignment between stakeholders
- Benefits such as improved healthcare experiences, reduced hospital stays and lower readmission rates should be captured

II. How VBP can drive innovative health care: the experience

Value-based procurement can help to address some of the major challenges facing health systems, including demographics and rising rates of chronic illness. Inefficiency and waste explain why health spending is rising while outcomes and quality of care deteriorate in some countries. This is unsustainable and demands a new approach. The goal should be to accelerate the transition to paying for what is of value. Procurement can play a central role in this by measuring – and rewarding – value. In the process, procurement itself will play a more strategic role in driving innovation in the market and on the healthcare delivery side.

However, value can have different meanings to different stakeholders. Value for patients and individual citizens should be the primary yardstick for measuring success. To serve the interests of service users, **it is essential to incorporate patients' perspectives in policy and procurement. Collecting, analysing and acting on data insights will be vital.**

The European Commission is investing in OECD work on patient relevant indicators to facilitate this new chapter of data-driven healthcare. In addition, initiatives on defining value and value-based healthcare in Europe will inform a view of 'value' that takes European specificities into account.

The European Commission is supporting a number of projects designed to foster public procurement of innovation. These initiatives reduce the risks associated with developing innovative solutions. Horizon 2020 funding is also used to finance pre-commercial procurement ([PCPs](#)).

Partnership will be at the heart of efforts to improve health system performance. In the Netherlands, a large health insurance fund has reworked how it pays providers. Instead of paying for volume, they reward increases in quality of care and incentivise innovation. This promises to reduce waste without necessarily requiring a major restructuring of the system. To realise the full potential of this approach, measures are required to address fragmentation of health systems, limitations on data sharing and labour shortages.

In a nutshell:

- Health systems should reward the value created by (innovative) healthcare solutions
- Patient and citizen perspectives, and more comprehensive data on what is valued by patients, healthcare professionals, health systems and society, must be incorporated when awarding medtech offers and developing metrics for assessing value
- Collaboration between procurers and suppliers is essential
- Patient and citizen perspectives, and more comprehensive data on what is valued by patients, healthcare professionals, health systems and society, must be incorporated when awarding medtech offers and developing metrics for assessing value.

Early adoption: a revolution in mindset, an evolution in practice

Legal and technical aspects of implementing value-based procurement can pose challenges, but purchasers in several countries are testing new ways to engage with suppliers to deliver innovative solutions. **The [EU Public Procurement Directive](#) requires contracting authorities to base the award of contracts on the most economically advantageous tender (MEAT).** This enhances the focus on quality and value. The question for procurers is how to define value and select quality criteria or target outcomes.

Early engagement with suppliers can help refine tenders to better suit both sides. While both parties have a stake in co-designing value-based procurement schemes, **cultural shifts are required to ensure positive cooperation.** It also remains crucial to ensure a level playing field for companies of all sizes – dialogue with industry should not favour any supplier.

The benefit of developing a VBP Community of Practice lies in the opportunities it brings to learn about creative and legally robust approaches to writing value-based tenders. While clinicians and patients are not yet part of the VBP CoP, their input could add insights which would help to ensure that value is defined from the perspective of all users.

Examples of VBP approaches

- **Connected beds:** Erasmus MC in the Netherlands used a competitive dialogue as part of a tender procedure for connected hospital beds. The hospital entered into a 15-year service contract with the bid winner. Substantial cost savings are expected due to improved workflow alongside improved patient safety and -mobilisation. *“The key learning for us on this is; don’t wait to be asked, or for the system or rules to change, don’t look for permission. Decide to do it and just start - learn by doing,”* said Eva de Boer, MSc, Project Manager and Maarten Timmerman, Strategic Buyer, Erasmus MC.
- **Surgical gloves:** GIP Resah, a large public Central Purchasing Body in France wanted to determine whether switching to sensitised gloves would reduce allergic reactions and give better value from the perspective of patients and health professionals. They set up a multidisciplinary team to study the issue. *“While the project itself may not lead to a tender, the methodology we defined will help provide a template that we will be able to duplicate and adapt to future value-based procurement initiatives,”* said François Capitain, Supply chain and public procurement senior consultant, Resah Conseil.
- **Knee implants:** The Region of Southern Denmark agreed to risk-sharing around patient outcomes when purchasing knee replacements for Vejle hospital. Patients’ daily quality of life after one year was a key criterion. Following an open tender, two suppliers were selected, and rewarded or penalised based on outcomes after 12 and 36 months. *“We’re achieving better outcomes which is good not only for the patients but also for the manufacturer, who can use the results to demonstrate the superiority of their products,”* said Per Wagner Kristensen, Head of Orthopaedic Department, Vejle Hospital and Karsten Kirkegaard, Senior Category Manager, Strategic Procurement, The Region of Southern Denmark.
- **Point of Care anticoagulant testing:** NHS Wales, UK, procured anticoagulant point-of-care (PoC) tests through an open procedure, including open market consultation. The project created value for the hospital through an anticipated 10-20% reduction in ER admissions due to increased consistent patient monitoring, and a reduction in the total cost of care. For the bid winner, this approach increased revenue per patient. *“A procurement contract targeting the improvement of patients time in therapeutic range will reduce the burden on emergency admissions due to high International Normalized Ratio (INR),”* said Joanne Liddle MCIPS, Senior Category Manager (Clinical), NHS Wales Shared Services Partnership - Procurement Services.
- **Infusion pumps:** The Karolinska University Hospital in Sweden took a ‘willingness-to-pay’ approach to tendering for infusion pumps. Patient safety was a key outcome criterion, in addition to cost of care, usability and technical features. *“Always compare cost to the quality; you think you’re doing a value-based approach, but otherwise you’re inevitably actually buying on price,”* said Gunnar Goblirsch Consultant, Former Head Purchasing, Karolinska University Hospital.
- **Kidney cancer:** The Capital Region of Denmark took a value-based approach to procure a new personalised treatment regimen for patients with non-clear-cell renal carcinoma. The process led to the development of a new partnership model with the selected vendor. *“Procurers should consider engaging with suppliers in product development so that more value-adding and cost-efficient solutions are available to hospitals in the future. We know our future needs and challenges, so we can orientate them to address these while de-risking and sharing costs on both sides,”* said Louise Brink Thomsen, Project Manager, Procurement Development & Strategic Partnerships, Capital Region of Denmark.

- **Cataract surgery:** Zilveren Kruis, Netherlands, procured fully-integrated solutions for cataract care, focusing on outcomes, total cost of care, and patient experience. This approach lowered complication rates. *“We want to work with those clinicians that are willing to share their metrics, to make them better. If we reward them, we can widen the numbers willing to participate,”* said Peter J.G. Dohmen, Consultant healthcare procurement, Best Value Group, Former BVG-Zilveren Kruis.
- **Perioperative hypothermia prevention:** UniHA, a national purchasing organization in France, piloted value-based procurement by competitive dialogue when purchasing a solution to prevent perioperative hypothermia. A complete solution was purchased which included an active patient warning system, patient core temperature monitoring, and support to optimise the process of care. It was a win-win-win for patients, hospitals and the supplier. Bruno Carriere, Director General, UniHA, summed up the new approach to procurement: *“Value over volume.”*
- **Supply chain Value-based procurement project:** The NHS Supply Chain has piloted value-based procurement in wound care, ward-based consumables, endoscopy and endourology, cardiology and capital equipment. Work has commenced exploring contracting for value and developing a toolkit for delivery. *“As a staunch advocate of VBP for the past five years, it was great to attend the excellent event, hosted and organised by MedTech Europe,”* said Brian Mangan, Value Based Procurement (VBP) Project Lead, Supply Chain Coordination Limited, Management Function of NHS Supply Chain. *“Here, organisations showcased the progress being made in developing true partnership working between industry and healthcare; and how through the adoption of value based procurement it is possible to create sustainable solutions to the major challenges for all health systems of providing improved patient care set against diminishing financial resources.”*

Detailed information on these nine cases is available in Annex 2 where the posters developed by each of the buyers are available.

III. Accelerating the shift

Value-based procurement has come a long way in a short time, but there is still great distance to travel. While support for the concept is growing steadily, accelerating the implementation of this theory is vital. According to a web-based survey and workshops with the Community of Practice, **momentum is building behind value-based procurement**. The approach and framework developed by MedTech Europe, in partnership with The Boston Consulting Group (BCG) and procurement experts, is increasingly being used by pioneers in the field. Companies see benefits in investing in value-based procurement while many procurers are willing to pay higher prices for demonstrably better value and improved outcomes. *“Applying the value-based procurement approach offers all procurers in healthcare the unique opportunity to support realizing the hospital’s strategic goals and to contribute to facing today’s challenges in healthcare,”* said Hans Bax, Senior Advisor Value Based Procurement at MedTech Europe.

However, in surveys of purchasers and manufacturers about their own interest in value-based procurement and about their perception of the readiness of the ‘other side’ to embrace value-based procurement it is clear that the journey has only started and further steps are needed. While there is commitment from senior management to this approach, there are also questions about how to calculate the value of outcome indicators that are difficult to measure, what educational programs are needed, and how to translate it in value-based contracting.³

A growing Value-Based Procurement Community of Practice (VBP CoP)

20 procurement organisations covering 13 countries, 15 medical technology suppliers, and 17 national medical technology associations have expressed an interest in a Community of Practice. **The VBP CoP focuses on five main activities: Outreach, Education, Collaboration, Learning and Procurement Tool Development.** Looking ahead, the CoP has potential to grow and to offer valuable resources such as guidance and toolkits. It can play a pivotal role in supporting stakeholders, large and small, on the journey to making value-based procurement the norm.

Over the course of 2020, a formalization of the VBP CoP, with the subscription of members, will take place. The development and collection of additional value-based procurement cases is expected. Thematic sessions will take place and all lessons learned will be shared with those interested and committed to VBP during **the second edition of the European Value-Based Procurement Conference which will take place on 1 December 2020 in Brussels.**

Practical tips for piloting value-based procurement

Providers:

- Take an agile approach; start small and learn from experience
- Pilot in areas where there is a gap and use this to develop trust
- Build capacity, initiate and formalise processes, think about incentives

Manufacturers:

- Prioritise the areas in which you want to play; leverage existing advantages (this might be a bit too forthcoming for a public report)
- Work in multidisciplinary teams to develop superior value propositions
- Learn and fill identified gaps
- Empower commercial teams; communicating value proposition requires a team-based approach

More information on the 1st Value-Based Procurement conference is available on the [conference website](#), including the conference material and reading material on value-based procurement

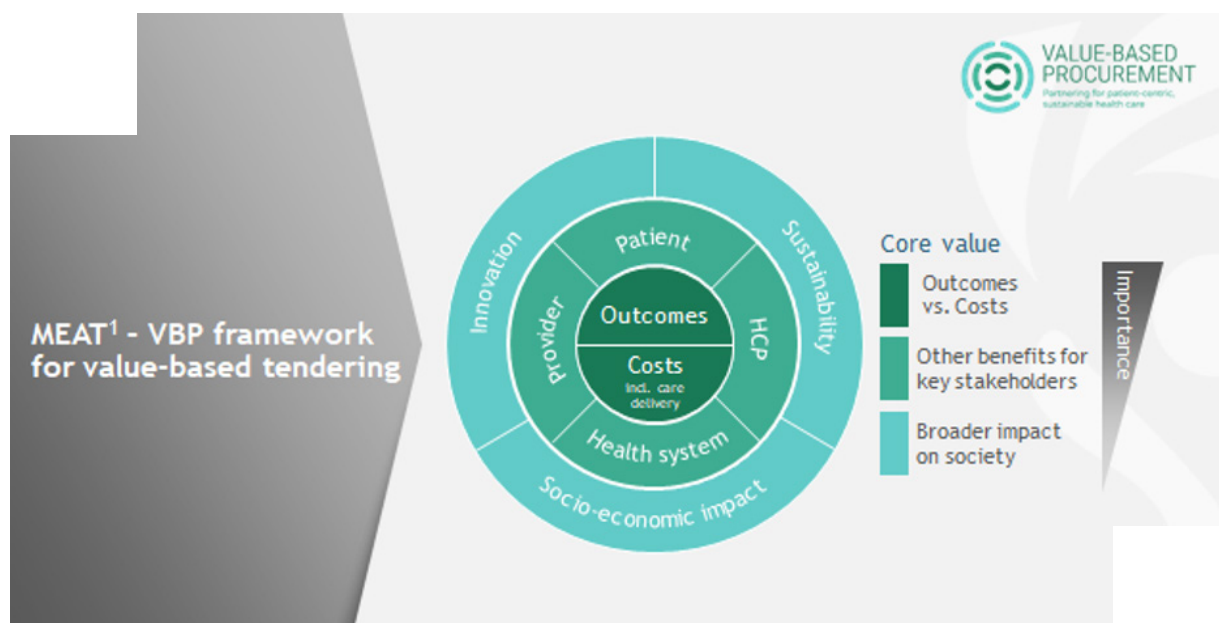
The joint EHPPA-EUREGHA-MedTech Europe press release of the 1st Value-Based Procurement conference is available [here](#).

ANNEX 1

The 2104 European public procurement legislation requires contracting authorities to base the award of contracts on the most economically advantageous tender (MEAT). Implementing (MEAT) value-based procurement promises to deliver more value for patients, healthcare professionals, providers, and for the health system, while also helping to foster innovation.

MEAT Value-based procurement initiative

MedTech Europe, in partnership with The Boston Consulting Group (BCG) and procurement experts, compiled procurement best practices and a framework to guide (MEAT) value-based decision-making. The system includes criteria covering outcomes that matter to patients, total costs, other benefits for key stakeholders and broader impact on the society.



Source: The Boston Consulting Group (BCG)

To facilitate the implementation of this approach, a simple Excel spreadsheet has been built; this tool is easily customisable for the evaluation of medical technologies, services or solutions.

The framework and excel tool can be requested at info@meat-procurement.eu

ANNEX 2

Connected Hospital Bed – Erasmus MC, Netherlands



Tender procedure: Connected hospital bed solution **Population segment:** All hospitalized patients **Care pathway:** All in-hospital patients
Tender Procedure: Competitive dialogue **Procuring entity:** Erasmus MC (NL) **Supplier bid winner:** Hillrom

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

- CO2 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

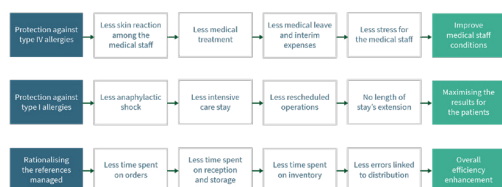
Cultural change

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

Surgical gloves learning project - GIP Resah, France



Why switching to synthetic?



? To what extent the overall benefits of non-latex gloves counterweight its uncompetitive price?

Multidisciplinary Team

Setting up of a multidisciplinary team...

- One project leader on the field
- Involvement of both procurement, financial and medical department
- Implication of the operating room medical staff, pharmacists
- Providers

...from a representative panel of hospitals

- Representativity in terms of size, budget and surgery activity
- 3 hospitals selected to be part of the study

Methodology



Layers used in the study

Example of categories and criteria used associated with their criticism

Layers	Categories	Example of criteria	Collecting
Costs	Partnership	Price of purchasing	★★★★
Costs	Storage	Inventory	★★★★
Costs	Disposal	Disposal	★★★★
Outcomes	Operation and medicine	Number of patient's allergic reactions in the operating room	★★★★
Outcomes	Patients' laboratory benefits	Number of operations rescheduled due to a latex's allergic reaction	★★★★
Outcomes	Patients' laboratory benefits	Number of medical leave due to latex's allergic reaction	★★★★
Outcomes	Health system	The choices have been made to not take into account this layer in the first round of the study	★★★★



Switching to synthetic gloves is expensive



but it helps preventing latex allergies



Involve a wide range of stakeholders is essential



Access to information is complex



It may not lead to a VBP tender process on the short term



But it contributes to map the risks and evaluating the costs associated with the product

Key learning points

ANNEX 2

Outcome based procurement of knee implants at the Hospital of Vejle



Category Management based procurement of strategic goods and services in the Region of Southern Denmark

Primary aim: Long-term / strategic collaboration focusing on output, development, risk sharing, cost reduction and / or TCO

Key procurement elements

- Category Management
- Knee implants are strategic goods
- Same or better patient outcomes
- Dialog with market and consultation
- Open tender with 3 offers and 2 winners
- Risk sharing around patient outcomes
- 3 clinical patient outcomes & 2 patient reported outcomes
- Collaborative relationship & development
- Clinical management support
- Business models and risk sharing
- Start market dialogue well in advance

Category Management

Volume goods and services	Strategic goods and services
<ul style="list-style-type: none"> • Volume goods and services are defined as goods and services that are purchased in large quantities and are used across the organization. • They are typically purchased through a framework agreement. 	<ul style="list-style-type: none"> • Strategic goods and services are defined as goods and services that are critical to the organization's success and are used across the organization. • They are typically purchased through a framework agreement.

Market dialogue & Tender



Patient outcome parameters & data

- Clinical patient outcome**
- Average patient hospitalization time
 - Average patient re-admission rate 30 days after discharge
 - Average patient revision rate after 1st, 2nd & 5th postoperative year
- Patient reported outcome**
- The patient reported total outcome 1 year after surgery
 - The patient reported functional WII 1 year after surgery
- Data on clinical patient outcome**
- Official data reported to the Danish knee replacement register
- Data on patient experienced outcome**
- EQ-5D-5L, Score Health-related quality of life (total outcome)
 - Oxford knee Score (functional WII)

Fundamental conditions

- The fundamental conditions for the tender of knee implants were as follows:
- Orthopedic implants are categorized as strategic goods
 - Same or better patient outcomes at the Hospital of Vejle than the present patient outcomes
 - Within the current regulatory framework for knee replacement surgery at the Hospital of Vejle
 - Bonus for realized better patient outcome than today's and reverse for underperformance
 - Possibility of "new knee replacement surgery" if suppliers guarantee patient revision rates

Strategic & Value adding elements

- Risk sharing around the realized patient outcomes**
- Price increase up to 17 % for performance over baseline
 - Price reduction up to 21 % for performance below baseline
 - Remedy for performance below baseline and guaranteed patient revision rates
- Collaborative relationship and development**
- 8 year contract period (if cooperation works)
 - Collaboration on solutions to improve patient outcomes
 - Collaboration on streamlining surgery & patient care
 - Contract modification clauses & open book calculations

Baseline and preliminary results

Patient outcome parameters	Total knee arthroplasty	Unicompartamental knee arthroplasty
Clinical patient outcome		
Average patient hospitalization time (days)	3.6	2.6
Average patient re-admission rate 30 days after discharge	5.5 %	3.7 %
Average patient revision rate after 1st postoperative year	1.2 %	1.1 %
Average patient revision rate after 2nd postoperative year	2.0 %	2.0 %
Average patient revision rate after 5th postoperative year	4.5 %	4.5 %
Patient reported outcome		
One patient reported total outcome 1 year after surgery	85 %	86 %
Satisfied reported total outcome 1 year after surgery	85 %	85 %
One patient reported functional WII 1 year after surgery	85 %	86 %
Satisfied reported functional WII 1 year after surgery	85 %	85 %

Lessons learned from outcome based procurement

- Ownership and support from the clinical management is essential
- Healthcare professionals are not always comfortable with the increased transparency
- Suppliers' business models are not always compatible with risk sharing, especially SME
- Start the dialogue with the market well in advance

Yearly patient base

	Number of patients
Total knee arthroplasty	470
Unicompartamental knee arthroplasty	290

Anti-coagulation PoC – NHS Wales, UK



Procedure/product focus: Anti-coagulation Point of Care Solution

Population segment: Patients in need for anti-coagulation

Care pathway: Entire pathway (acute, outpatient & home)

Tender procedure: Open Procedure - incl. open market consultation

Procuring entity: NHS Wales

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
- Technical 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)

- It is anticipated that there will be a 10-20% reduction in ER admissions due to increased 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 3rd 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

ANNEX 2

Willingness-to-pay-method (W2P) | Karolinska infusion pump tender



Key aspects of tender

Organization:

Karolinska University Hospital, Sweden

Medical device or service:

Infusion system

Main objective:

Infusion system to support optimized patient flows and working methods, and to ensure high quality and patient benefit; Chosen supplier to become long term innovation partner

Main criteria used

Outcome:

Safety for patient

Cost of care:

Price for product and service types. Total price is calculated with a predetermined (expected) shopping basket

Other benefits: HCP usability and ergonomics, plan for innovation cooperation with hospital

Technical specifications: Functionality on top of mandatory requirements, e.g. special functions, settings, power supply, detergent durability

Example calculation

Level of fulfillment of criteria is translated into monetary value (not points) and summed up. This sum is then subtracted from the total price to get the comparison price which is used to determine the most economically advantageous tender (MEAT)

Winning tender from supplier X:

Total price	188 MSEK
Deductions from fulfillment of criteria	-296 MSEK
Comparison price	108 MSEK

Results reported

Supplier with the lowest comparison price—and thus considered to be most economically advantageous—was awarded the contract

Capital Region of Denmark introduces new personalized non clear-cell renal carcinoma treatment regimen



Pathway problem

Clinical problems

- Patient group with relatively bad prognosis
- Treatment complications and therapy side-effects
- Current limited effect of standard treatment options
- Insufficient use of precision medicine
- Treatment insufficient patient centric (at start & throughout)

Economic problems

- Focus on direct treatment costs instead of focus on value and total costs along care-cycle
- Limited monitoring/data collection based on real-world individual data (RWE)



VBP solution employed

VBP partnership

- Partnership agreement with selected vendor and additional agreements on home monitoring devices & monitoring software

VBP criteria focus

- Outcome: Primary and secondary patient outcomes
 - increased PFS and O/S, reduced treatment complications, increased quality of life, reduced hospitalization & hospital visits
- Total cost of care cycle: diagnosing, patient monitoring, treatment, medication, hospitalization, hospital visits
- Other benefits: Reduced burden to patient relatives, increased insight in health status, RWE data availability

Diagnostic solution applied

- Tumor genomic profiling to guide personalized treatment decision in 1st line of treatment
- Tele-medical monitoring of PRO, blood pressure, pulse and blood based biomarkers for continuous remote disease control



Expected stakeholder impact

Patients at the Herlev-Gentofte Hospital

- Prolongation of life expectancy
- Improved quality of life
- Active involvement in course of treatment
- Reduced treatment-heavy and hospitalization-requiring complications

Herlev-Gentofte Hospital

- Access to wider range of treatment options and ability to deviate from standard treatment guidelines
- Insight into patient home condition using tele-medical devices (PRO, sensor and biomarker analysis)
- Improved RWE & research data
- Better foundation to future patient guidance
- Reduced total cost of care delivery

Outcomes to be tested during the project

- Whether patients live longer and better
- Possibility to guide course of treatment by combining FMI-tools with PRO/sensor data and blood based biomarker analysis device
- Possibility to build out a generic VBHC model to other treatments/hospitals

Source: The capital Region of Denmark Procurement Development & Strategic Partnerships (Denmark)

ANNEX 2

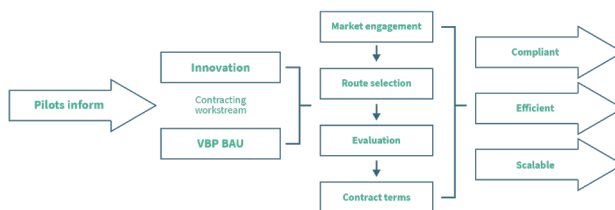
NHS Supply Chain – Value Based Procurement Project



Why Value Based Procurement for the NHS?

Increasing demand for healthcare with limited financial resources, highlights the ongoing need for procurement to deliver increased year on year savings across the NHS

Our approach



What have we learned so far?

Successful proposals need to:

- Be relevant to customer needs
- Include realistic claims supported by robust evidence
- Be measurable with clear outcomes
- Demonstrate support and early engagement with Clinical, Financial and Commercial stakeholders
- Communicate a partnership approach to delivery
- Provide assurance outcomes can be delivered.

Pilot project areas

Wound Care, Ward Based Consumables, Endoscopy and Endourology, Cardiology and Capital equipment

Next steps

Whilst learning from pilot projects, work has commenced exploring contracting for value and developing a toolkit for delivery.