



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

Category Management

Significance of procurement to core services and / or budget	Volume goods and services		Strategic goods and services	
	Goods and services where the region has the most bargaining advantages		Goods and services where the region and the supplier are interdependent	
High	Characteristics More or less standardized goods and services Significant value for the region's budget and for the supplier Medium delivery risks (multiple suppliers / medium access barriers) Medium procurement complexity Low-medium transaction and / or switching costs	Characteristics Market leading and / or customized goods and services Great importance for the quality of the region's core services High delivery risks (one or few suppliers / high access barriers) High procurement complexity High switching costs and / or risks	Examples Food products Examination gloves Not patented medicine	Examples Orthopedic implants Cardiac implants Patient-specific medicine and medical devices
Low	Main strategy Take advantage of buying power to minimize costs for the required quality of service and reduce the supplier base	Main strategy Enter into long-term and / or strategic collaborations focusing on output, development, risk sharing, cost reduction and / or TCO		
Significance of procurement to core services and / or budget	Routine/non-critical goods/services		Bottleneck goods and services	
	Goods and services where the region and the supplier are mutually independent		Goods and services where the supplier has the most bargaining advantages	
High	Characteristics Wide range of standardized goods / services (80% of goods / time) Limited impact on the region's core services and budget Low delivery risks (many suppliers / low access barriers) Low procurement complexity None/low transaction and / or switching costs	Characteristics Goods and services with no or few substitutes / alternative suppliers Medium to high importance for the region's core services High delivery risks (one or few suppliers / high access barriers) Medium procurement complexity High switching costs and / or risks	Examples Toilet paper Office supplies Window cleaning services	Examples Patented medicine and medical devices
Low	Main strategy Reduce effort and costs for procurement, delivery and / or use through simplification, automation and other efficiency enhancements and reduce supplier base	Main strategy Achieve delivery security by investing in / risk sharing with the supplier, attracting / building alternative suppliers, establishing internal supply and / or reengineering to a substitute		

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

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 budgetary 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

Yearly patient base

	Number of patients
Total knee arthroplasty	425
Unicompartmental knee arthroplasty	200

Market dialogue & Tender



Individual dialogue meetings with the 6 suppliers adjusted and shaped the patient outputs, development, risk sharing and payment parameters in the outcome based tender

A consultation of the draft tender documents with written responses from 5 suppliers further sharpened the risk sharing and payment parameters

Open tender completed in early 2018 with offers from 3 suppliers. Contracts awarded to 2 suppliers in March 2018.

Strategic & Value adding elements

Risk sharing around the realized patient outcomes

- Price increase up to 17 % for performance over baseline
- Price reduction up to 17% 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

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 lift 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 lift)

Baseline and preliminary results

Patient outcome parameters	Total knee arthroplasty		Unicompartmental knee arthroplasty	
	Baseline	Results	Baseline	Results
Clinical patient outcome				
Average patient hospitalization time (in hours)	51,6		26,9	
Average patient re-admission rate 30 days after discharge	5,0 %		5,0 %	
Average patient revision rate after 1 st postoperative year	1,7 %		1,7 %	
Average patient revision rate after 2 nd postoperative year	2,0 %		2,0 %	
Average patient revision rate after 5 th postoperative year	4,1 %		4,1 %	
Patient reported outcome				
Very satisfied reported total outcome 1 year after surgery	65 %		65 %	
Satisfied reported total outcome 1 year after surgery	85 %		85 %	
Very satisfied reported functional lift 1 year after surgery	65 %		65 %	
Satisfied reported total outcome 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 SMEs
- Start the dialogue with the market well in advance