



**PROCURE4HEALTH**

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VALUE-BASED PROCUREMENT: PUTTING THE THEORY INTO PRACTICE

## **Outcome based procurement of knee implants**

Karsten Kirkegaard, Senior Category Manager, Region of Southern Denmark



# The Region of Southern Denmark

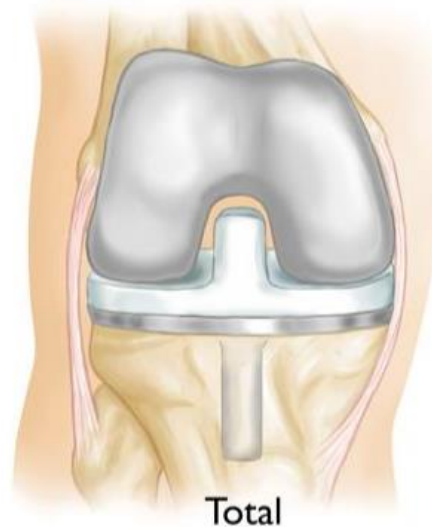
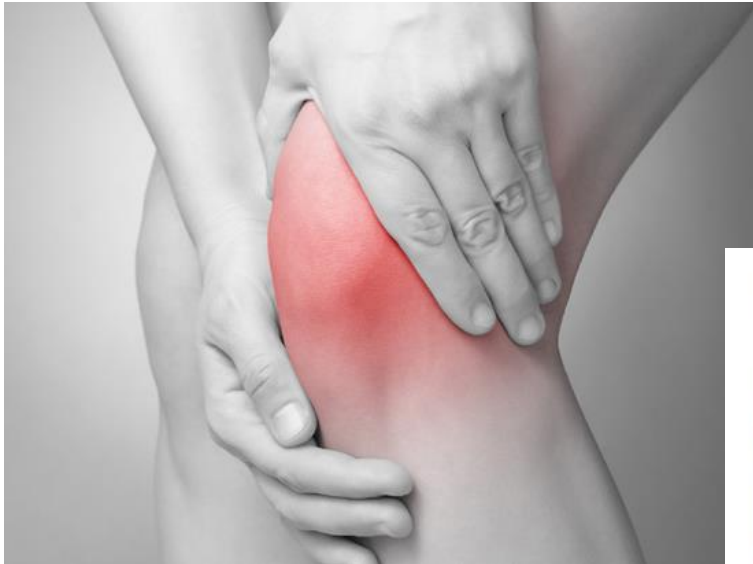
## FACTS ABOUT THE REGION OF SOUTHERN DENMARK

Area: 12,256 km<sup>2</sup>  
Population: 1.2 million  
Population density: 98 residents per km<sup>2</sup>  
Citizens entitled to vote: 942,000  
Annual budget: DKK 25.6 billion  
Largest local municipality: Odense - population: 196,000  
Smallest local municipality: Fanø - population: 3,300

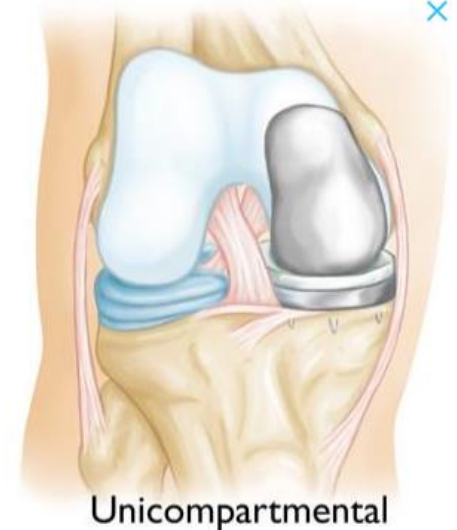


2019-2024

# Outcome based procurement of knee implants



Total



Unicompartmental

# Outcome based procurement of knee implants

## Context

The Region of Southern Denmark has a patient-centered improvement model with focus on data driven innovation, patient-experienced outcomes and streamlining

Vejle Hospital has received the award for Denmark's Best Medium-sized Hospital three times in the last 6 years

The Orthopedic department at Vejle Hospital is a high volume Danish department with 2.000 knee and hip replacement surgeries each year built through long-term supplier collaborations

## Objective

Further improve patient outcomes for primary knee replacement surgeries at Vejle Hospital

Reward/penalize supplier via implants price adjustments linked to actual patient outcome achieved

Do the above within the current budgetary framework for knee replacement surgery at Vejle Hospital

# Outcome based procurement of knee implants

Step 1 - "Define what we are going to buy"

## Contract renewal, strategic service, ownership & involvement and adaptive suppliers in a competitive market



**Contract renewal** was required for the knee replacement implants at Vejle Hospital



Knee replacement surgery is a **strategic service** with procurement aim on long-term/strategic collaboration focusing on output, development, risk sharing, and/or TCO



Clinical and administrative **ownership** within hospital and **involvement** of the clinical staff doing knee replacements



The competitive landscape was constituted of relatively **flexible and eager suppliers in a competitive market**



Early discussion with pre-selected 6 orthopedic players to share ambition and approach and get input

# Outcome based procurement of knee implants

Step 2 - Align on "What matters to us"

## An open dialogue-based multidisciplinary approach to align the value creation criteria and risks



### Key Success Factor

Open and constructive pre-tender dialogue between

#### Multidisciplinary team:

- Clinical leader and chief physicians from the orthopedic department
- Category manager for orthopedic surgery goods and services

#### Supplier multifunctional teams:

- General Manager, Country Manager, Marketing Manager, Sales Account Executive
- Finance, legal, health care compliance, tender and pricing

### Outcome achieved



- Understanding of the starting points and objectives of the Region of Southern Denmark and possible solutions
- Alignment on priority criteria defined: patient outcome for primary knee replacement surgery (2 procedures/ lots: partial and total knee replacement)
- Acknowledgment and understanding of the risks associated with patient outcome-based agreements

# Outcome based procurement of knee implants

## Value creation levers based on existing data retrieval

### Main elements to define "How to generate value"



Value creation opportunity aligned between both hospital and suppliers:

#### Costs drivers:

- Shorter patient hospitalization
- Lower readmission rate
- Lower revision rates
- Lower revision costs if targets not achieved

#### Patient satisfaction and revenues drivers

- Better overall patient experience
- Better "function lift" outcome experience
- Lower revision rates

Value-based agreement objective: Mitigate risk of new knee implants not delivering value in line with the current patient outcomes for primary knee replacement surgeries at Vejle Hospital or the supplier's promised better patient outcome



### Outcome achieved in step 3

5 VBA-elements defined

5

#### Financial specifications:

- Prices adjusted based on actual performance (+/- 17 % percent for following year)
- Free knee revision implants to treat patients exceeding the maximum target value or the supplier's promised better revision percentage

4

#### Cohort of patients defined:

All patients undergoing primary knee replacement surgery at Vejle are included

1

#### Outcome:

- Length of stay
- Number of readmissions
- Revision rate within 2 year
- Overall patient satisfaction
- Functional outcome

2

#### Target value:

baseline defined based on current outcomes

3

#### Metrics being monitored (already in place):

- Number of primary procedures
- Patient hospitalization time
- Number of readmissions
- Number of revision procedures
- Patient satisfaction (PROM)
- Function lift (PROM)



# Outcome based procurement of knee implants

## Implementation and the first patient outcomes

### Key Success Factors



Well-planned clinical implementation of the new knee implants involving all relevant clinical staff



Clinical education and support before and during the first and complex knee procedures for all relevant clinical staff



The collection of metrics being monitored does not require many resources when based on existing data delivered to national clinical patient databases

Patient outcomes achieved





# Outcome based procurement of knee implants

## Patient outcomes for 2019-2023

<b>Total knee arthroplasty</b>						
<b>Clinical patient outcome</b>	<b>Baseline</b>	<b>Results 2019</b>	<b>Results 2020</b>	<b>Results 2021</b>	<b>Results 2022</b>	<b>Outcome based price adjustment</b>
Average patient hospitalization time (in hours)	51,6	46,8	48,0	52,0	46,5	1,7%
Average patient re-admission rate 30 days after discharge	5,0 %	2,4 %	1,5 %	1,2 %	2,1 %	5 %
Average patient revision rate after 2 <sup>nd</sup> postoperative year	2,0 %	N.A.	N.A.	1,4 %	1,9 %	2 %
<b>Patient reported outcomes</b>	<b>Baseline</b>	<b>Results 2019</b>	<b>Results 2020</b>	<b>Results 2021</b>	<b>Results 2021</b>	<b>Outcome based price adjustment</b>
Very satisfied reported total outcome 1 year after surgery	65 %	66 %	66 %	66 %	65 %	0 %
Satisfied or better reported total outcome 1 year after surgery	85 %	96 %	98 %	97 %	97 %	
Very satisfied reported functional lift 1 year after surgery	65 %	60 %	55 %	58 %	61 %	-1 %
Satisfied or better reported functional lift 1 year after surgery	85 %	95 %	99 %	98 %	97 %	

# Questions