Dashevska Kateryna / Mathez Kerrian / Graber Isaac / Bourgeois Mathéo

OrthoChoice

Bundled Payments in the County of Stockholm

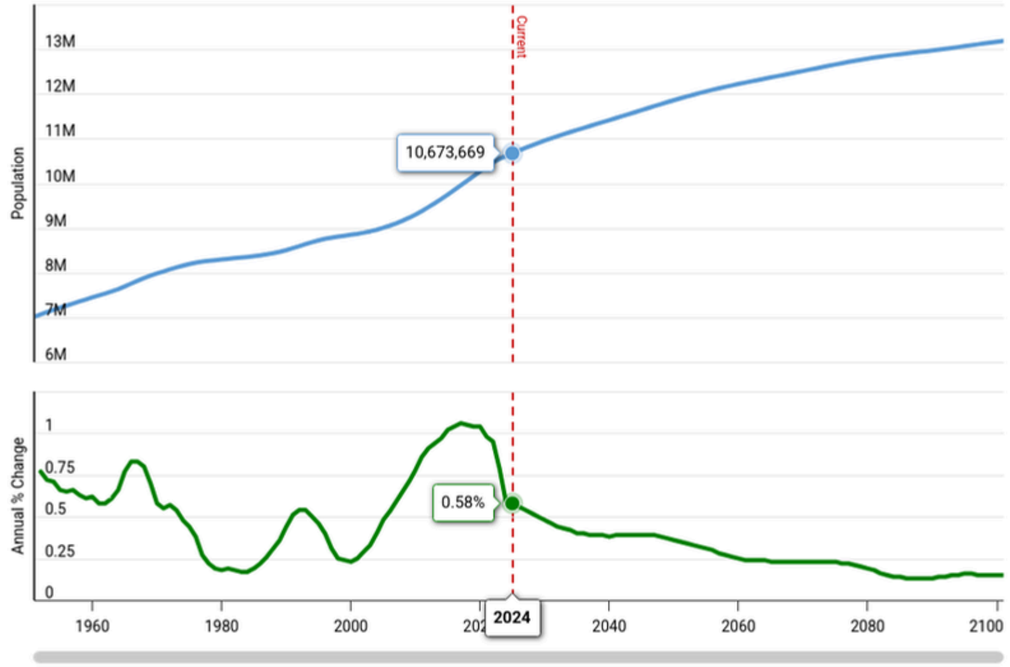
INTRODUCTION

What are the drivers associated with moving towards a VBH model in Sweden?

Population growth; an aging population

Need to improve coordination of care, reduce cost, wait times and improve outcomes

Patients' demand for informed shared decision-making



Sweden Population 1950-2024
Source: macrotrends.net

Timeline

2006

National eHealth Strategy: Adopted to enable seamless information sharing across healthcare units; introduced **Mina Vårdkontakter (My Health Care Contacts)**

2008

The Stockholm County Council faced the need for a new model to improve patient choice and reduce wait times

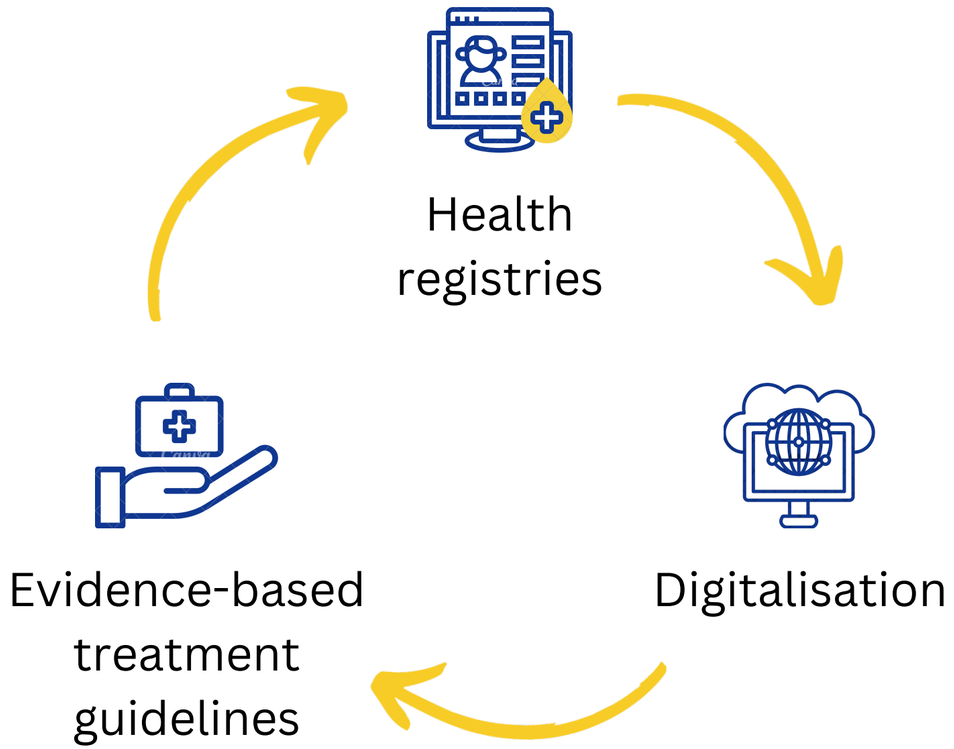
2009

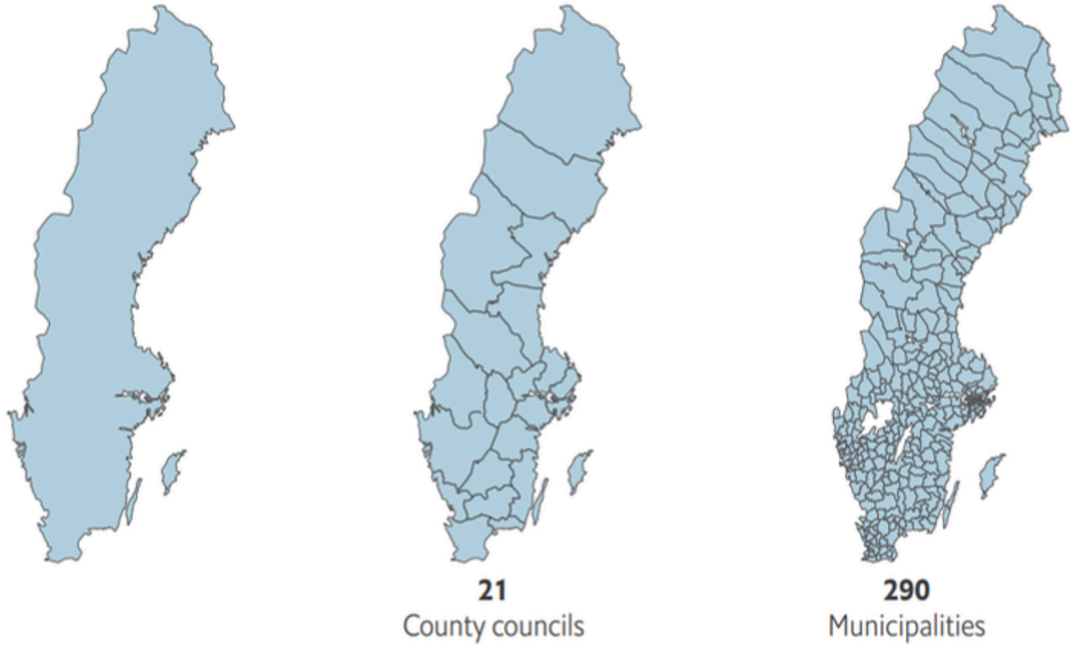
The **OrthoChoice bundled payment model** was introduced in Stockholm County, covering hip and knee replacements (ASA I and II)

2010, 2012, 2015, 2017

Joint studies and reports with the Karolinska Institute to analyze the effects of the new model on healthcare providers and patient outcomes

Sweden is a global leader in value-based healthcare





Decentralised Sweden
Source: Ministry of Health and Social Affairs Sweden

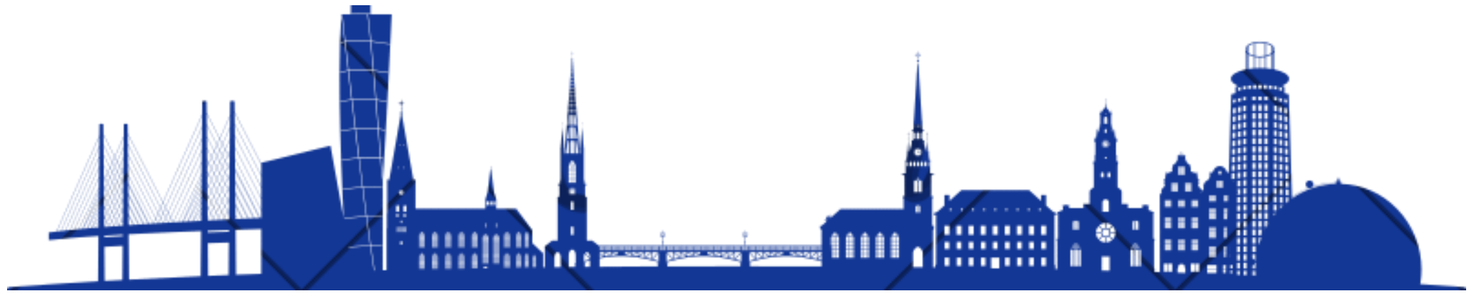
OrthoChoice in the county of Stockholm: Outcome based compensation system for specialised care

- **Leveraging access to high quality data** as a key driver to facilitate implementation

- **Adoption of a pricing model where health providers are rewarded for a whole care cycle** that may last for a year or more

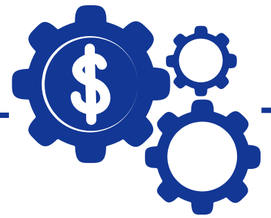
- **Movement towards a relationship-based model of care** as opposed to transactional “episodic” approach

- **Increasing provider accountability** by tying some of the providers’ compensation to patients’ outcomes & the expected cost of each



OrthoChoice Case Summary: Understanding Key Organizational, Economic, and Policy Issues

- Significant changes in healthcare providers' operations
- Adaptation to a new reimbursement model **covering the entire care episode in one payment**
- Standardizing treatment protocols
- Introducing follow-up visits and financial incentives for staff

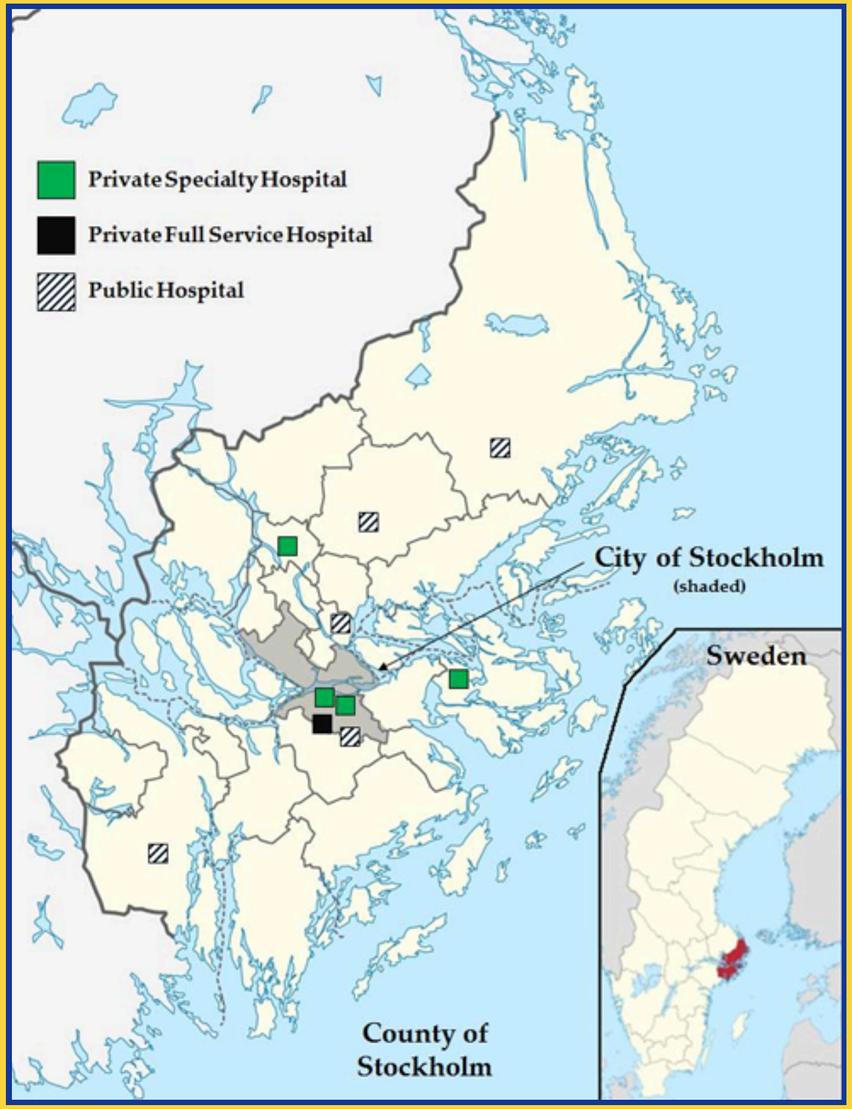


- The model aimed to **reduce costs** by aligning financial incentives with patient outcomes rather than service volume, and by **reducing the risk of complications**
- Concerns about the low bundled price and its impact on profitability

- Shift to **competition** and **improved healthcare quality**
- Package price
- Complication warranty
- Performance-related pay

Section 1

MACRO-ANALYSIS OF THE HEALTH SYSTEM FINANCING AND ORGANISATION



A. What are the characteristics of the health system in Sweden?

- Who are the stakeholders?
- What are the characteristics of the healthcare market in which the organization operates?
- Is there competition or an incentive to improve outcomes for patients? Or expenditure control?
- What is the nature of this competition?

CHARACTERISTICS OF THE HEALTH SYSTEM IN SWEDEN

THE STAKEHOLDERS

1. **National Government**
2. **County Councils (HSF)**
3. **HSF (Health and Medical Care Management)**
4. **Healthcare Providers**
5. **Patients and Medical Community**

MAIN STAKEHOLDER

THE STOCKHOLM COUNTY COUNCIL

Directional Issues	Internal Issues	External Issues
• **Sustainable Financing**: Use innovative payment models to control costs • **Equitable Access**: Ensure essential healthcare for all • **High-Quality Care**: Meet patient needs effectively and efficiently	• **Budget Alignment:** Adapt healthcare budget to fit bundled payment goals • **Provider Compliance:** Manage provider relationships for adherence to terms and quality • **Warranty Oversight:** Implement warranty system to prevent improper billing and ensure accurate cost	• **Government Pressure**: Meet national requirements for cost control and efficiency • **Public Expectations:** Address demand for timely, high-quality care • **Provider Competition:** Balance public and private provider roles in a competitive landscape.

MAIN STAKEHOLDER

PATIENT

Directional Issues	Internal Issues	External Issues
• **Patient-Centered Care:** Desire for an efficient and effective system that reduces wait times and enhances patient satisfaction • **Equal Access:** Expectation of consistent quality care across both public and private providers in the OrthoChoice model	• **Care Quality Variability:** Risk of inconsistent care quality due to differences in provider adherence to bundled payment and quality standards	• **Navigating Provider Options**: Difficulty in understanding and choosing between public and private providers within the OrthoChoice system

MAIN STAKEHOLDER

PUBLIC / PRIVATE HOSPITALS

Directional Issues	Internal Issues	External Issues
• **Quality vs. Efficiency:** Balancing the need for reduced wait times with maintaining high care standards • **Competitive Positioning:** Adapting to a mixed-provider environment with both public and private competition • **Financial Sustainability:** Ensuring financial viability within the constraints of the bundled payment model	• **Capacity Management:** Manage patient volume and identity (ASA) and resources to meet demand while ensuring quality • **Quality Standards:** Maintain consistent care quality across providers within the bundled payment and warranty system • **Resident Training:** Balance patient care with resident training needs under OrthoChoice's efficiency model	• **Unilateral Contract Changes**: HSF can alter terms without negotiation, creating uncertainty for hospitals • **Revenue Instability:** Adjustments in rates and requirements by HSF can impact hospital finances • **Provider Competition:** Public and private hospitals compete for OrthoChoice patients, affecting patient inflow and reputation

CHARACTERISTICS OF THE HEALTHCARE MARKET (1)

Policy Legislation :

- Universal health coverage
- Policy direction set by the governement
- Patient’s choice of a provider

Regulation :

- Primary Care, Specialty Care, & Mental Health: Managed by the 21 elected county councils
- Municipalities are responsible for home care and nursing home care

Economy and Financing :

- In 2008, Sweden allocated 9.2% of its GDP to healthcare, with 81% of this spending publicly funded
- Primary Care Reimbursement: Approximately 80% of primary care funding was based on a capitation model

CHARACTERISTICS OF THE HEALTHCARE MARKET (2)

Market Characteristics :

- Healthcare Competition: Expanded contracting with private providers
- Bundled Payments: Single payments covering entire treatment episodes

Technology :

- Electronic Medical Records: Most are electronic, but varying systems across counties hinder interoperability

Social :

- Public acess to data (quality registers)
- Wait-Time Guarantee (0-7-90-90 Rule) to address long wait lists

COMPETITION AND INCENTIVES FOR OUTCOMES

- **Competition:** Stockholm County introduced private providers to compete with public ones, aiming to enhance quality and reduce wait times
- **Bundled Payments**: OrthoChoice incentivized providers to improve care processes and reduce complications through standardized procedures. Manage ressources efficiently
- **Performance Bonuses**: Future plans included performance bonuses based on clinical and patientreported outcomes.

THE NATURE OF THIS COMPETITION

Power of the regulators is strong

- The county councils can unilaterally modify the contracts with providers
- Quality monitoring and performance expectations

Power of the providers

- Participation choice
- Limited ability to negotiate fundings
- Process control
- Negotiate volume discounts on prostheses

Power of the payers

- Control the fundings and the reimbursement model

Ease of Market Entry and Exit

- Entry: the market is relatively open
- Exit: termination at the end of the calendar year

B. What are the causes, consequences and treatment specifics for patients in need of hip and knee replacement?

- What are the risk factors?
- What impact does this have on patients' quality of life?
- What treatments have been developed and what are the benefits as well as complication risks of the interventions?
- What are the problems with the current management of patients in need of hip and knee surgery in Sweden?

CHALLENGES AND ADVANCEMENTS IN SURGERY MANAGEMENT

Risk Factors

-> Age, obesity, joint strain, and genetics contribute to hip and knee osteoarthritis

Impact on Quality of Life

-> Osteoarthritis leads to pain, reduced mobility, and lower quality of life, often causing anxiety and depression

Treatments Developed

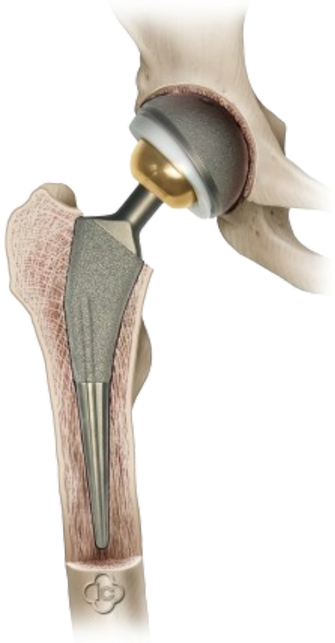
-> Joint replacement surgeries improve mobility but carry risks of infection, blood clots, and dislocation.

Problems in Management:

-> Prior to OrthoChoice, up to two-year wait times left patients in prolonged pain and disability

HIP AND KNEE PROSTHESIS

KNEE PROSTHESIS



HIP PROSTHESIS

Only **high-quality prostheses** with a 10-year life expectancy are approved, balancing durability and cost, while volume discounts help manage expenses.

C. Describe more specifically the situation in the “Stockholm County”

- How has their approach to ensuring universal healthcare to the public differed to other counties?
- What is their attitude to competition and public/private provision of healthcare?
- Why are they concerned with the efficiency and quality of knee, hip treatments in the county and what do they see as probable causes?

OVERVIEW OF STOCKHOLM COUNTY'S HEALTHCARE APPROACH

- **Universal Healthcare**: Ensures all residents access necessary medical services
- **Public vs. Private Providers:** Pioneered competition by allowing both provider types to operate since the 1990s
- **Funding:** Primarily tax-funded, with budgets allocated for equitable healthcare access
- **Historical Leadership:** Stockholm led national reforms in the 1990s, separating payer and provider functions to enhance competition

ATTITUDE TOWARDS COMPETITION AND PUBLIC/PRIVATE PROVISION

- **Encouragement of Competition:** Promoted patient choice and separated payer/provider functions
- **Private Provider Engagement:** Mixed system established in 2006, allowing certified private providers to reduce wait times
- **Quality Assurance Measures:** Certification requirements for all providers, with transparency in quality data
- **Specialty Care Initiatives:** Focused on hip, knee, and cataract surgeries for initial pilot programs to enhance service delivery

CONCERNS REGARDING EFFICIENCY AND QUALITY

Concerns

- Patients waited up to two years, affecting health and work productivity
- Aging population increased demand for joint replacements, straining system capacity
- Extra funding to providers didn’t effectively reduce wait times.

Causes

- Inefficiently distributed resources in public hospitals
- Limited data standardization led to inconsistent care quality across providers
- High costs of outsourcing surgeries due to capacity limits

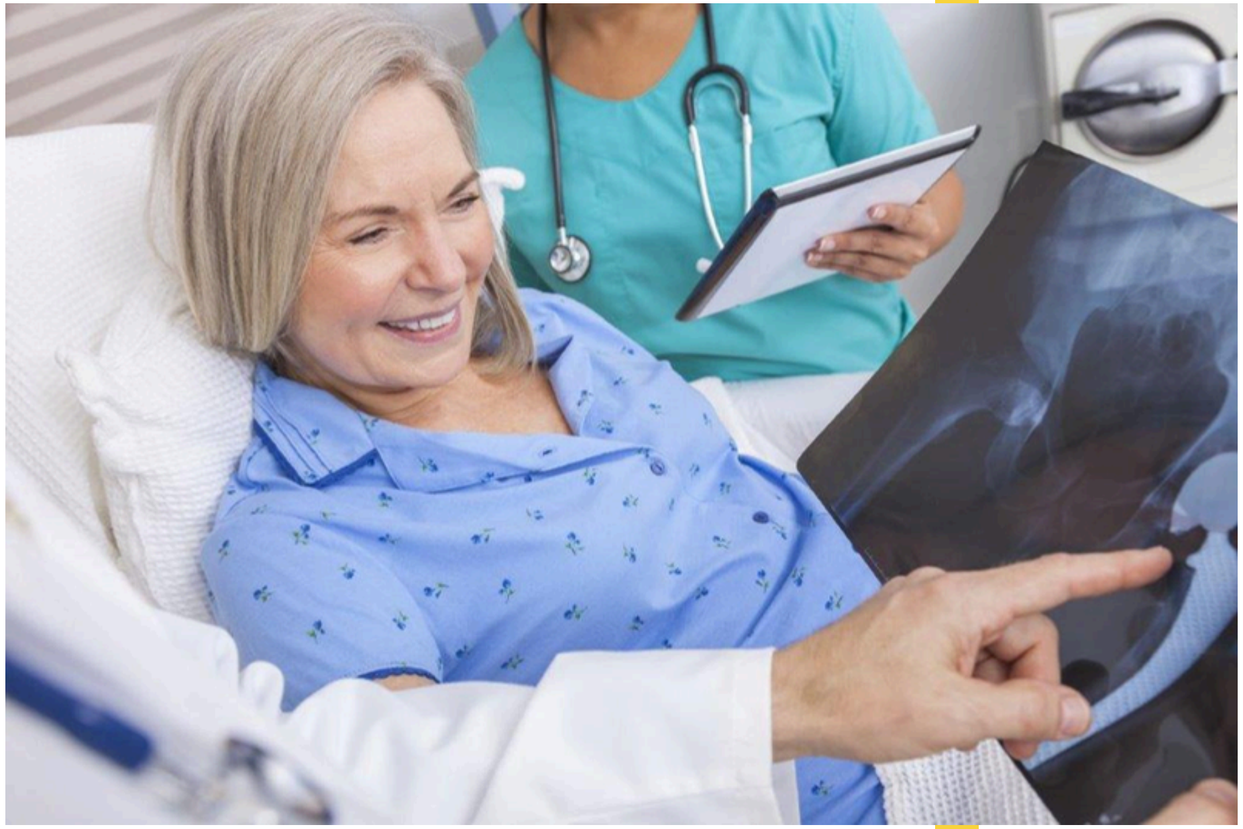
Key takeaways from macro-analysis

- Universal healthcare coverage primarily funded through taxes
- The OrthoChoice model was introduced under **the Act on System of Choice (LOV)**
- The entry of private providers was facilitated, increasing competition and capacity

- Enhance patient choice
- Reduce waiting times, addressing social concerns about **access to timely care**
- Encourage providers to focus on patient outcomes, aligning with societal expectations for **quality healthcare**

- The political landscape in Stockholm, driven by a **center-right coalition called the Allience**, sought to introduce new payment models that would enable free patient choice and competition based on quality of care

- Designed to **control rising healthcare costs** by shifting financial risk to providers and incentivizing them to **reduce complications** and **improve care efficiency**



“

“We want to buy quality, not services.”

As one administrator at the purchaser expressed the OrthoChoice reform

Section 2

MICRO-ANALYSIS OF THE ORTHOCHOICE HOSPITAL CHOICE, PAYMENT AND QUALITY MONITORING INITIATIVE

A. How did Stockholm county try to change the market for planned hip and knee surgery?

- What are the aspects of the new model of the care delivery pathway in Stockholm County for hip and knee replacements?
- How does OrthoChoice intend to improve efficiency of the current system?
- What are the difficulties /risks of introducing this reform from the perspective of patients, hospital care providers, community care providers and the public health authority?

A. CHANGES IN THE MARKET FOR PLANNED SURGERIES

NEW MODEL OF CARE (KNEE/HIP)

Integrated Payment	Responsibility (warranties)	Selection of patient	Quality > Quantity
Bundle Payment covering every steps of treatment within 3 months. → Incentives to providers to ensure patient care quality (+fees).	Providers reponsible for complications (e.g infections). → Responsibility for outcomes.	Target healthy patient. Exclusion of complex cases. → Limit financial risks. Fairness ?	Fundamental shift : pays providers a SINGLE time (traditional : each stage = fees). → Incentives to providers to ensure patient care quality.

A. CHANGES IN THE MARKET FOR PLANNED SURGERIES

OrthoChoice Intend to improve Efficiency

1

Reducing waiting times

2

Increasing System Capacity

3

Cost Reduction

(Standardized care model)

A. CHANGES IN THE MARKET FOR PLANNED SURGERIES

Patient Selection - Inequalities

Model focus on healthy patient. High-need patients in bad health are undeserved.

Affect patients and mission of public health to provide equitable access.

DIFFICULTY & RISKS

Providers Challenges

Bundle only covered surgery & immediate care, left out patient rehab.

Bundle = set rate, not adjusted for inflation.
As the care cost rose, pressure to cut costs while maintaining care quality.

B. Analyse the impact of the reorganization of the care pathway on overall efficiency of care delivery

- How did the Stockholm County evaluate the pilot programme?
- What were the changes that had to be realised and by whom?
- What were the benefits / costs for patients, hospital providers, doctors, follow-up care, rehabilitation and health authority?
- Who of the all the interested stakeholders were likely to gain or lose the most from the initiative and why?

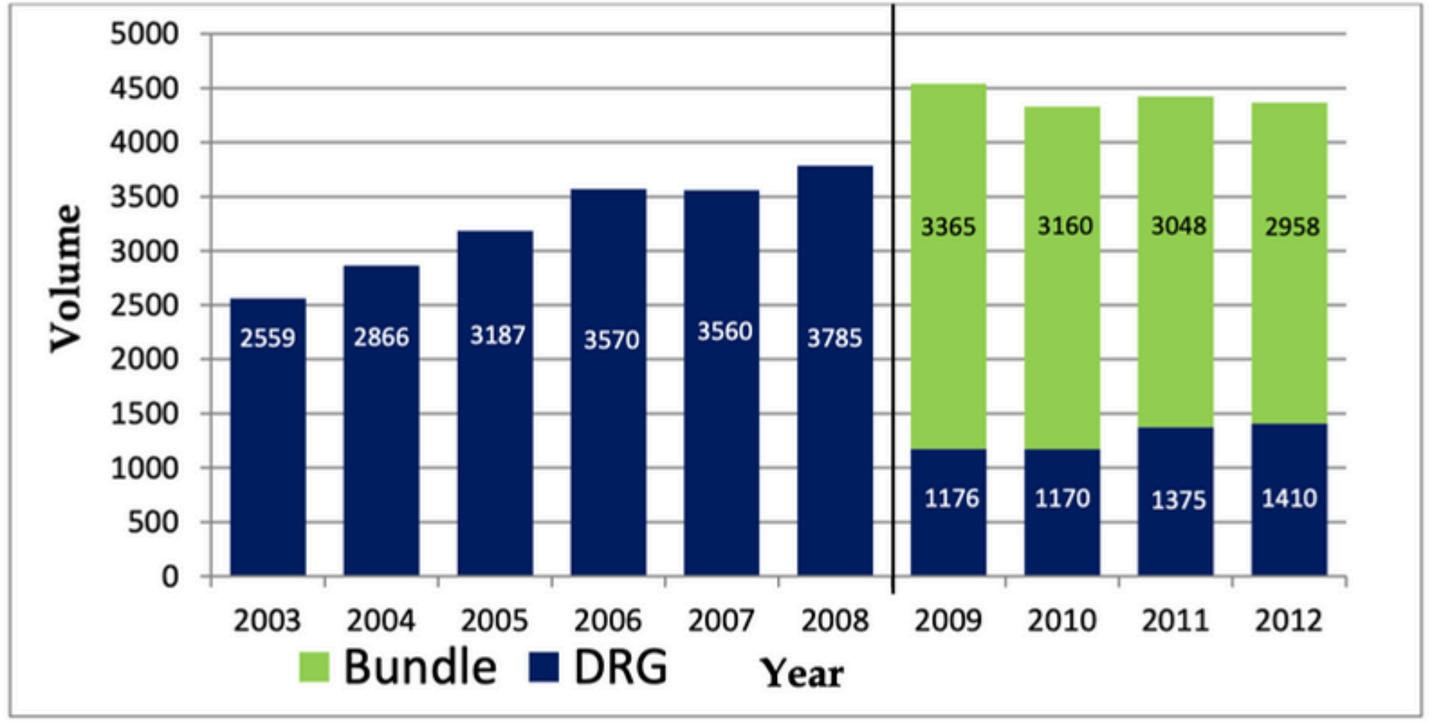
B. HOW DID THE STOCKHOLM COUNTY EVALUATE THE PILOT PROGRAMME?

1. ACCESSIBILITY
2. EFFECTIVENESS
3. QUALITY
4. EFFICIENCY

B. EVALUATION OF THE PROGRAMME

- OrthoChoice **increased provider availability** (open market to private ortho centers).
- **20% increase hip/knee surgeries** (1st year).

Exhibit 1 Volume for Hip and Knee Replacement Patients in Stockholm County



B. EVALUATION OF THE PROGRAMME

- Strong **decrease of waitlists**.
- Lowering the % of patients waiting > 90 days **from 33% in 13%** (1st year).

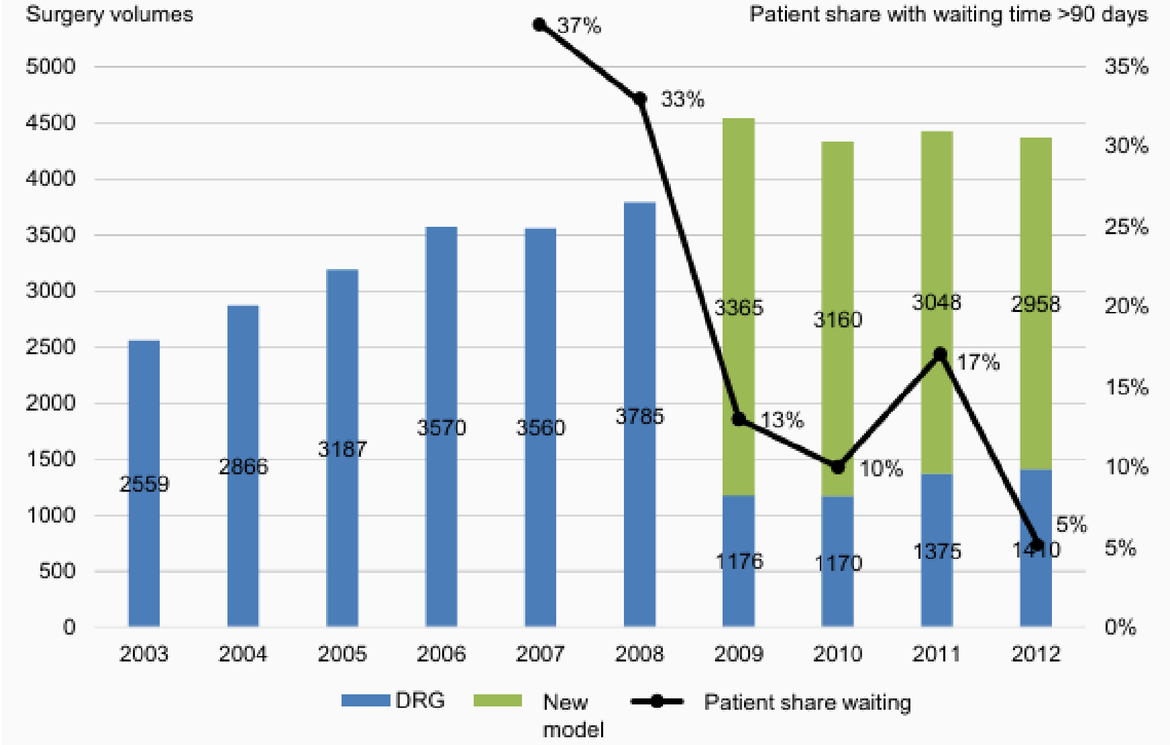
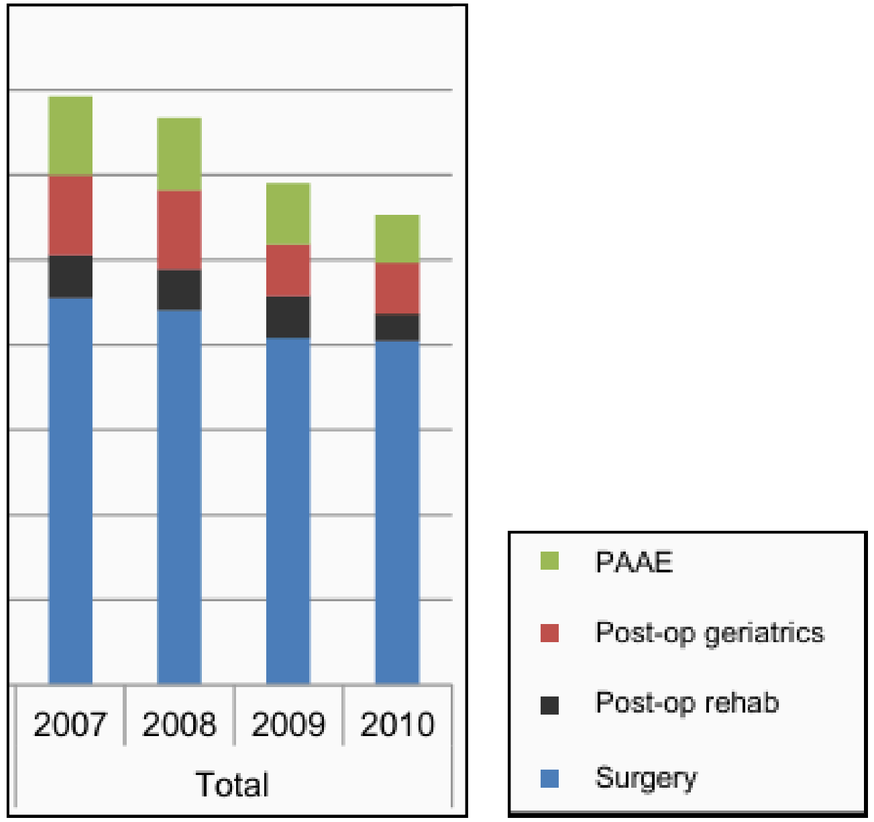


Figure 1. Production volumes and proportion of patients with waiting times for surgery >90 days. Includes all primary elective hip/knee replacements in Stockholm 2003–2012. Proportion of patients with waiting times >90 days include both medically justified waiting and self-selected waiting.

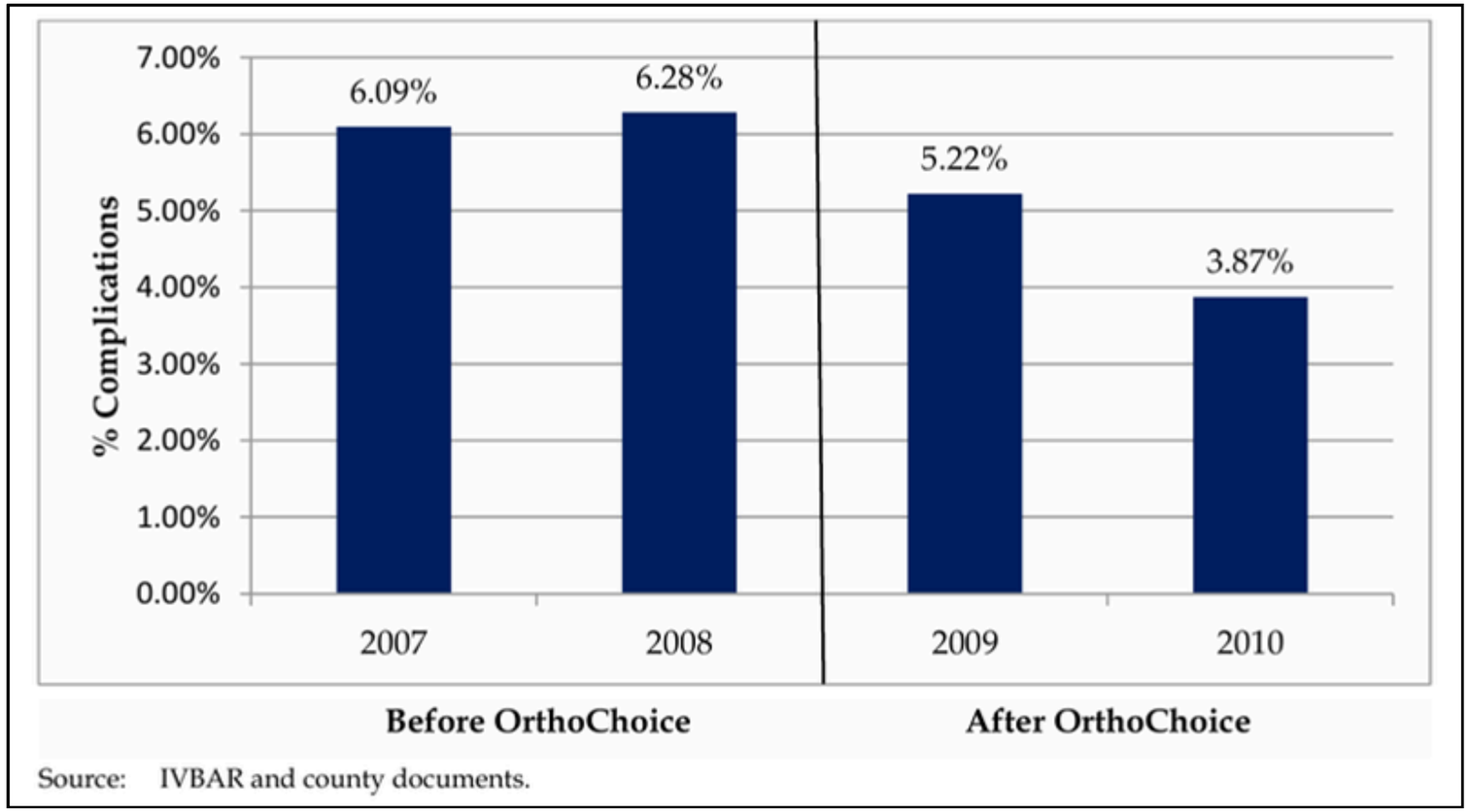
B. EVALUATION OF THE PROGRAMME

- **Reduction of the length of stay** after surgery.
- The length of stay stabilized at around **four days** during 2011–2012.



B. EVALUATION OF THE PROGRAMME

- **Reduction in complications by 16.9%** (1st year) **and 25.9%** (2nd year).
- **Patient satisfaction was reported at 98%**, (no comparable pre-OrthoChoice data).



B. EVALUATION OF THE PROGRAMME

- The bundled payment model contributed to a **17% reduction in per-procedure costs** by 2011.

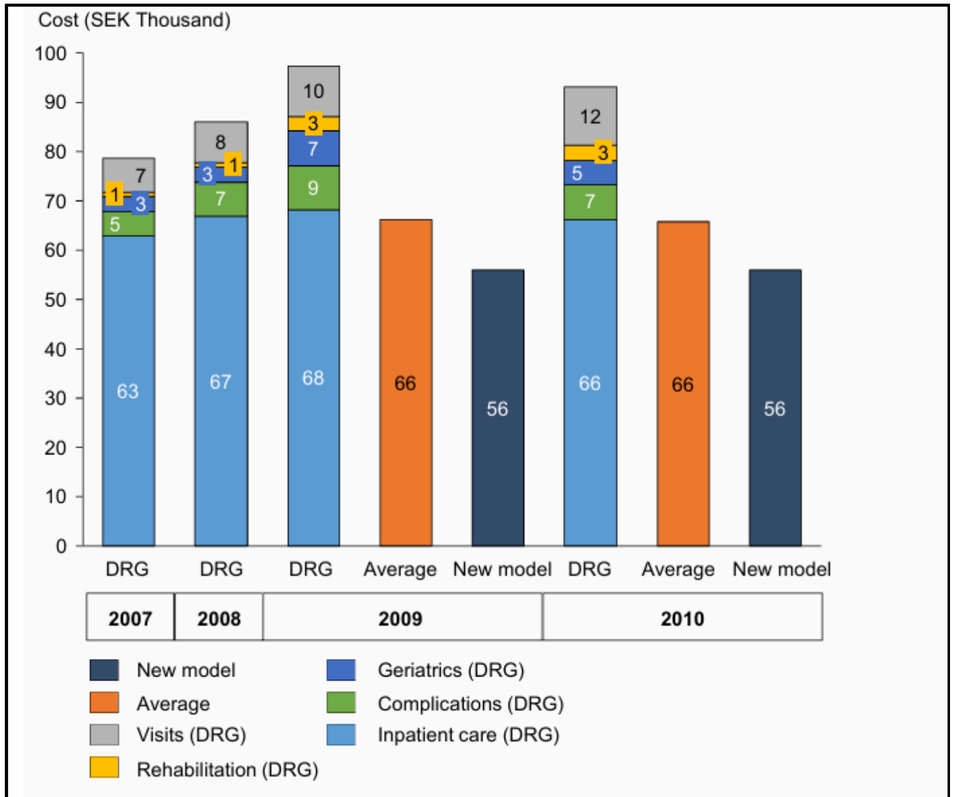


Figure 10. Payer cost per patient. Costs were computed from a payer perspective (Stockholm county) with 2010 as price index year and include inpatient stay after surgery, inpatient geriatric care and rehabilitation initiated within 30 days of discharge, inpatient care for complications up to two years after surgery, as well as pre-operative and post-operative visits.

B. EVALUATION OF THE PROGRAMME

1

Reducing waiting times

2

Increasing System Capacity

3

Cost Reduction

(Standardized care model)

+ Patient Satisfaction

- Complications Rates

B. CHANGES REQUIRED / RESPONSIBLE STAKEHOLDERS

Provide Assurance for Complications	Cost Management & Financial Risk	Exclusion Criteria for Higher-Risk Patients
New post-operative protocols to minimize complications.	Fixed bundled payments.	OrthoChoice focused on healthier patient -> treated in private ortho centers.
Follow-up visits and standardizing surgical techniques.	Any additional cost for complications beard by the providers.	Public hospitals left with a higher concentration of complex cases.
Significant operational shift.	Financial risk led providers to optimize efficiency and control costs strictly.	Capacity and cost management challenge for these institutions.

B. COST - BENEFIT ANALYSIS FOR THE STAKEHOLDERS

	BENEFITS	COSTS
Patient	Shorter wait times, high satisfaction, and improved accessibility	Limited access for higher-risk patients (ASA 3 and 4)
Hospital Providers	Private orthopedic centers : increased patient volumes an specialize in low-risk processes.	Public hospitals facing increased high-risk patients without additional funding.
Referring Doctors	Greater flexibility in provider options for patient.	Limited options for high-risk patient.
Follow-up Care	Increased demand for rehabilitation -> community care.	Outpatient rehab wasn't included, providers faced higher demand with minimal compensation adjustment.
Health Authority	Improved healthcare access metrics and cost savings.	Administrative burden in monitoring and enforcing quality standards under the bundled payment model and ensuring equity across patient.

B. STAKEHOLDERS LIKELY TO GAIN OR LOSE THE MOST

GAINS

1. **Private Specialized Centers**
2. **Patients**

LOSSES

1. **Public Hospitals**
2. **High-risk patients**

Key takeaways from micro-analysis

Patients benefited from reduced waiting times and a decrease in the risk of complications

Hospital providers experienced a reduction in costs over the full cycle of care

Doctors saw a reduction in the number of physician visits per surgery, freeing up resources for additional patients

The length of stay for rehabilitation decreased, and providers were responsible for rehabilitation costs

The Stockholm County healthcare administration saw a reduction in payer costs per patient

Around **3.2% of the payment to the provider is tied to meeting the previously agreed outcome goals** (e.g. pain reduction, waiting time reduction). Paid at the end of the year.

As a result,

complications declined

16.9-25.9%

compared to traditional reimbursement plans

county's total cost declined

20%

per patient

“If prices are regulated and quality is observable as well as used to guide demand, economic theory predicts competition to improve health service quality.”

The EU Commission's Expert Panel on Effective Ways of Investing in Health

Source: Barros et al. (2016)

Section 3

EVALUATION OF CURRENT PROBLEMS AND FUTURE OPTIONS FOR IMPROVEMENT, EXPANSION OF CURRENT CHOICE MODEL

A. In what ways could OrthoChoice be improved or the care pathway model expanded?

- What are the barriers that limit the effectiveness of the OrthoChoice care pathway?
- Are the incentives imposed sufficient and do they favour private or public sector providers?
- Is there the potential to expand the choice model to more services?
- What are the risks from expanding choice to a large set of procedures?

EFFECTIVENESS LIMITATIONS

Limited Capacity for Complex Cases

More complex cases remain under traditional funding,

Restrictive Pricing Model

Price is seen as low by providers, restricting the use of more expensive, potentially beneficial prostheses

Training Limitations

Patients are assigned to experienced surgeons due to warranty requirements
-> reduces opportunities for resident physicians to gain experience with simpler cases

Monitoring and Data Challenges

Some key functional outcomes are not publicly reported

INCENTIVES FOR PRIVATE VS PUBLIC

Incentive Sufficiency

Providers should maintain cost efficiency while meeting quality standards **BUT** the set bundled payment

Favoritism Towards Private Providers

Flexibility in Practices:
Private providers could adapt quickly with flexible budgets, unlike public hospitals.

Volume Discounts:
Private providers can negotiate volume discounts on prostheses.

EXPANSION POTENTIAL

Scalability to Other Elective Surgeries	• **Effective in high-demand elective surgeries** with predictable care pathways. -> It could potentially be expanded to other elective procedures
Prerequisites for Expansion	• **Standardized Pathways:** Need to have clearly defined care pathways to ensure that quality standards can be met. • **Consistent Outcome Tracking:** Require improved outcome tracking and interoperability across registers.
Provider Adaptability	• **More challenging for public hospitals** due to their budget constraints.

RISKS

Quality Consistency	**Variability in care quality** -> risking a decline in patient outcomes.
Provider Selection Bias	**Admit healthier patients** to reduce complication risks and costs.
Capacity Strain	Additional pressure to **meet increased demand** -> resource and staff shortages in public hospitals.
Financial Viability	Require **higher funding levels** -> strain Stockholm County's budget.

B. Proposals that could address important issues for future expansion and potential problems

- What are the most relevant issues?
- What initiatives could be done to improve the quality of care?
- What additional initiatives could potentially reduce costs?
- How could care coordination with other care providers be improved?
- What actions would you recommend, how could they be evaluated?
- How would Covid-19 affect the functioning of a choice based and competitive hospital market?

MOST RELEVANT ISSUES

Integration of Services	Ensuring an **integrated care pathway** between primary care, specialty care, and community services is crucial to streamline patient experience.
Monitoring Quality Information	Effective **quality monitoring** and **public reporting** are limited, impacting transparency and accountability.
Facilitation of Patient Choice	Patients currently have **limited support in making informed choices**, especially with variable provider quality data.
Public and Private Competition	**Public hospitals operate on global budgets**, which can restrict their ability to compete with private providers under the bundled payment model.
Refining the Payment Model	Bundled payments can **limit flexibility**, especially for complex cases and high-need patients.

INITIATIVES

1. Improve Quality of Care

Enhanced Quality Monitoring and Reporting

Develop a **public platform for reporting provider quality data**, allowing patients to make informed choices and encouraging providers to meet high standards.

Investment in Workforce Training and Development

Provide ongoing training for both experienced surgeons and residents in new techniques, focusing on quality improvement and patient safety.

Integrated Care Pathways and Coordination

Encourage collaborative care through **multidisciplinary teams,** integrating primary, specialty, and rehabilitation providers to ensure a seamless patient experience and comprehensive care.

INITIATIVES

2. Reduce Costs

Efficient Resource Utilization

**Task Shifting and Role Optimization -> ** Delegate routine care tasks to nurse practitioners or physician assistants
Cross-Provider Resource Sharing -> Establish collaborative agreements between public and private providers to share resources

Bundled Payment Adjustments for High-Risk Patients

Stratified Payment Models -> Adjust bundled payments based on patient complexity to ensure resources are adequately allocated

Data-Driven Cost Management

Predictions for Demand Management -> Use data analytics to forecast surgery demand, to minimize over or under-utilization.

Preventive Care Programs

**Lifestyle and Disease Management Programs -> ** Offer programs targeting chronic conditions like obesity and joint health to reduce the long-term need for surgeries.

COORDINATION WITH OTHER CARE PROVIDERS

Centralized Health Information System

Develop an **integrated platform** accessible to all care providers
-> seamless information sharing, reducing errors and redundant tests.

Establish **multidisciplinary teams** to jointly manage patient care pathways.

Care Coordination Teams

Patient Navigators

Assign **patient navigators** to guide patients through the care process.

Implement **shared quality and outcome metrics** for all providers involved in the patient's care pathway.

Shared Outcome Metrics

Telehealth for Ongoing Monitoring

Use **telehealth** to enable primary and specialty care providers to jointly monitor patient progress remotely, reducing unnecessary visits.

RECOMMENDATIONS FOR FUTURE ACTIONS

	ACTION	EVALUATION
Develop Management Processes for Bundled Payments	To ensure efficient administration and alignment with patient outcomes.	Patient satisfaction surveys, cost analyses, and adherence to budgetary goals.
Adjust Package Prices According to Patient Characteristics	Prices based on the complexity of cases could reflect care needs.	Periodic cost audits and compare outcomes for higher-comorbidity patients to see if adjustments lead to balanced provider engagement.
Ensure Training and Support for Resident Physicians	Include targeted training and structured support for resident physicians to maintain the balance between patient care and educational opportunities	Feedback from residents and supervising physicians, as well as reviewing patient care quality metrics pre- and post-training enhancement.
Increase Reporting and Transparency of Patient Outcomes	Enhance the reporting of patient-reported outcomes for surgeries.	Measure changes in provider performance, patient-reported outcome measures, and public awareness of care quality.

COVID-19 IMPACT

1 Decline in Procedure Volumes

Reduction in the volume of orthopedic surgeries as **healthcare resources were reallocated to manage COVID-19**

2 Impact on Competition

- **Private** hospitals rely a lot on elective surgeries
- **Public** hospitals bear the main burden of COVID-19 care

3 Acceleration of Telemedicine

The pandemic **accelerated the use of telemedicine in orthopedics**, shifting consultations to virtual platforms

Wrap-up

Creating competition by introducing **patient choice, accepting both public and private providers**, and setting the scene for **competition on quality**, not cost through a fixed price funding formula, in a publicly funded system, succeeds in meeting the original policy goals (**improved access, quality and reduced cost**)

- This model allows providers to make strategic choices in terms of patient segmentation (with the need for more differential pricing though) & increases all providers' focus on quality

- Increased burden on public providers with the responsibility to care for complicated cases
- Challenges for medical education and residency training

Bibliography

- Barros et al. (2016). **Competition among health care providers: helpful or harmful?. Eur J Health Econ 17, 229–233**. https://doi.org/10.1007/s10198-015-0736-3

- Chipman, A. and Koehring, M. (2019). **Value-Based healthcare in Sweden: Reaching the next level.** The Economist Intelligence Unit.

- Hsu et al. (2022). **Global impact of the COVID-19 pandemic on orthopedics and the implications of telemedicine: a systematic review of the literature**. Journal of Clinical Medicine, 11(11), p.2983.

- Stalberg et al. (2017). **Effects of introducing bundled payment and patients' choice of provider for elective hip and knee replacements in Stockholm County**. Stockholm: Karolinska Institutet.

- Wohlin, J., Fischer, C., Carlsson, K.S., Korlén, S., Mazzocato, P., Savage, C., Stalberg, H. and Brommels, M. (2021). **As predicted by theory: choice and competition in a publicly funded and regulated regional health system yield improved access and cost control**. BMC Health Services Research, 21(1), p.406.

Thank You

for your attention