

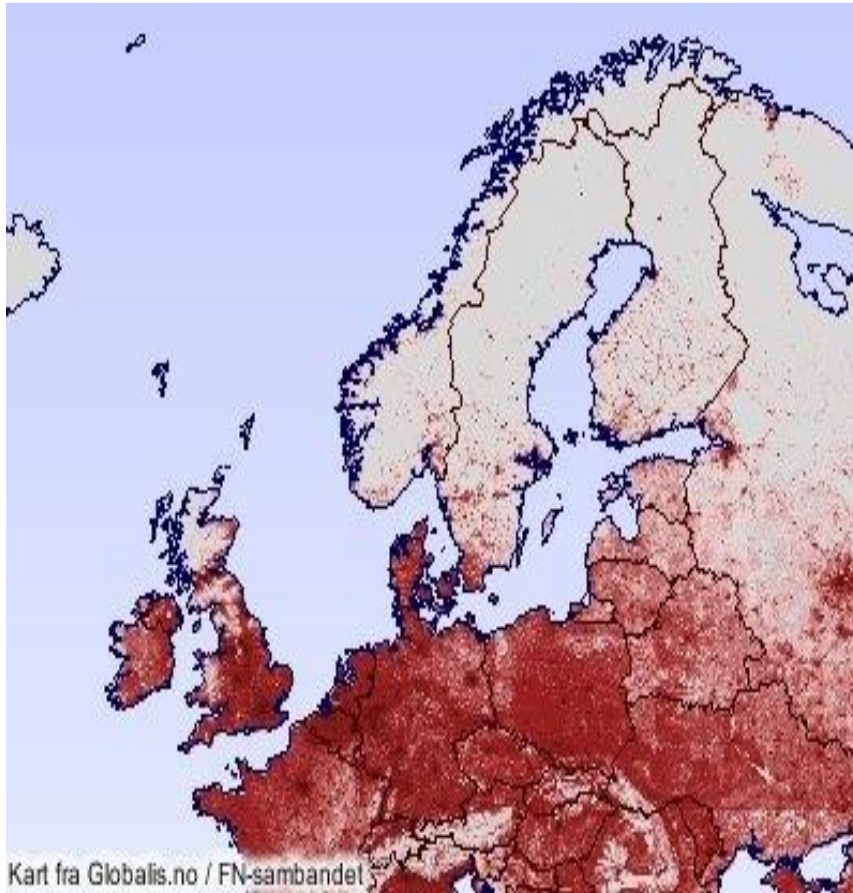
# Knee arthroscopy for degenerative meniscal tears and osteoarthritis in Norway: experience with reducing the volume

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SOUTH-EAST REGIONAL HEALTH AUTHORITY (HSØ)

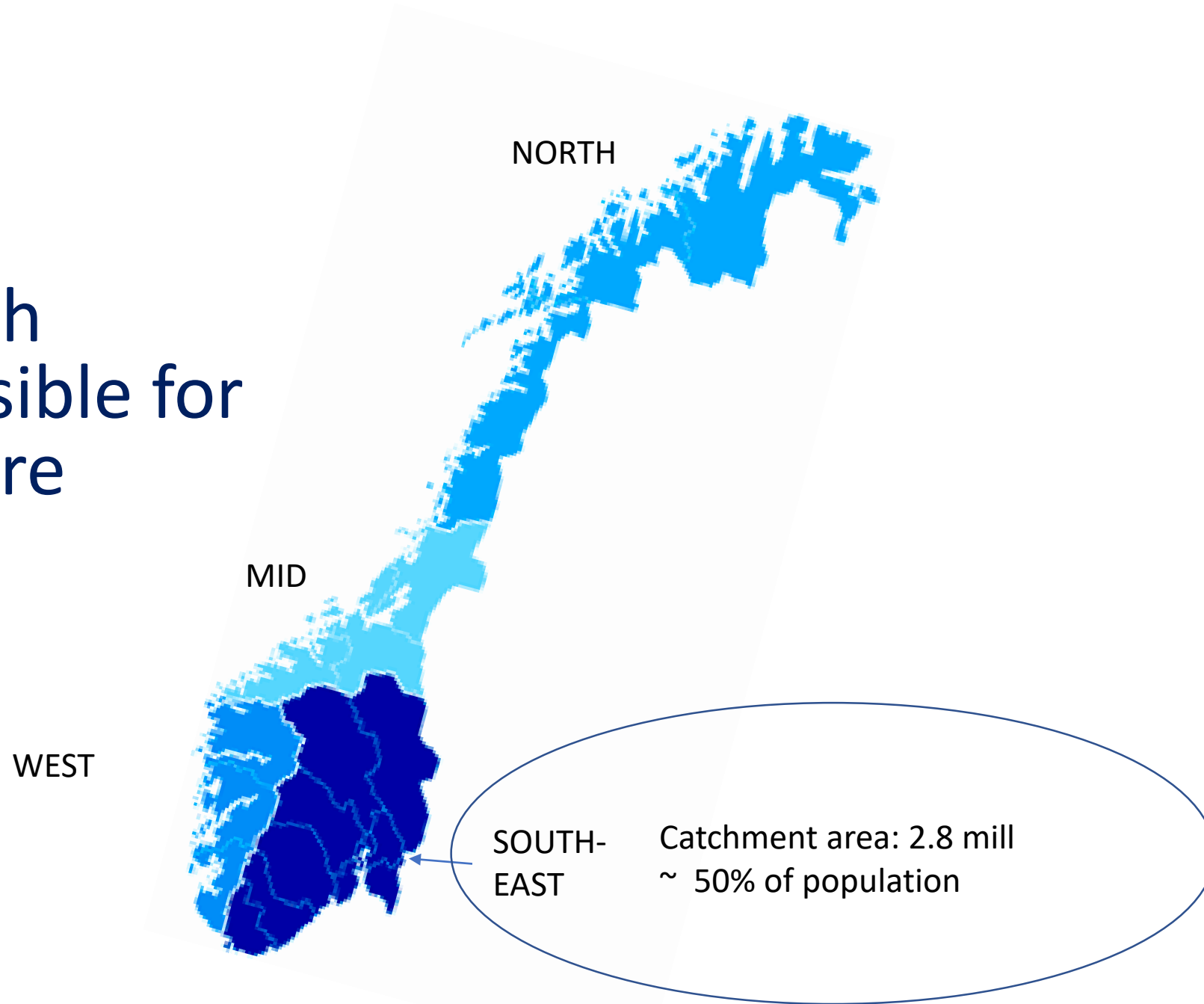
# Norway

## Population density



- 5 mill
- 385 000 km<sup>2</sup>
- 13 inhab/km<sup>2</sup>
- 19 counties

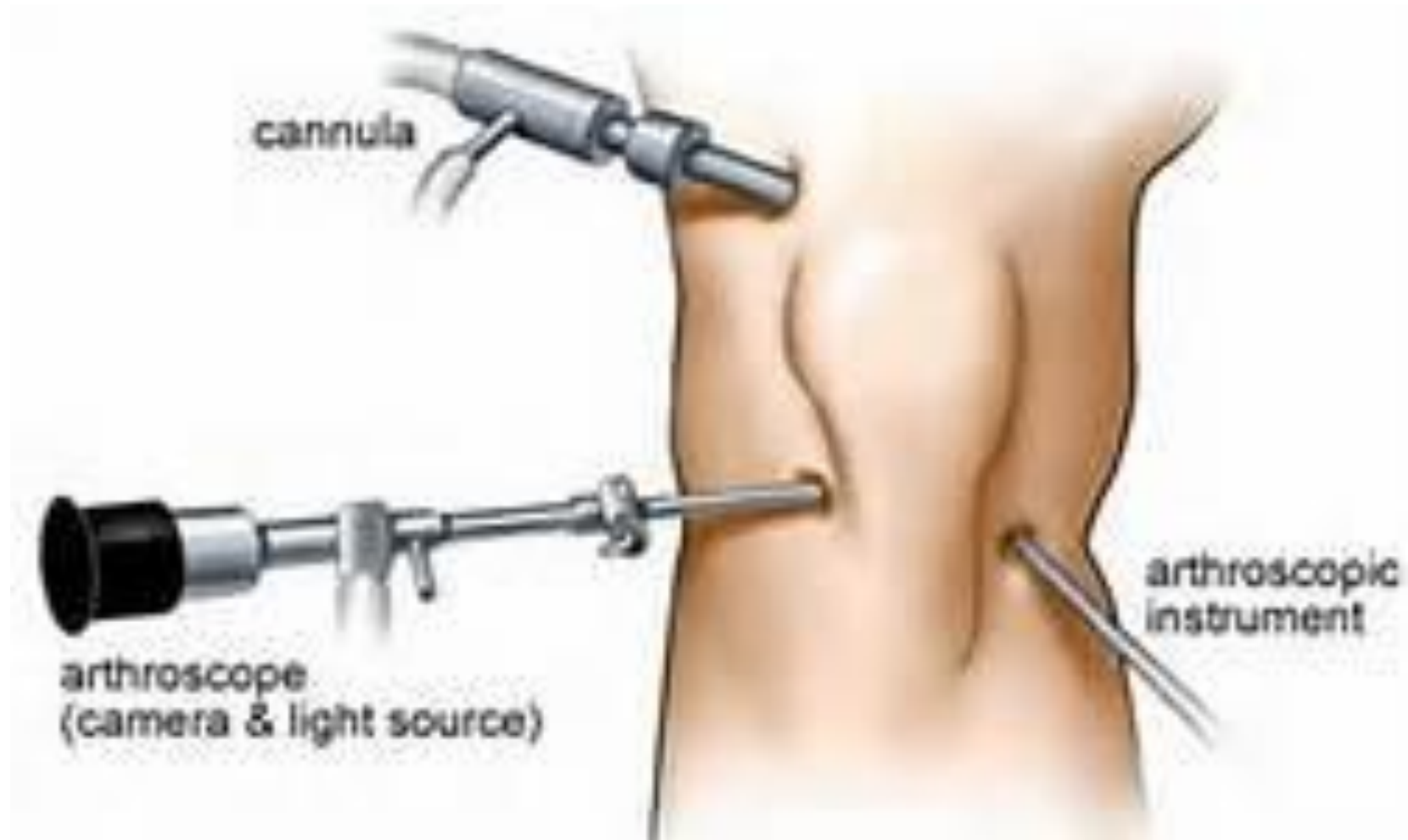
# Four regional health authorities responsible for specialist health care



# REDUCING KNEE ARTHROSCOPY:

-IS IT RELEVANT?

-IS IT POSSIBLE?





LOCATION: NICHOLASVILLE, KENTUCKY

## WHAT IS THE EVIDENCE IN 2017?

Thorlund et al , Br J Sports Med  
2015;49:1229–1235

Khan et al, CMAJ, October 7, 2014

Norwegian trial: Kise et al, BMJ  
2016;354:i3740

- 2 RANDOMIZED TRIALS:
  - **NO EFFECTS OF ARTHROSCOPIC DEBRIDEMENT/ LAVAGE** FOR DEGENERATIVE KNEE DISORDERS COMPARED TO SHAM OR PHYSIOTHERAPY
- 5 OF 6 RANDOMIZED TRIALS:
  - **NO CLINICAL MEANINGFUL EFFECTS** OF DEGENERATIVE **MENISCAL** SURGERY ON PAIN OR FUNCTION COMPARED TO SHAM OR PHYSIOTHERAPY
- CONCLUSION:
  - THERAPEUTIC ARTHROSCOPY FOR DEGENERATIVE KNEE DISORDERS **PROBABLY NO BETTER THAN CONSERVATIVE TREATMENT**

**Practice** » Rapid Recommendations

## **Arthroscopic surgery for degenerative knee arthritis and meniscal tears: a clinical practice guideline**

*BMJ* 2017 ; 357 doi: <https://doi.org/10.1136/bmj.j1982> (Published 10 May 2017)

Cite this as: *BMJ* 2017;357:j1982

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### **What you need to know**

- We make a strong recommendation against the use of arthroscopy in nearly all patients with degenerative knee disease, based on linked systematic reviews; further research is unlikely to alter this recommendation

## Aftenposten's weekend-supplement July 2017



- Unnecessary?
- Patients who get a sham operation may do as well as those operated.

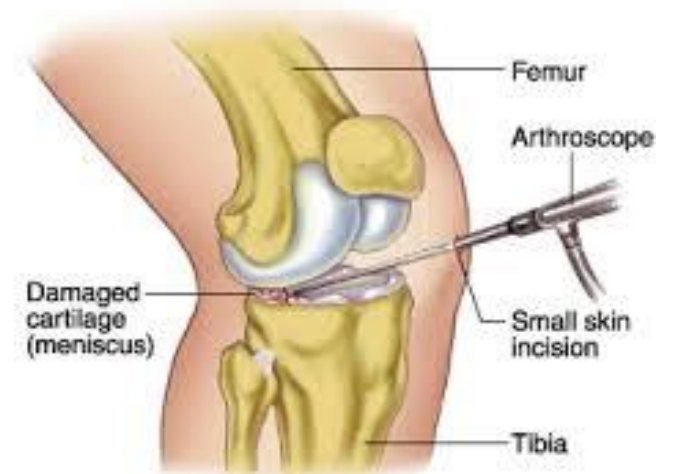
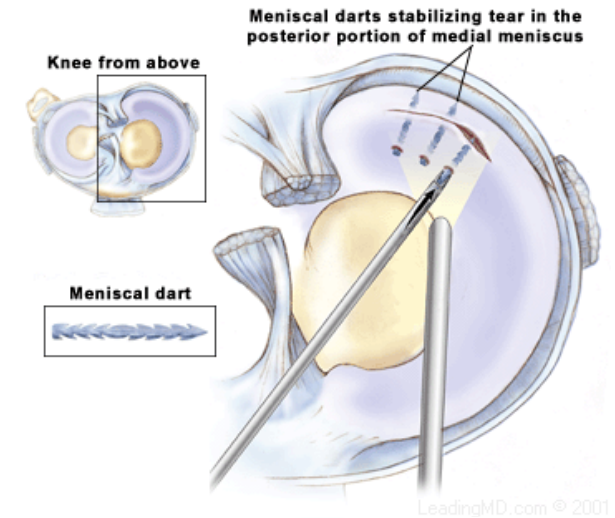
# SOURCES

- NORWEGIAN NATIONAL PATIENT REGISTRY (NPR)
  - *NO CODING – NO REIMBURSEMENT* FROM THE DIRECTORATE OF HEALTH (HDIR)
  - ALL PUBLIC HOSPITALS IN THE 4 HEALTH REGIONS
  - PRIVATE HOSPITALS WITH REIMBURSEMENT CONTRACTS
- LIMITATIONS FOR ACCESS TO DATA:
  - LICENCE LIMITED TO LAST 4 YEARS
  - NO DATA FROM PRIVATE HOSPITALS WITHOUT CONTRACTS
- DATA ON RATES OF KNEE MRI PER COUNTY 2012-15

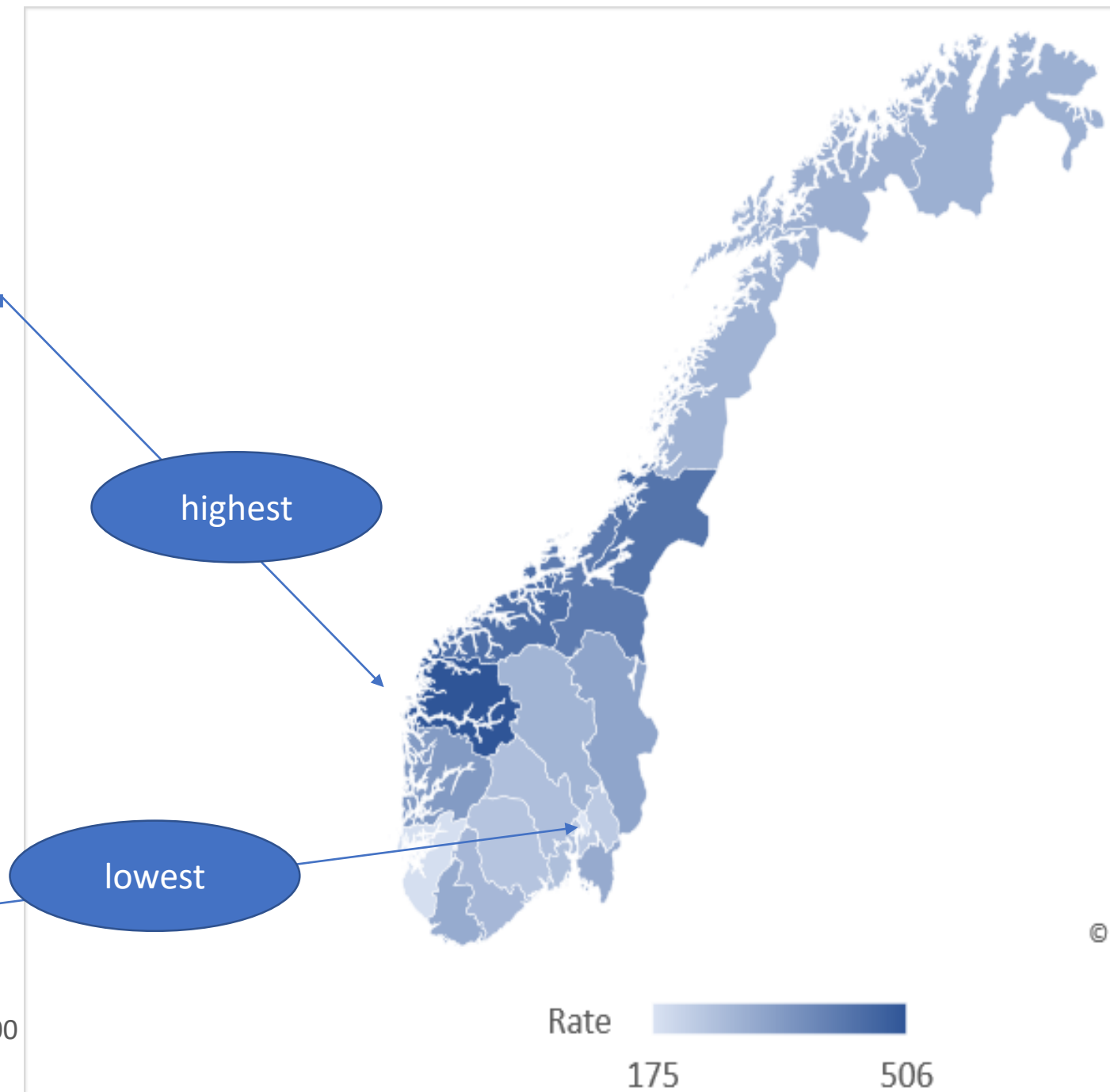
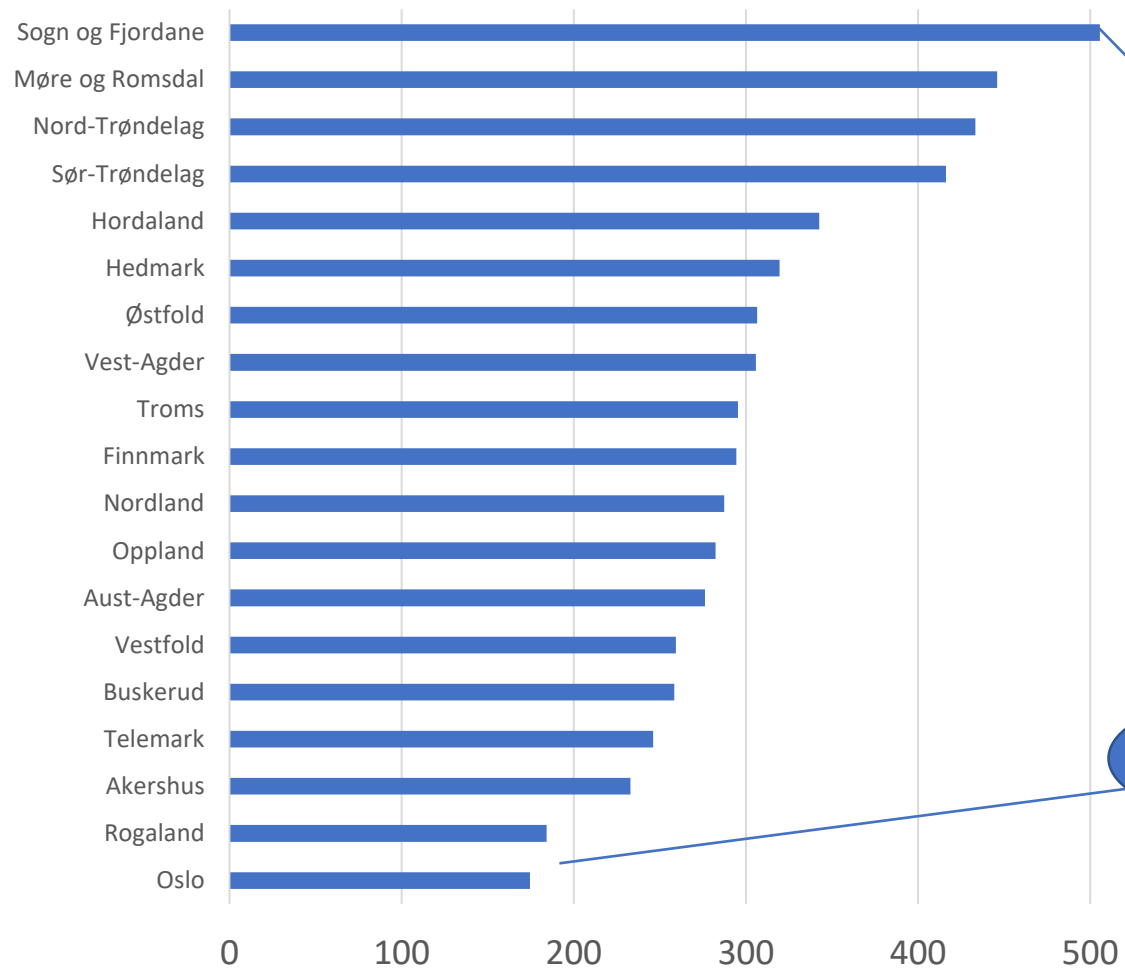


# WHICH PROCEDURES WERE SELECTED?

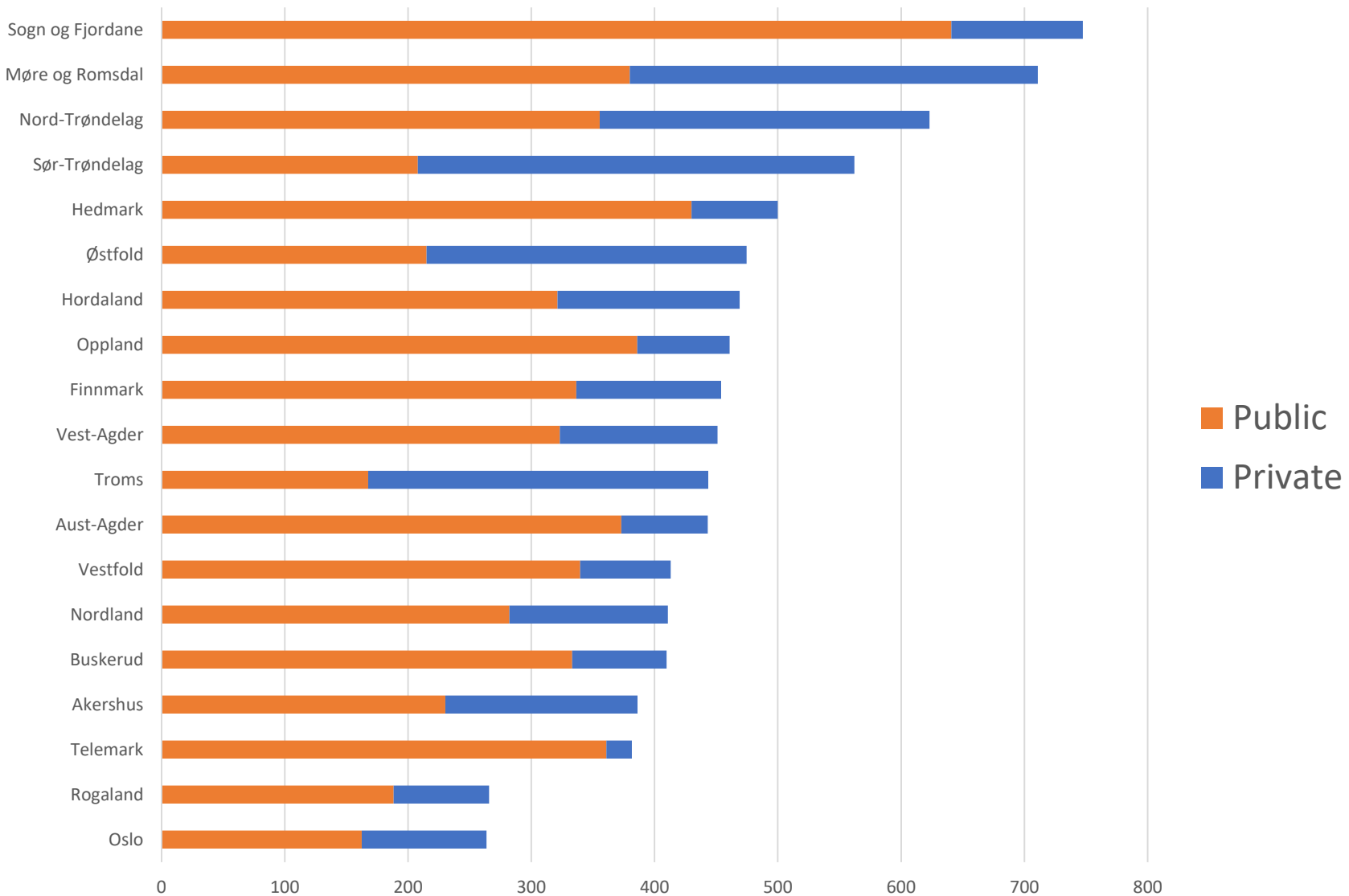
- PARTIAL MENISCAL RESECTION (NGD11)
- MENISCAL REPAIR (NGD21)
- DEBRIDEMENT/ SYNOVECTOMY/ LAVAGE (NGF31)



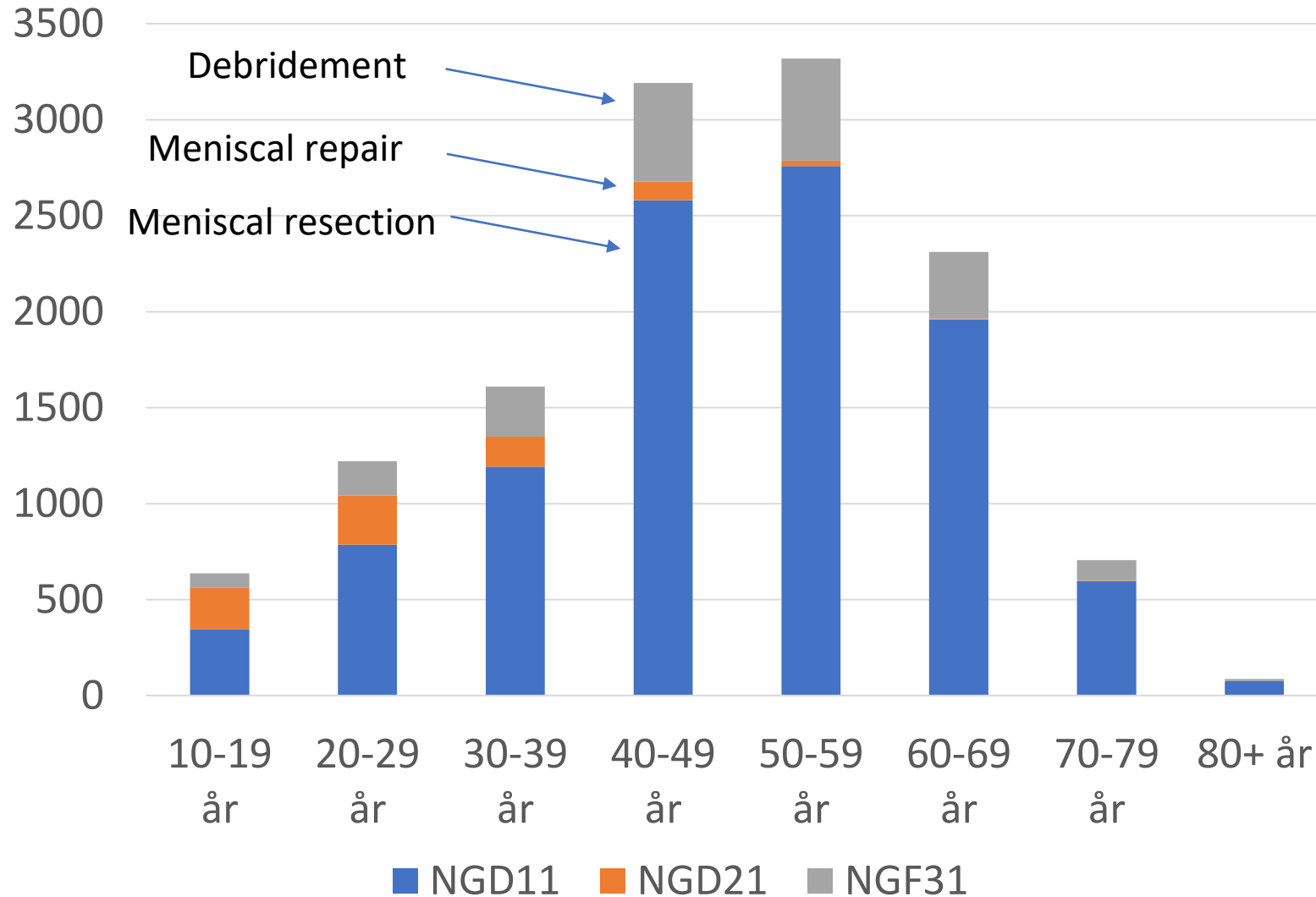
# Age-adjusted rates of knee arthroscopy by county of residence, average 2012-16.



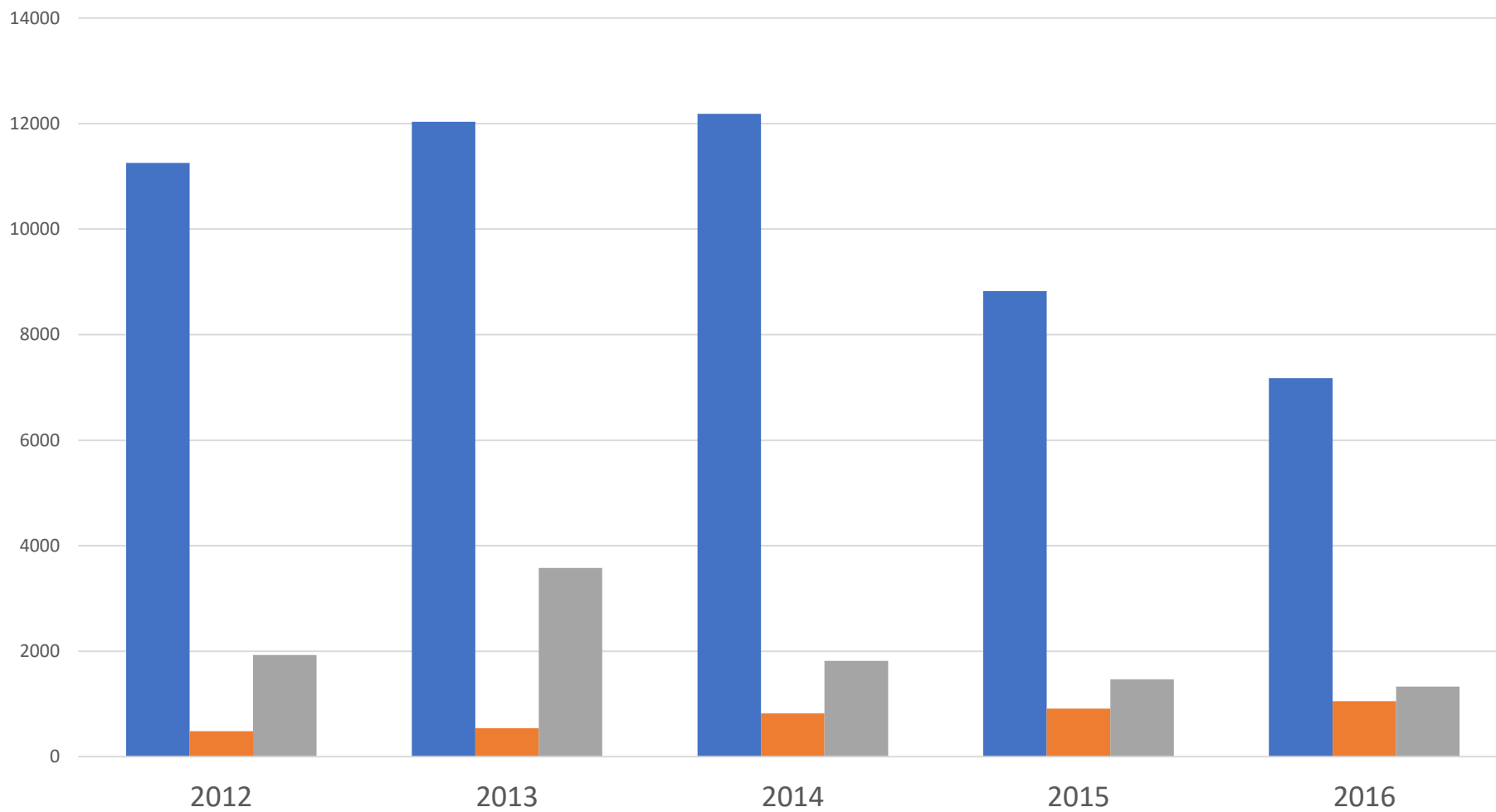
# Knee arthroscopies by county of residence. Rate per 100 000. Average 2012-16. Public vs private.



# Knee arthroscopies per age group, average 2012-2016, all counties

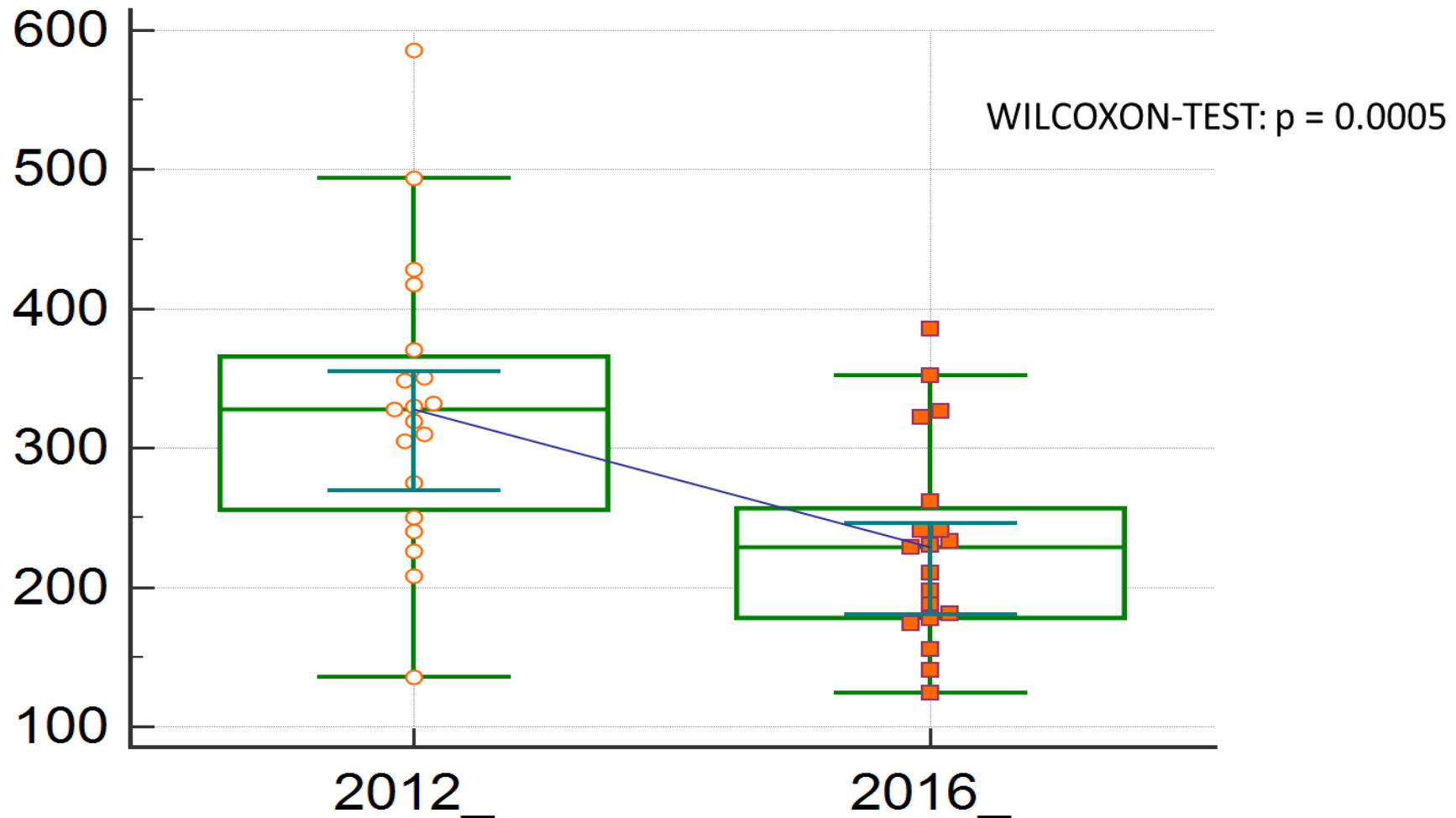


# Knee arthroscopies per year, all counties

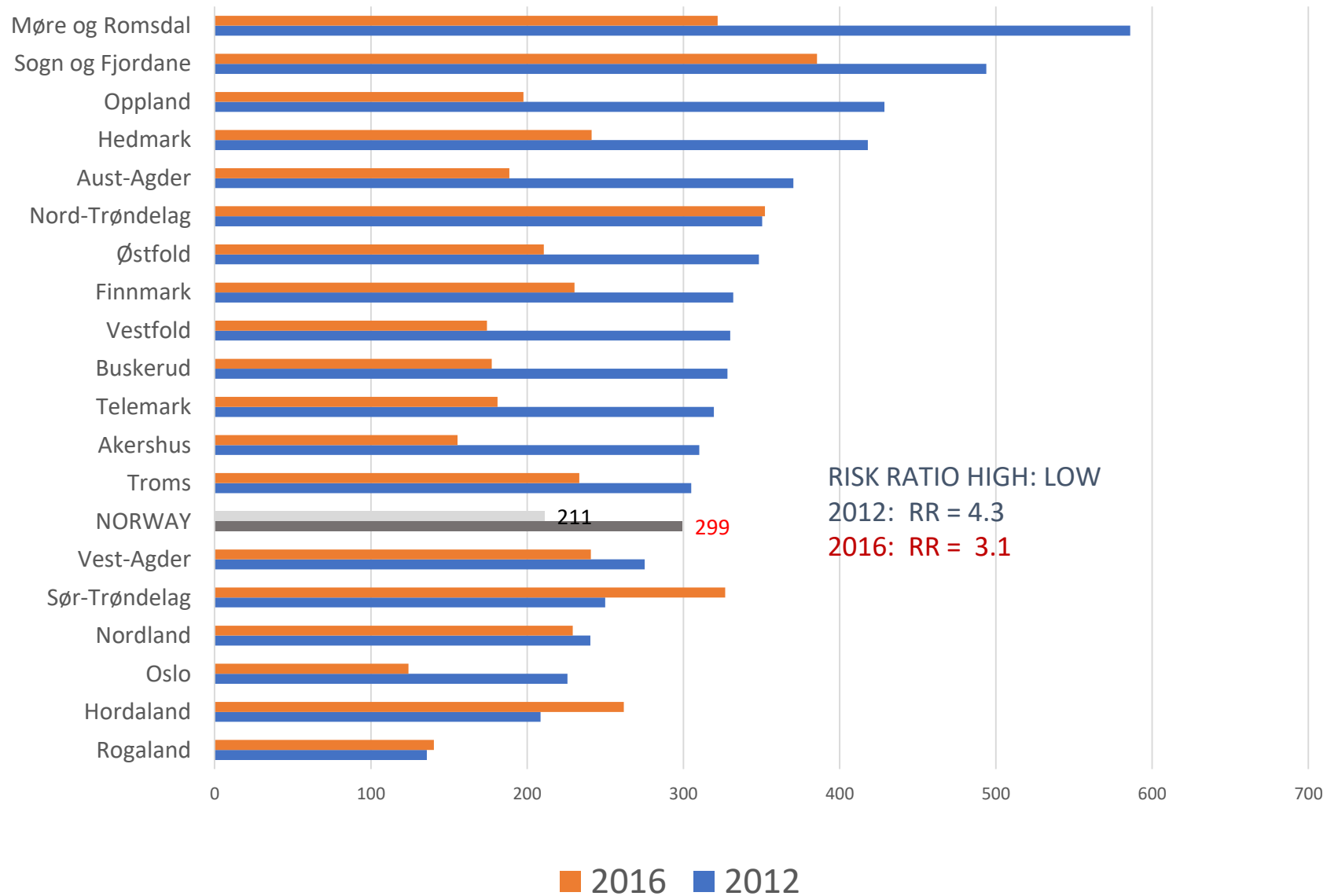


■ NGD11 Meniscal resection ■ NGD21 Meniscal repair ■ NGF31 Cartilage debridement

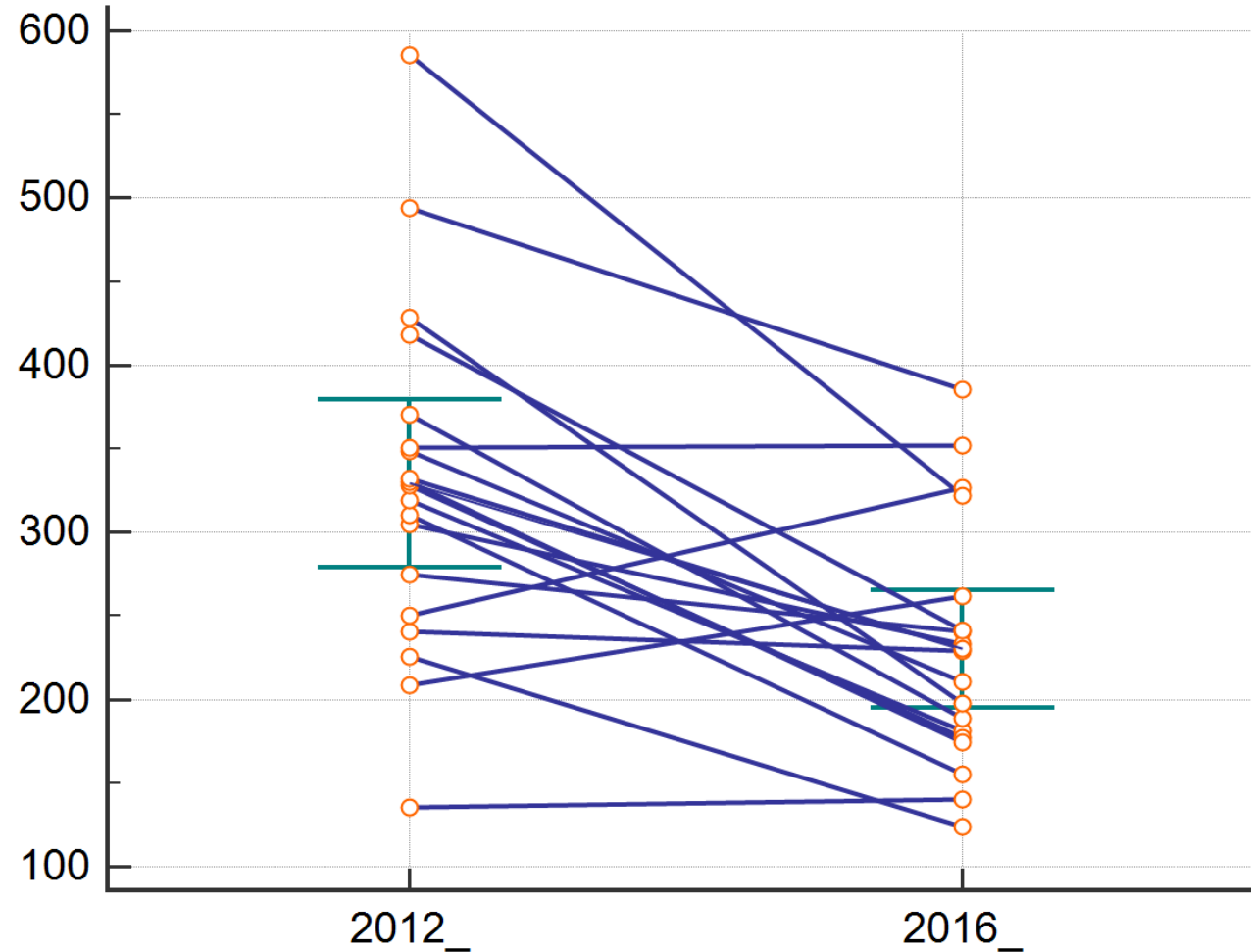
# KNEE ARTHROSCOPY RATE PER COUNTY 2012 AND 2016. MEDIAN/QUARTILES



# Changes in rates of knee arthroscopy per county. Public hospitals 2012 vs 2016



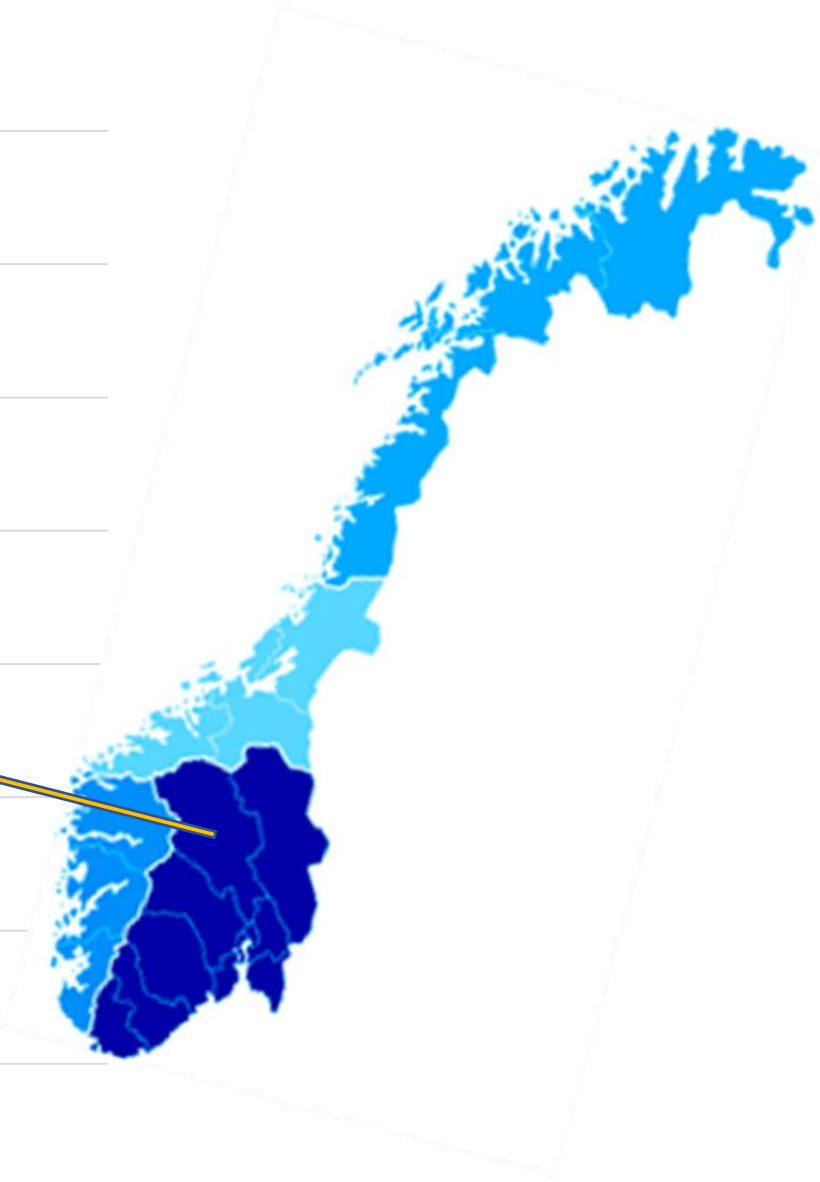
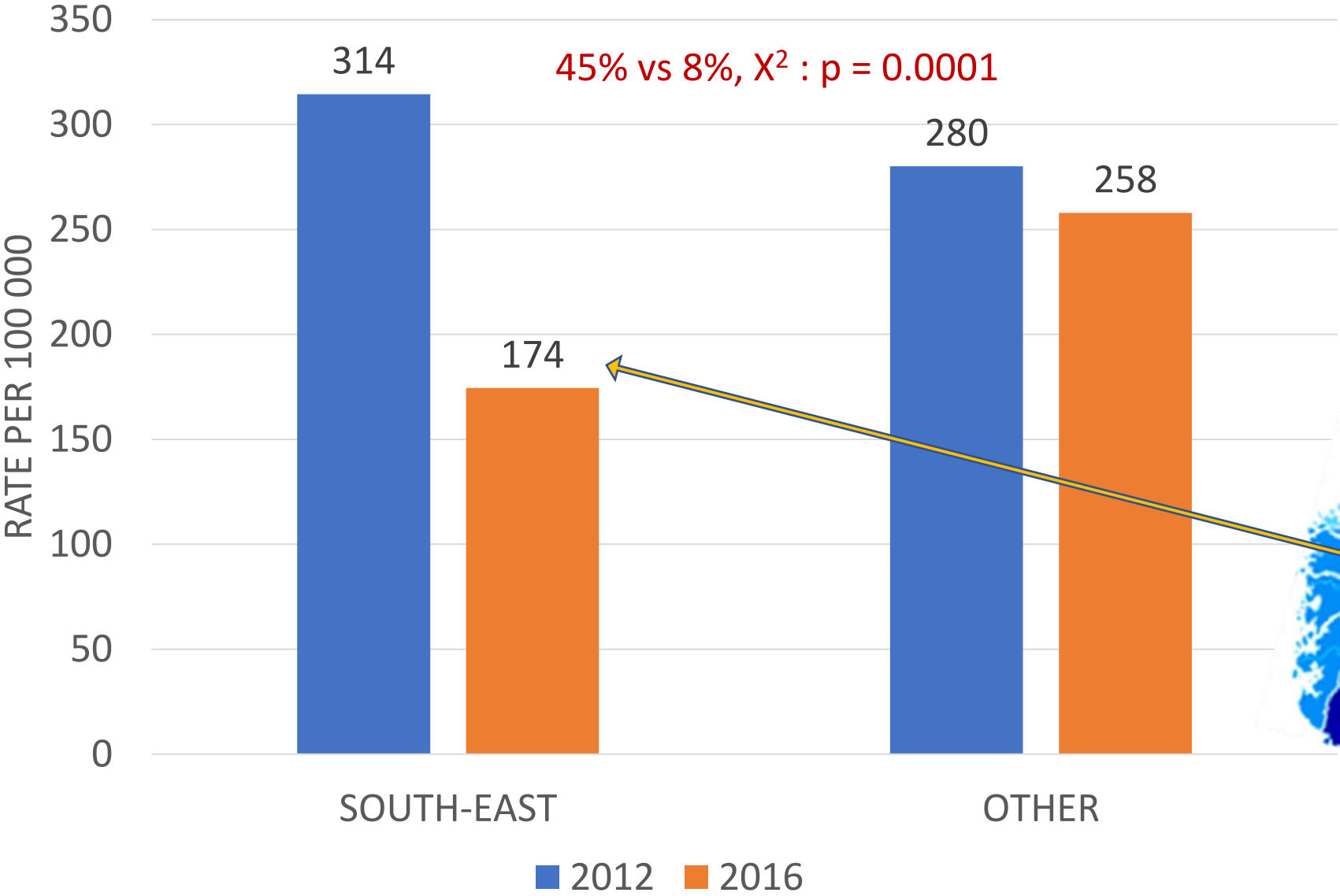
# RATES KNEE ARTHROSCOPY PER COUNTY, PUBLIC HOSPITALS. 2012 AND 2016





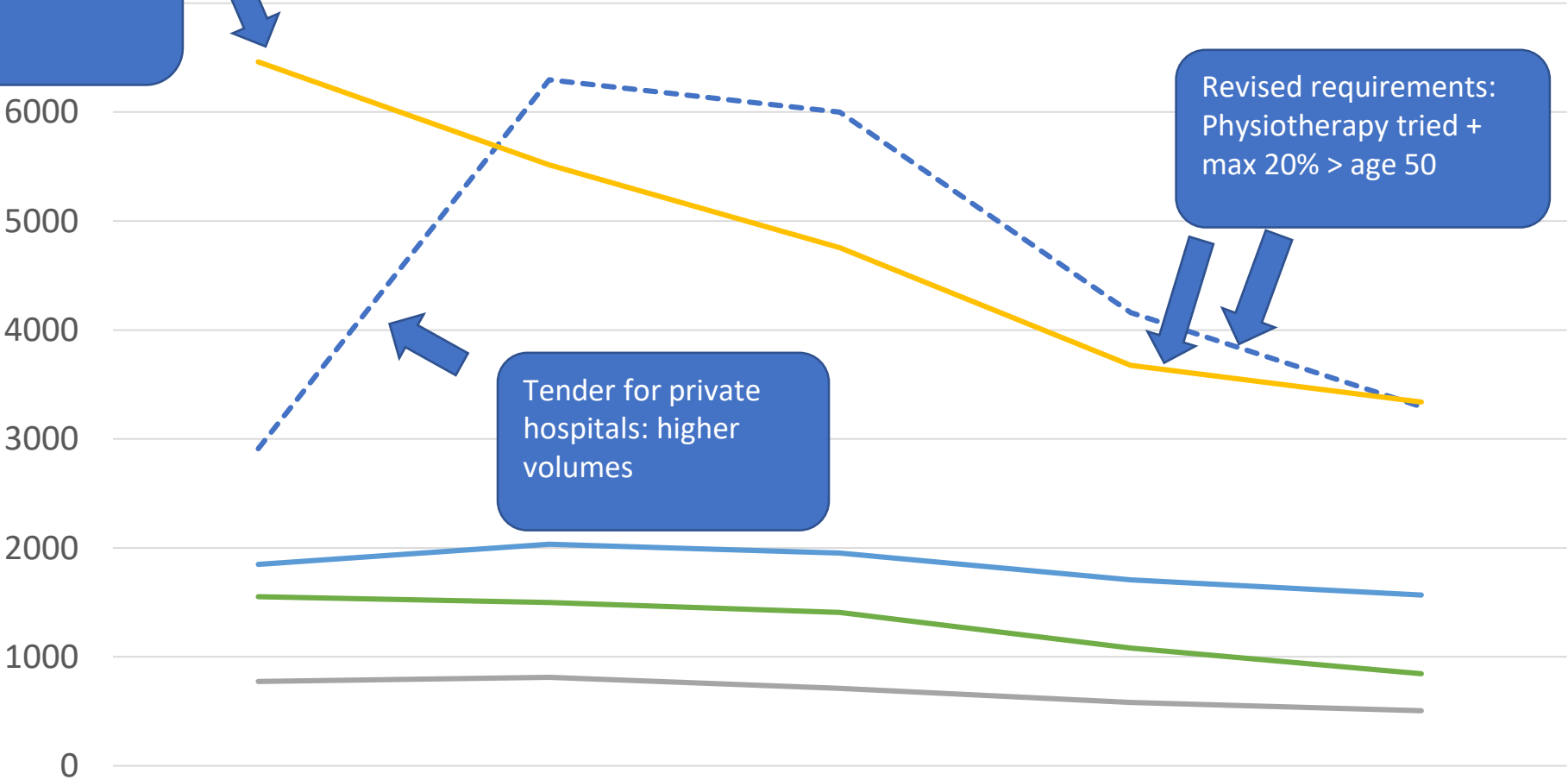
# RATE REDUCTION 2012-16 KNEE ARTHROSCOPY

## SOUTH-EAST HR VS OTHER REGIONS



# REGULATORY CHANGES SOUTH-EAST HR BETWEEN 2012 AND 2016

Orthopedic Advisory board, HR South-East : WARNING OF OVER-USE IN PUBLIC HOSPITALS

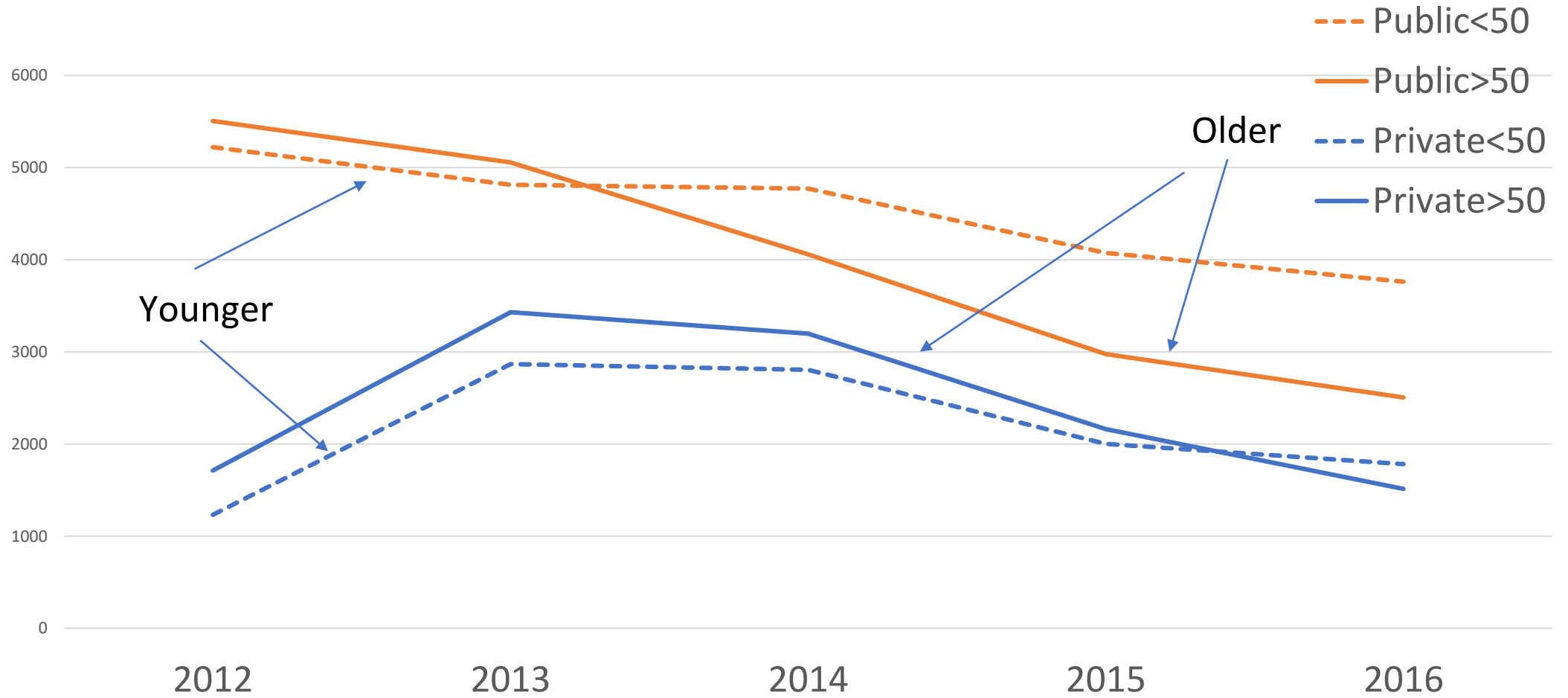


Revised requirements: Physiotherapy tried + max 20% > age 50

Tender for private hospitals: higher volumes

--- Private    — Mid-Norway    — North    — South-East    — West

# Knee arthroscopies PUBLIC VS PRIVATE\* VS AGE GROUP

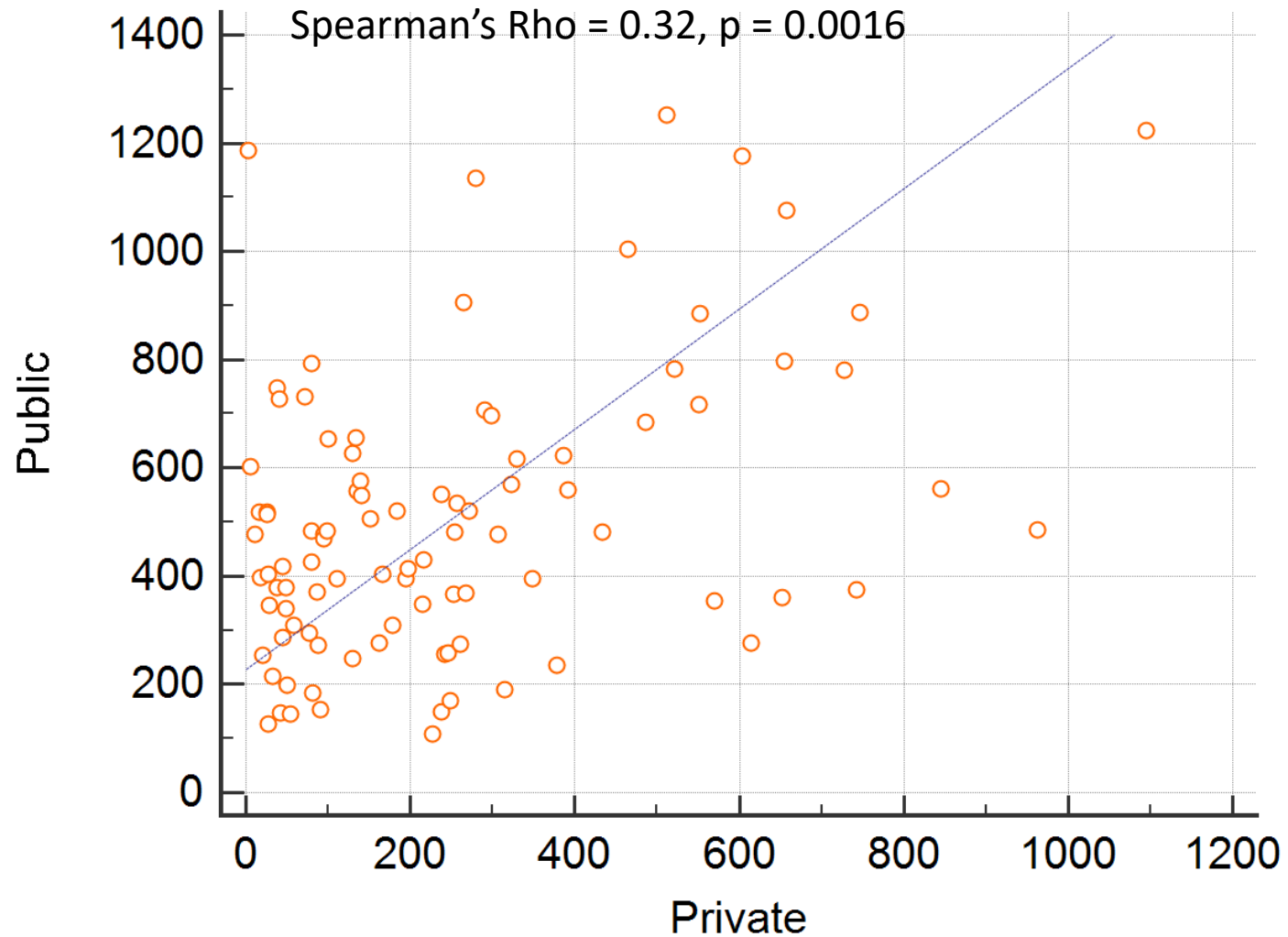


\*private hospitals with reimbursement

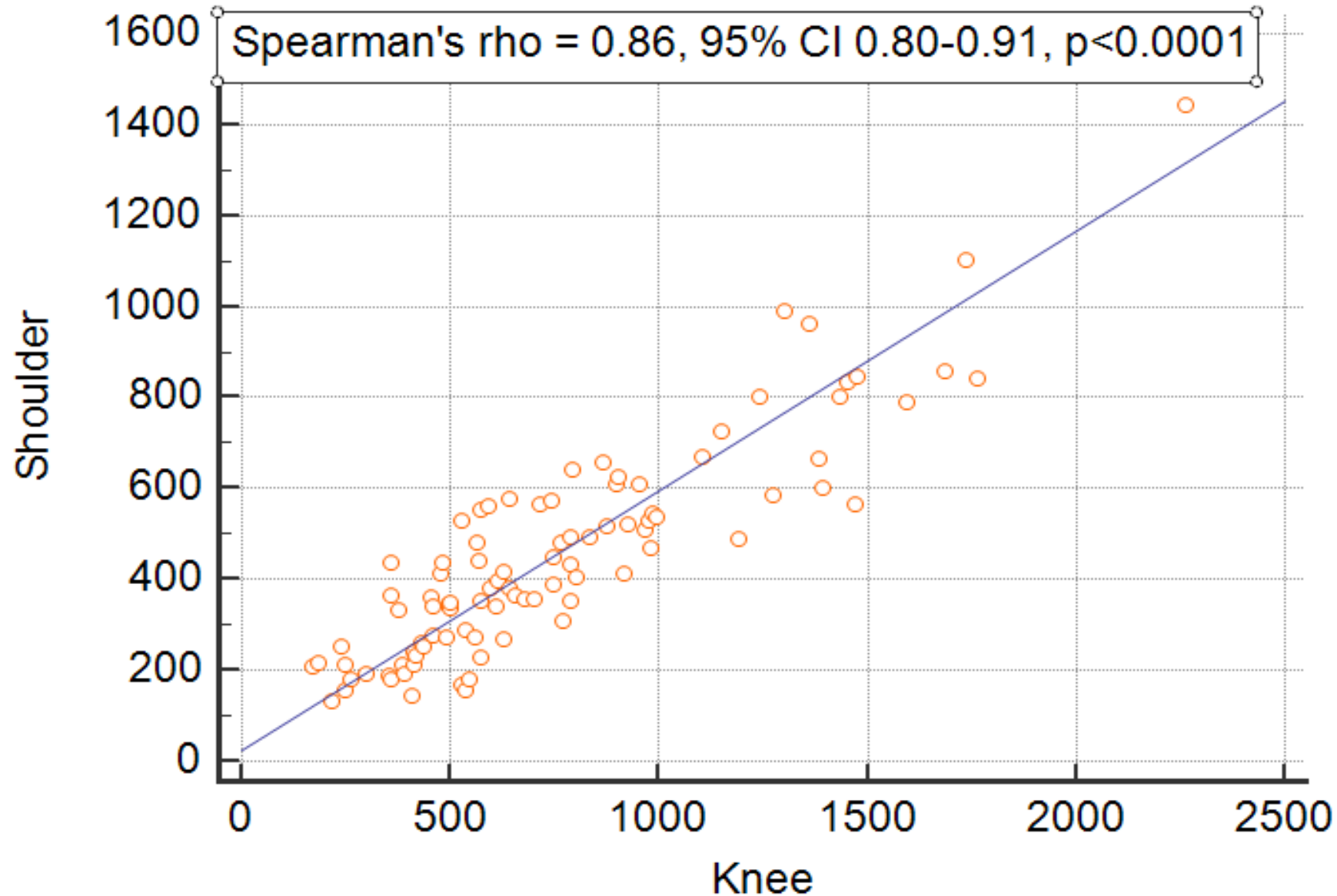
# KNEE ARTHROSCOPY: 3 HYPOTHESES

1. Positive correlation public vs private arthroscopy?
  - i.e. supply trumps demand
2. Positive correlation knee vs shoulder arthroscopy ?
3. Positive correlation MRI vs arthroscopy?

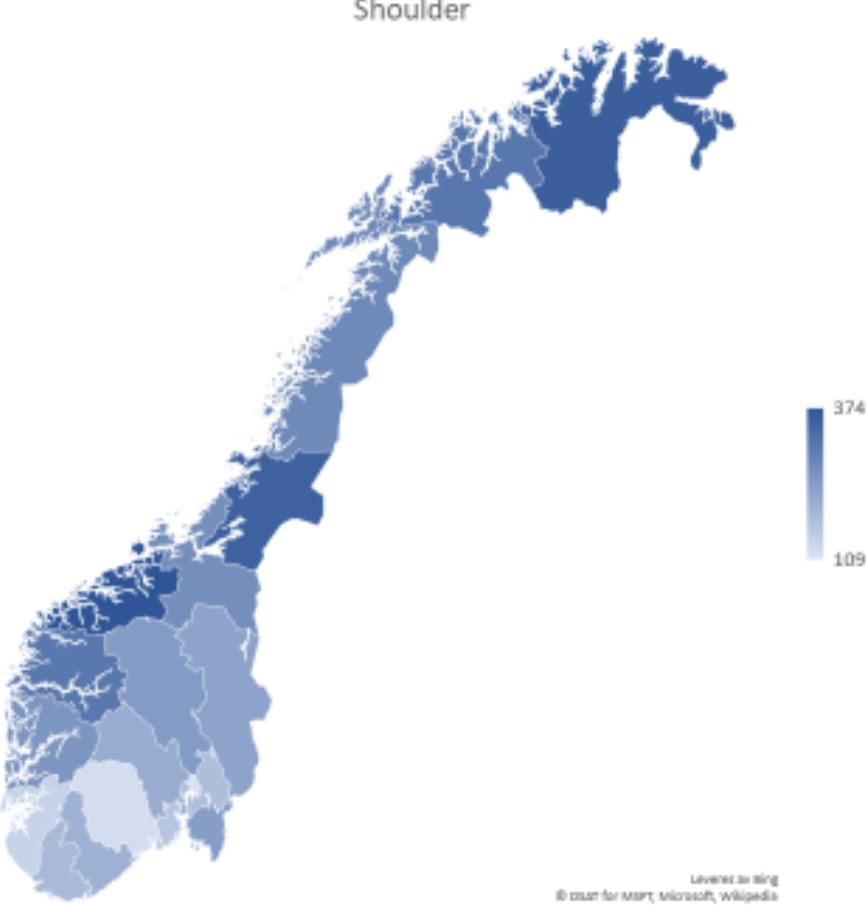
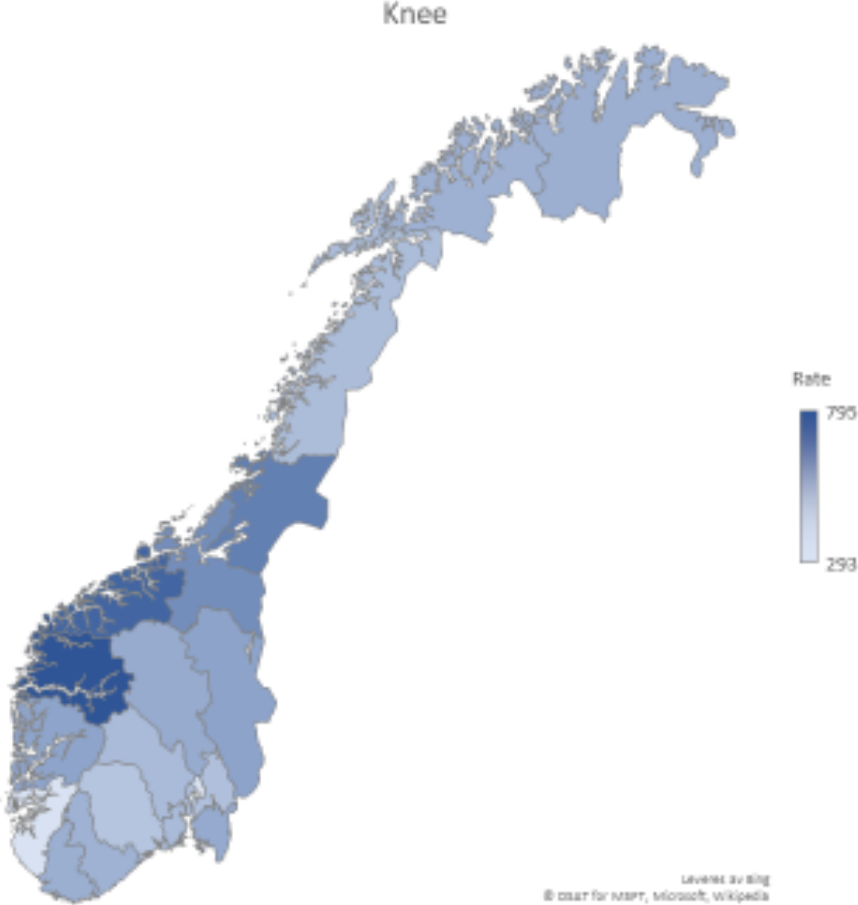
# Correlation **public** vs **private** knee arthroscopies by county of residence, 2012-16



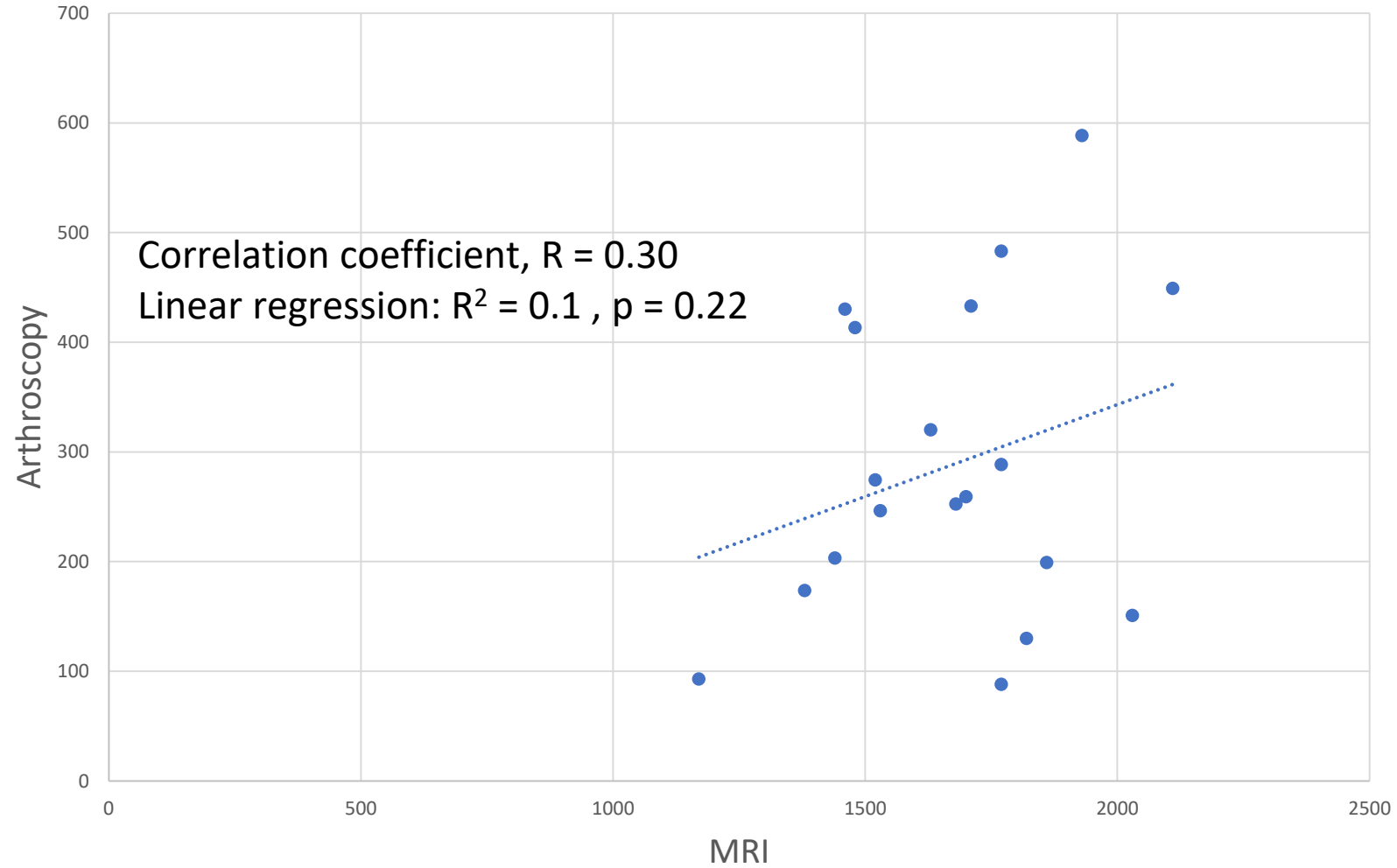
# Correlation between **knee** and **shoulder** arthroscopies 2012-16 per county of residence, public hospitals



Knee and shoulder arthroscopies by county of residence.  
Rate per 100 000. Average 2012-15.



Knee **arthroscopy** rate vs **MRI** per treatment county (public and private) . Average rate 2012-15 /10<sup>5</sup> , all ages





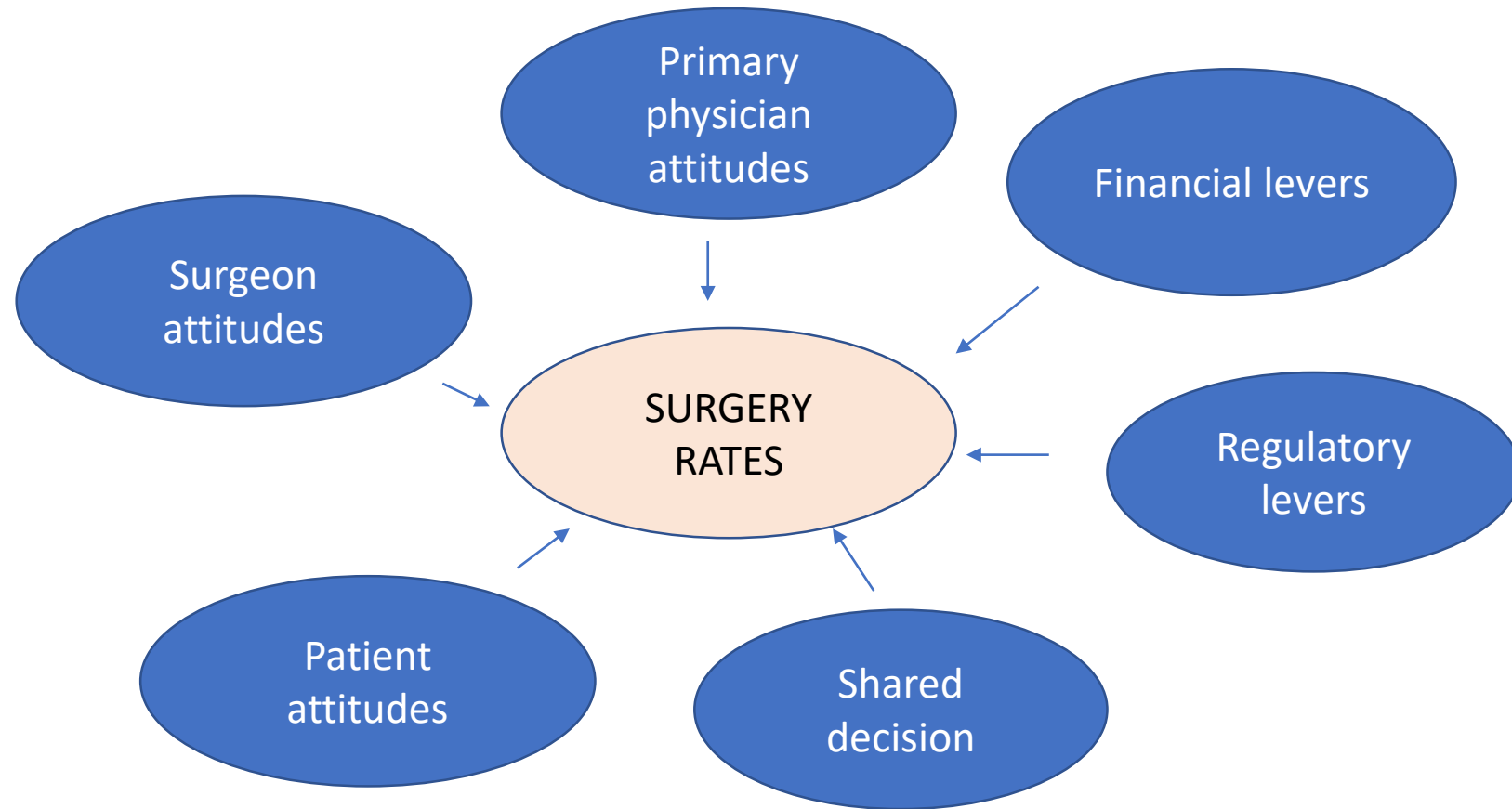
# SUMMARY OF FINDINGS

- ARTHROSCOPY RATES **41% REDUCED** FROM 2013 – 2016
  - meniscectomy/ age >50/ South-East region: **57% reduction**
- UNEXPLAINED REGIONAL VARIATIONS: **SLIGHTLY REDUCED**
- STILL TOO MANY PATIENTS > AGE 50

# SUMMARY OF FINDINGS (cont.)

- POSITIVE CORRELATION **PUBLIC** VS **PRIVATE** RATES PER COUNTY
  - i.e. supply more important than demand
- POSITIVE CORRELATION **KNEE** VS **SHOULDER** RATES
  - i.e. «if you've got a scope you have to use it»
- POSITIVE CORRELATION **MRI** VS **ARTHROSCOPY**
  - i.e. MRI generates demand for arthroscopy

# Bringing down rates of unnecessary surgery is possible!



THANK YOU!



# WHAT IS THE EVIDENCE FOR CONSERVATIVE MANAGEMENT OF OSTEOARTHRITIS?

- Exercise:
  - >50 RCTs show efficacy for knee OA
  - 10 RCTs show efficacy for hip OA
- 2 international guidelines recommend exercise, weight loss and education
- But: only 36% of OA patients receive appropriate non-pharmacological care

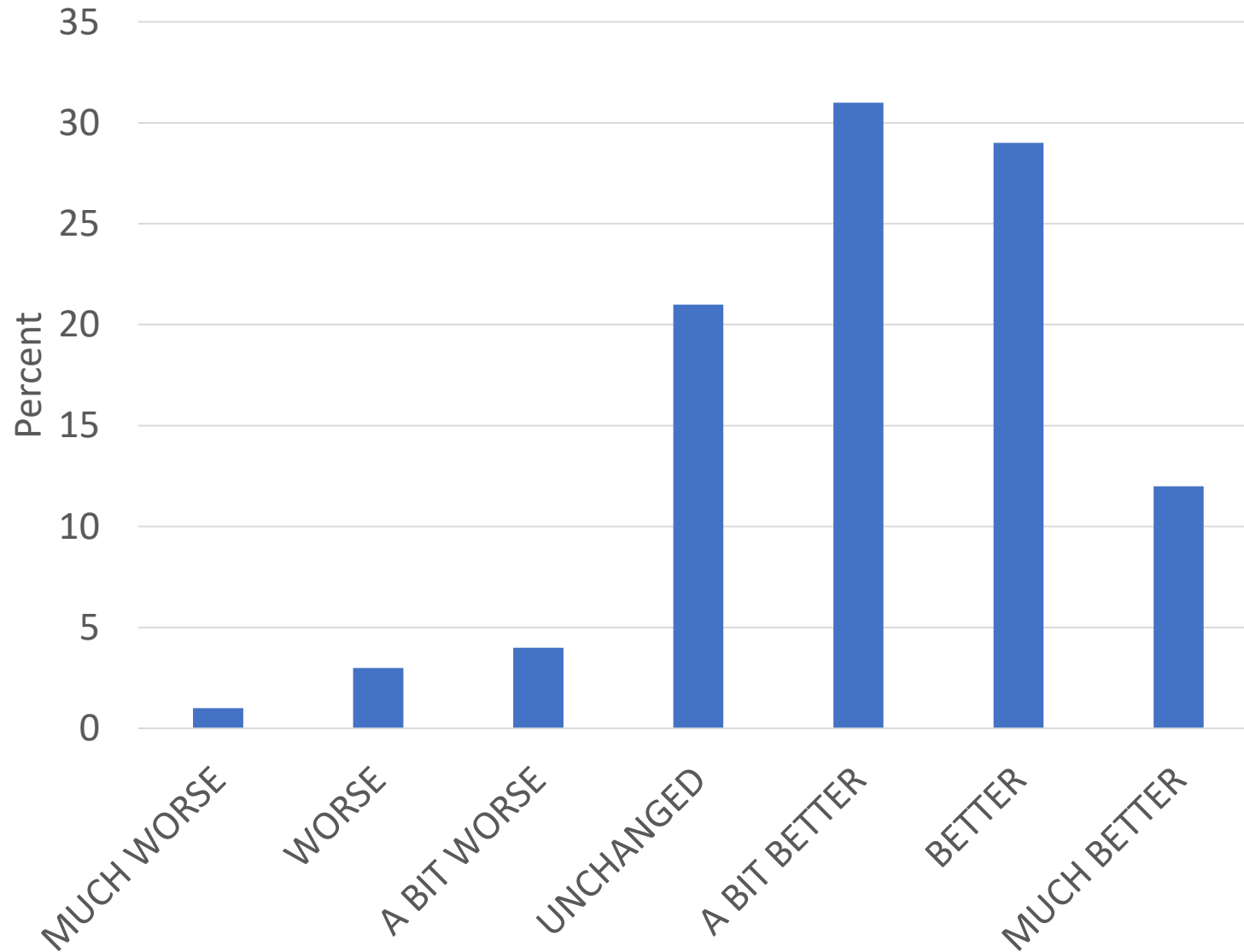
# WHAT EXPLAINS REGIONAL VARIATIONS IN SURGICAL RATES?

- John D Birkmeyer et al, Lancet 2013:
- Evidence suggests that surgical variation results mainly from differences in **physician beliefs** about the indications for surgery, and the extent to which **patient preferences** are incorporated into treatment decisions.
- Better scientific evidence about the comparative effectiveness of surgical and non-surgical interventions could help to mitigate regional variation, but **broader dissemination of shared decision aids** will be essential to reduce variation in preference-sensitive disorders.

# AktivA Norway

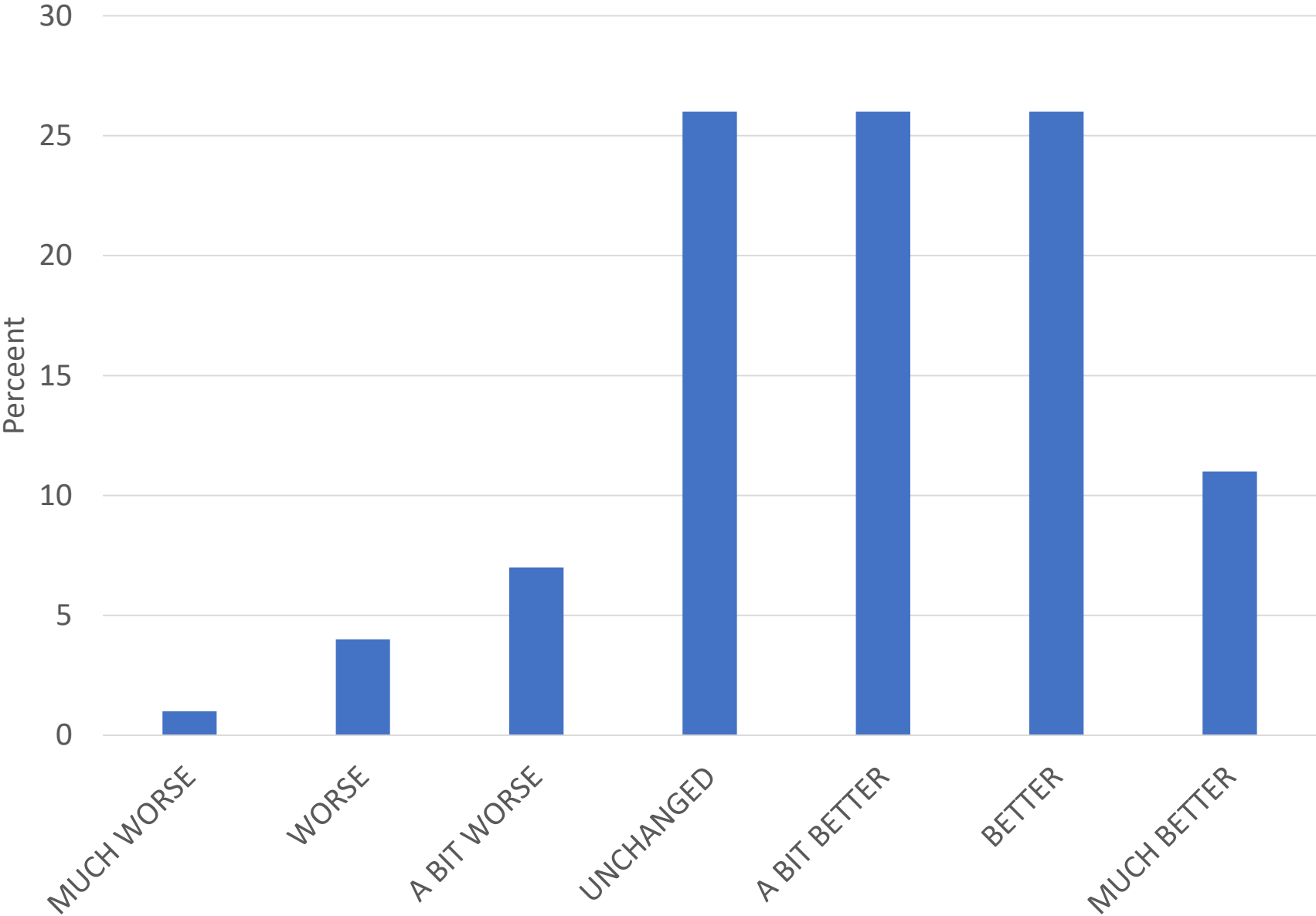
- Target group: patients with symptomatic osteoarthritis of hip and knee
- Evidence-based education and supervised structured neuromuscular exercise
- Delivered by certified physiotherapists
- 6-8 weeks supervised training and education
- Implemented in Norway, Denmark (GLA:D) and Sweden (BOA)
- Outcomes registered at 3 and 12 months

## Aktiva: CHANGE IN FUNCTION AFTER 3 MONTHS

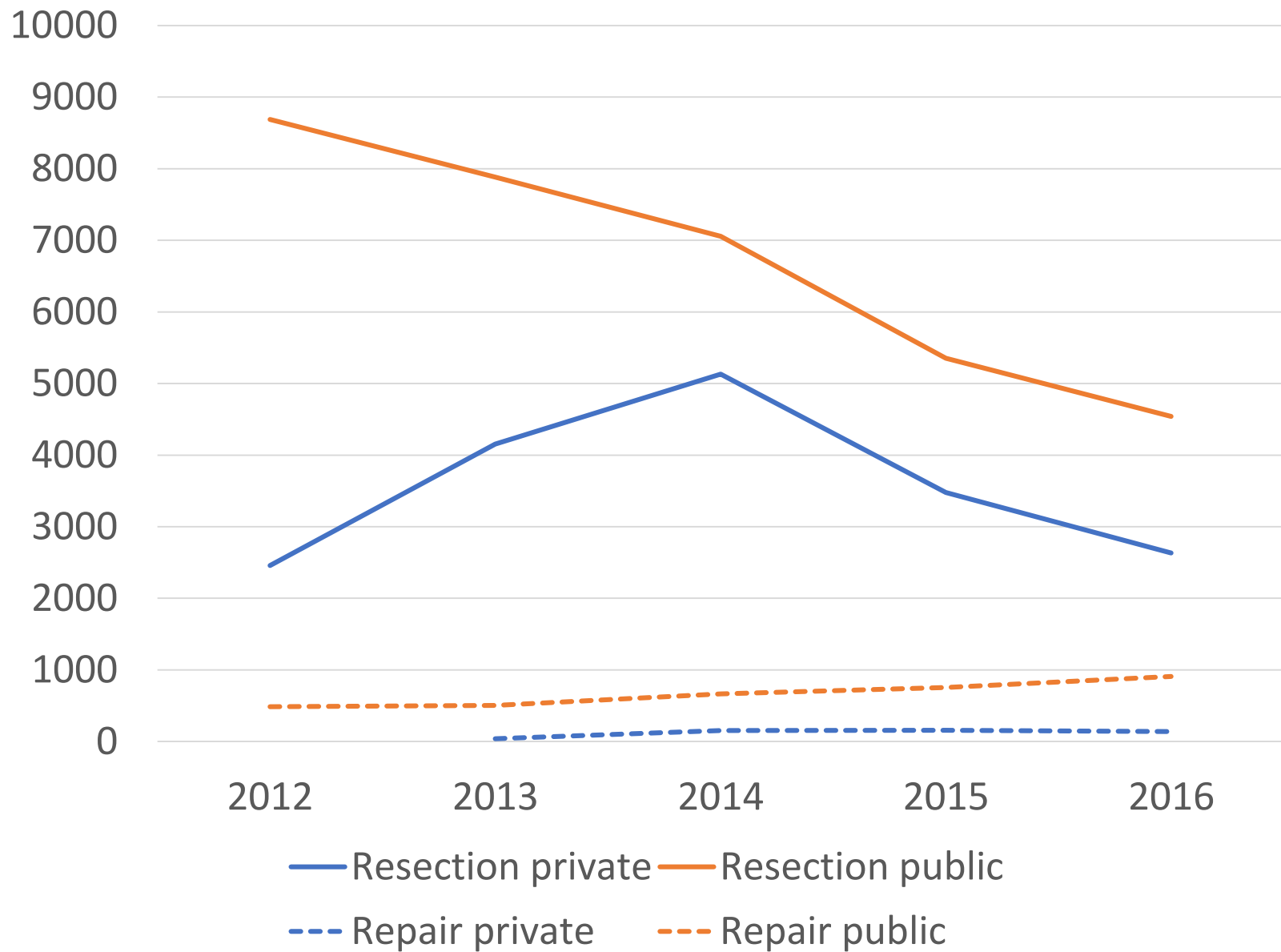




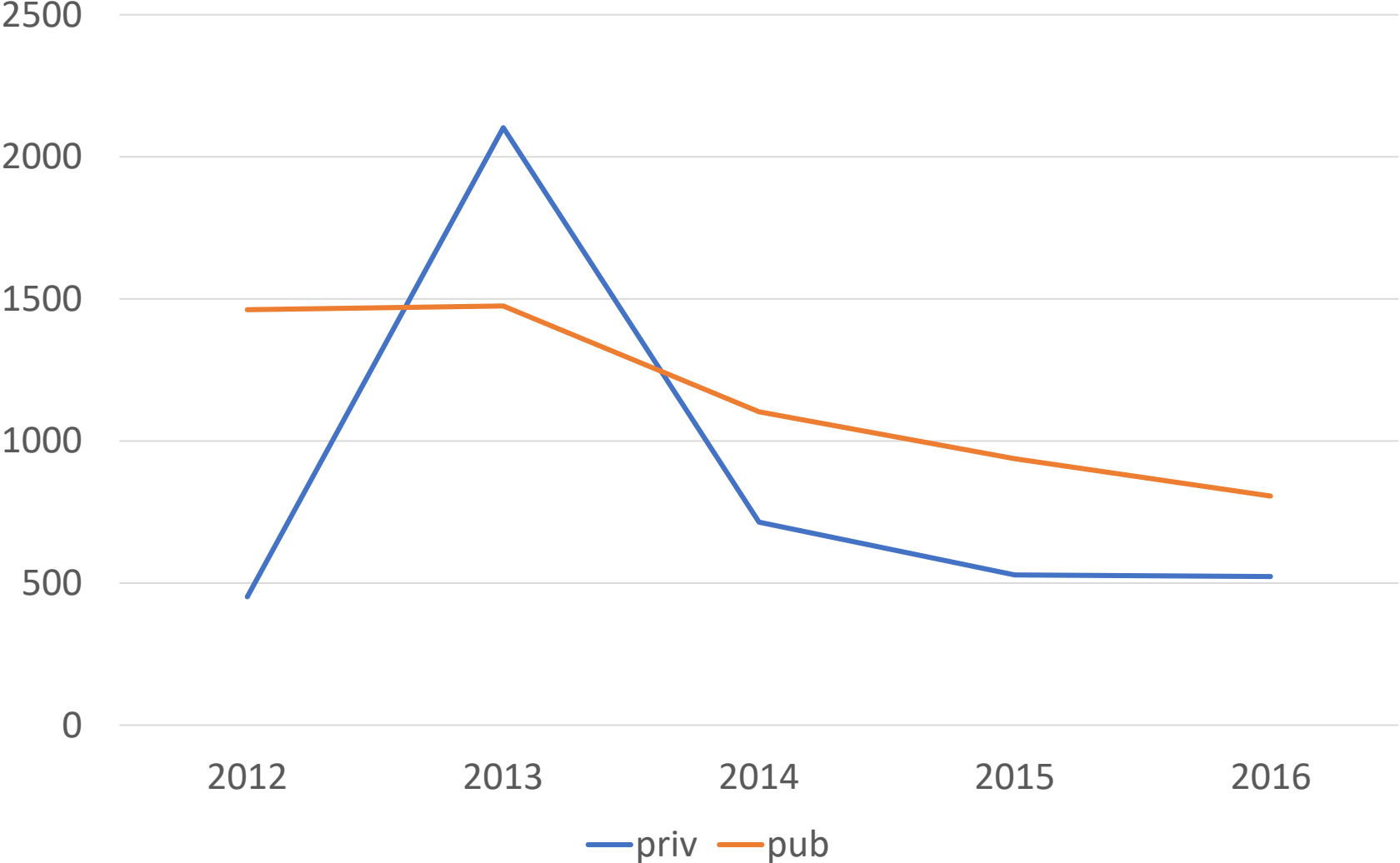
# AktivaA: CHANGE IN PAIN AFTER 3 MONTHS



# Meniscal resections vs repairs. Public vs private

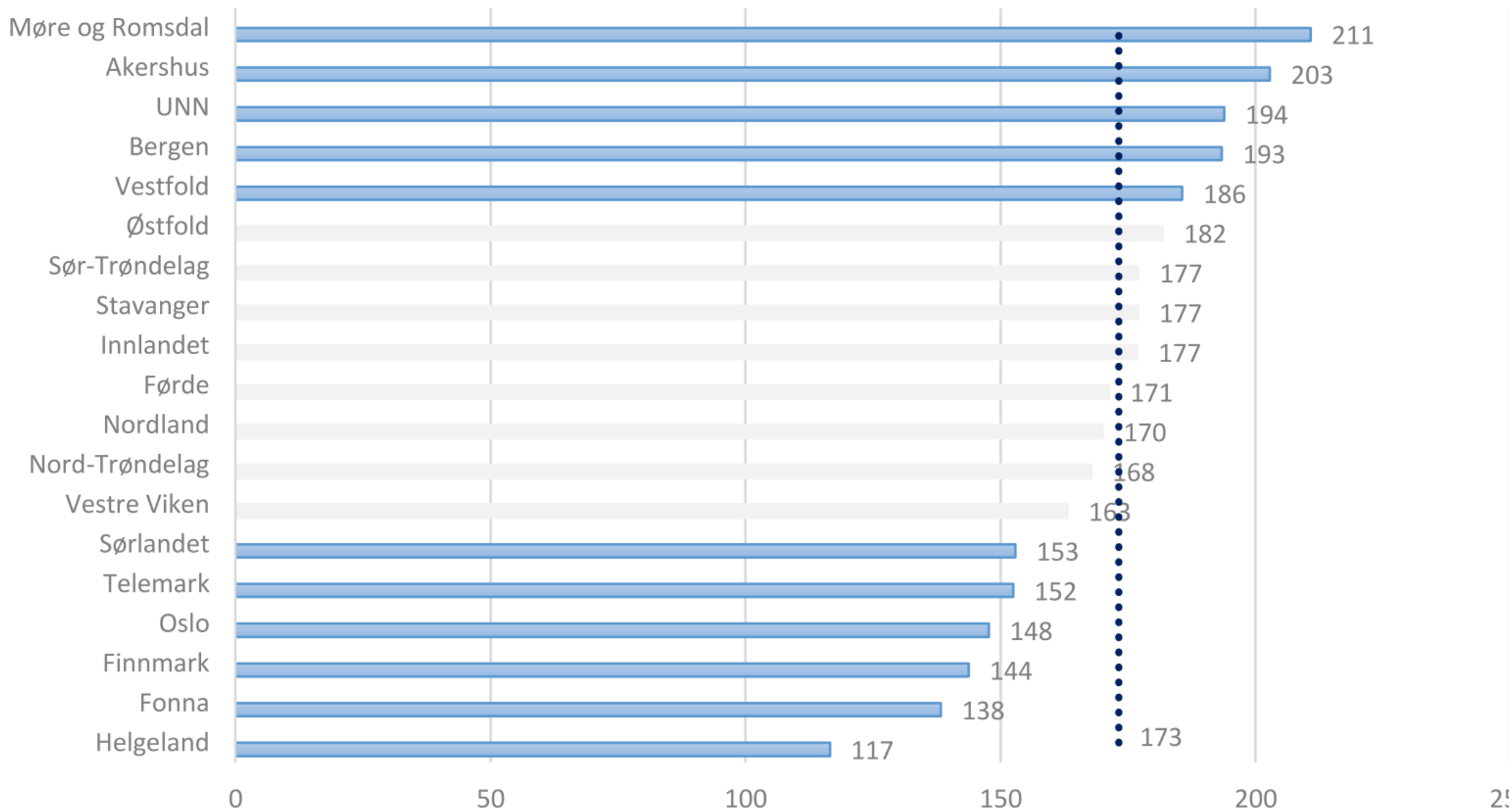


# NGF31 DEBRIDEMENT

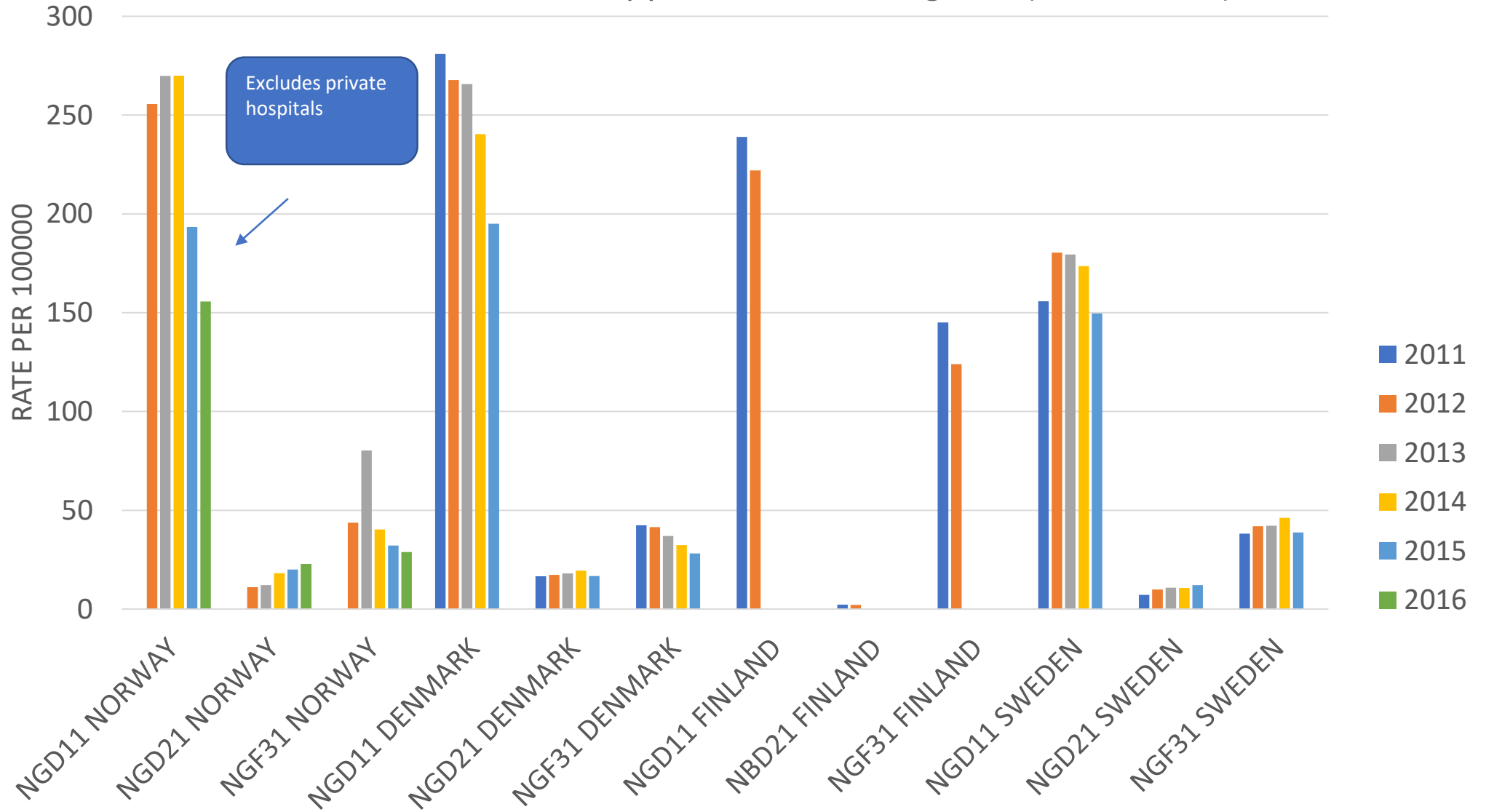


# Muskel/skjelett-undersøkelser

Vedlegg 13 **MR-undersøkelser av kne**. Kjønn- og aldersjusterte forbruksrater per 10 000 innbygger per boområde. Gjennomsnitt for perioden 2012–2015.

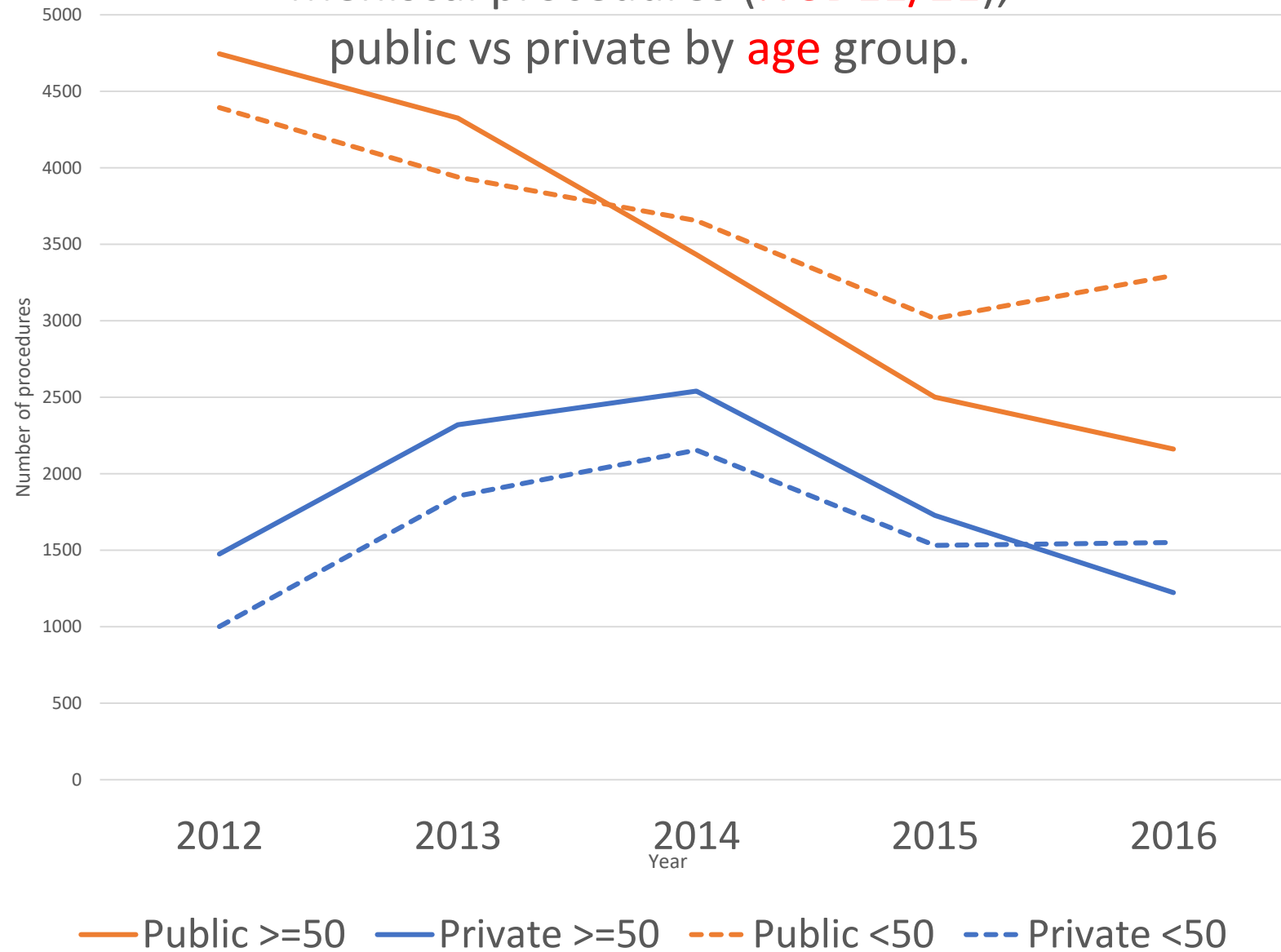


# Annual rates of knee arthroscopy in Scandinavia. Age>10 (Finland>=18)

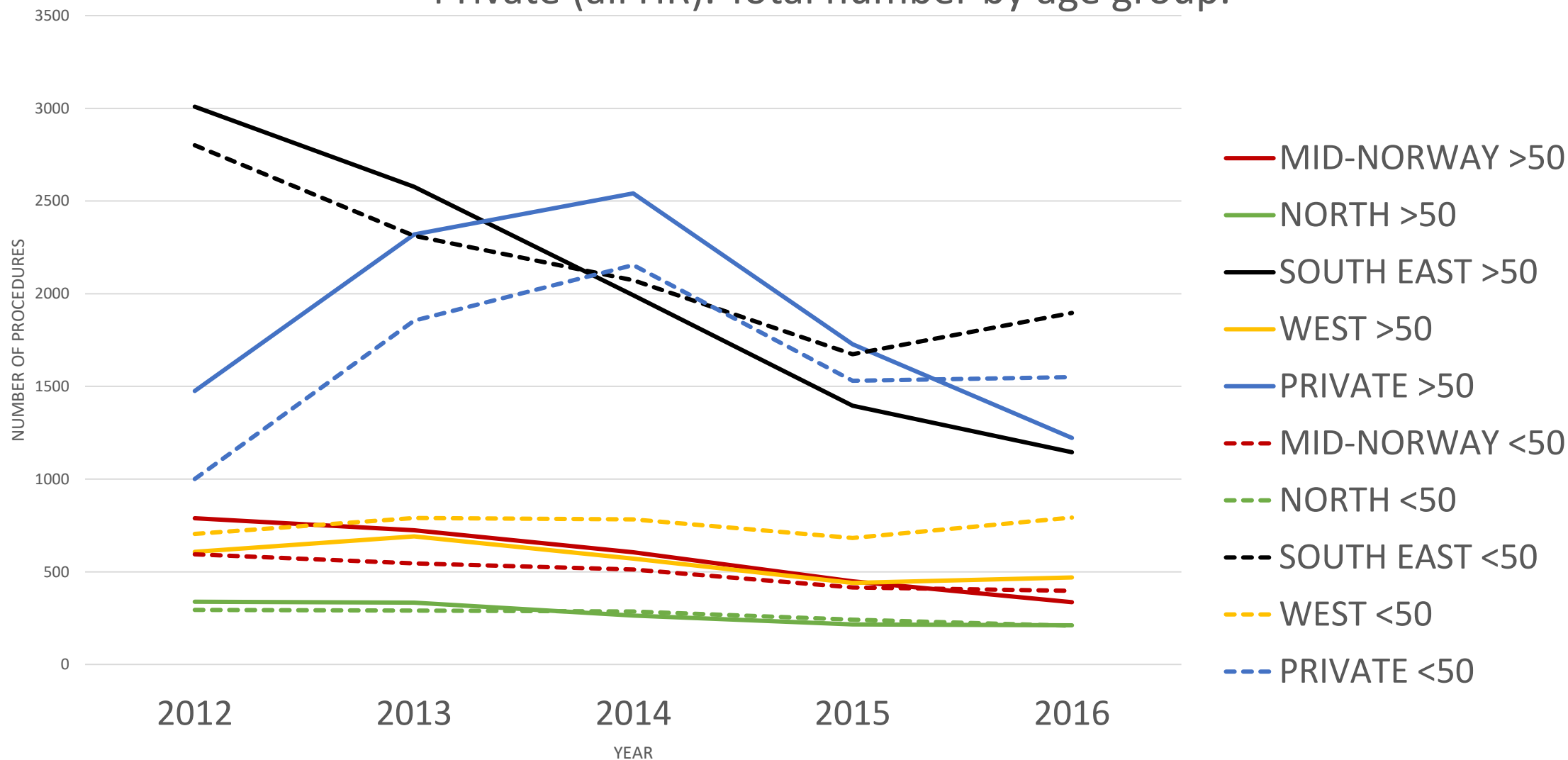


NGD11=meniscal resection. NGD21=meniscal repair. NGF31=debridement

Meniscal procedures (NGD11/21),  
public vs private by age group.



Meniscal procedures (NGD11+21). Health region of residence, public.  
Private (all HR). Total number by age group.



# REGULATORY TIMELINES SOUTH-EAST HR

- 2012:
  - South-East HR meeting with medical directors (CMO'S) from all hospitals in regional health trust: information about **overuse** of orthopedic surgery with special focus on arthroscopic **shoulder** and **knee** procedures
  - New contracts with private providers – higher volume of arthroscopic surgery based on recommendation from orthopedic surgeons and waiting lists
- 2013: contracts for period Jan -14 to Dec -15



# TIMELINE (CONT.)

2015:

- **January:** health atlas day surgery published; significant variation in utilization rates for arthroscopic knee and shoulder surgery
- **Spring:** new analyses show that 70 – 80 % of knee surgery is performed in patients > 50 years of age.
- **June:** Results presented to orthopedic surgeons from public and private hospitals in the region: agree rates too high (esp.>age 50)
- **August:** new tender requirements, public and private:
  1. adequate **physiotherapy**
  2. max 20% **>age 50**