

Swiss Health Services Research in Orthopedics: Gaining cost-utility data about common procedures in routine care.

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Background

Orthopedic procedures can have a relevant impact on quality of life (QOL) as well as on return to work rates of patients and are often associated with high medical costs. For procedures in the upper extremities, the impact on patient benefits and costs in Swiss routine care is poorly documented.

Objective

To assess the impact on quality of life and costs in patients undergoing one of three common orthopedic procedures in Swiss routine care.

Methods

A prospective before-after-surgery comparison is being implemented in 3 separate cohorts of 150 patients receiving one of the following surgical interventions:

- Arthroscopic rotator cuff tear repair
- Arthroplasty for shoulder osteoarthritis
- Trapeziectomy for thumb osteoarthritis

QOL-data (EQ-5D-5L) and clinical data (e.g. shoulder function, patient-reported outcome, complications) will be opposed to health-related costs (direct medical costs and productivity losses). We cover the whole cycle of care (inpatient and outpatient treatment) 1 year before and up to 2 years after the procedure. Primary outcome is post-operative change in QOL (utilities), as well as incremental cost utility ratio (gain in Quality Adjusted Life Years [QALYs] from one year before surgery to 1 – 2 years follow-up compared to incremental costs).

Intermediate Results

The first 139 patients undergoing an arthroscopic rotator cuff tear repair were analyzed up to the 6-month-follow-up. Results are presented in tables 1-2 and figures 1-4. Median total direct medical costs available for the first 8 patients are 4'873 CHF (range: 3'125 to 15'221 CHF) in the year before the procedure.

Age (median, range)	58 (37.5;73.4)
Gender (n, %)	f: 56 (40%), m: 83 (60%)
Problem caused by trauma (n, %)	94 (69%)

Table 1: Description of study population

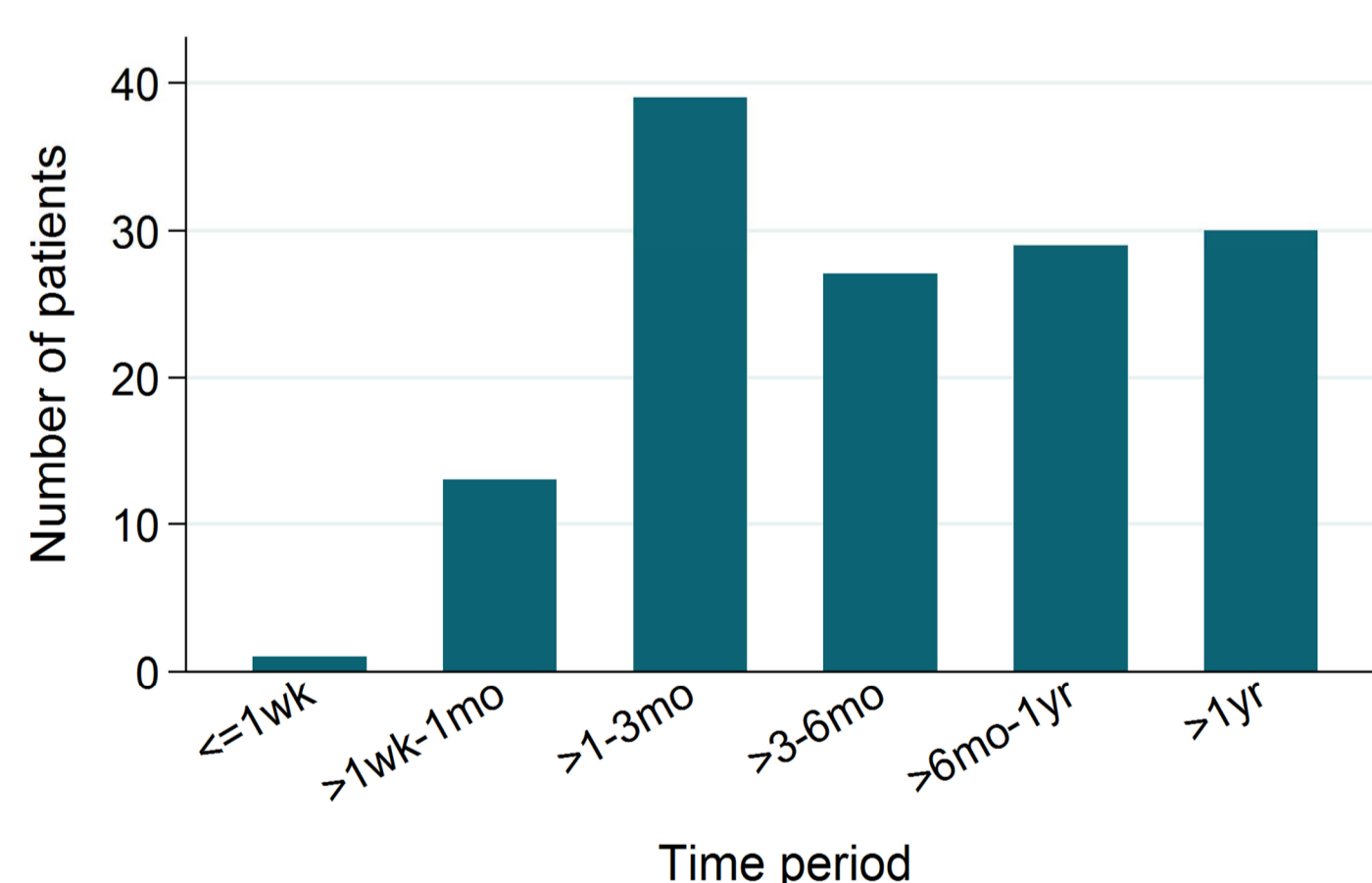


Figure 1: Duration of symptoms before study enrollment

Infiltration of steroids (n,%)	49 (35%)
Oral medication (n,%)	106 (76%)
Physical therapy (n,%)	66 (47%)
Reduction of activity (n,%)	15 (11%)

Table 2: Non-operative treatments during the year before surgery

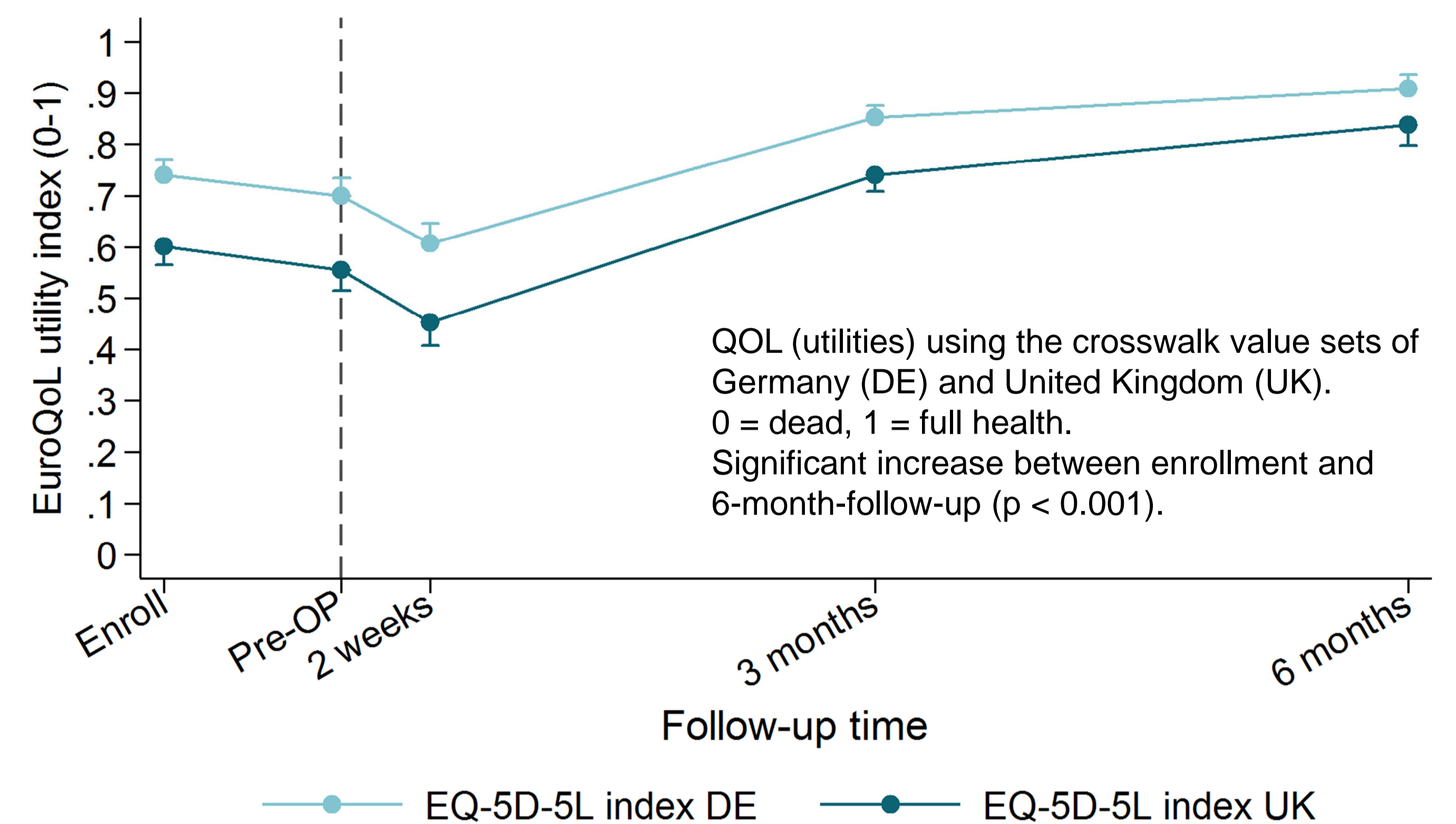


Figure 2: Change in QOL (expressed as EQ-5D-derived utilities 0-1)

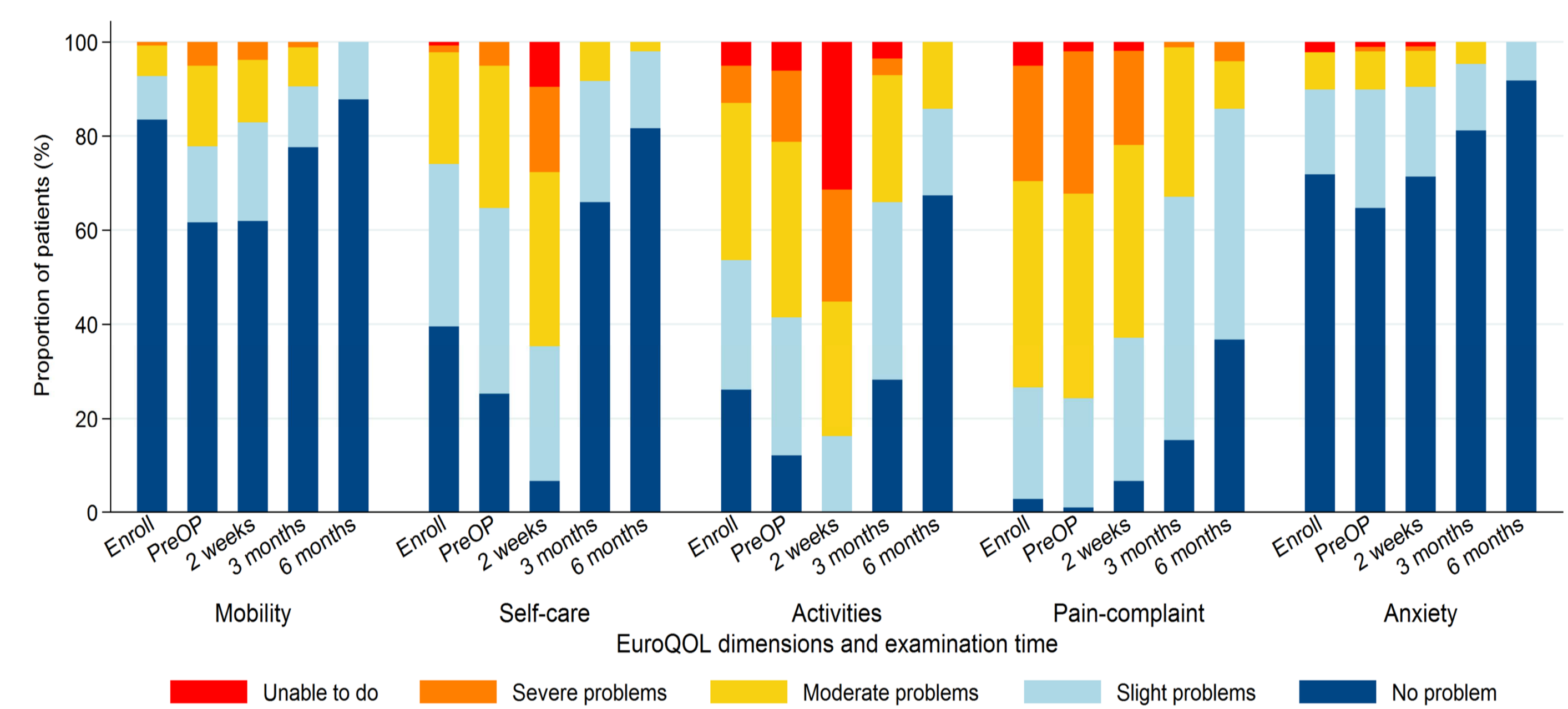


Figure 3: The five EQ-5D-dimensions compared over time

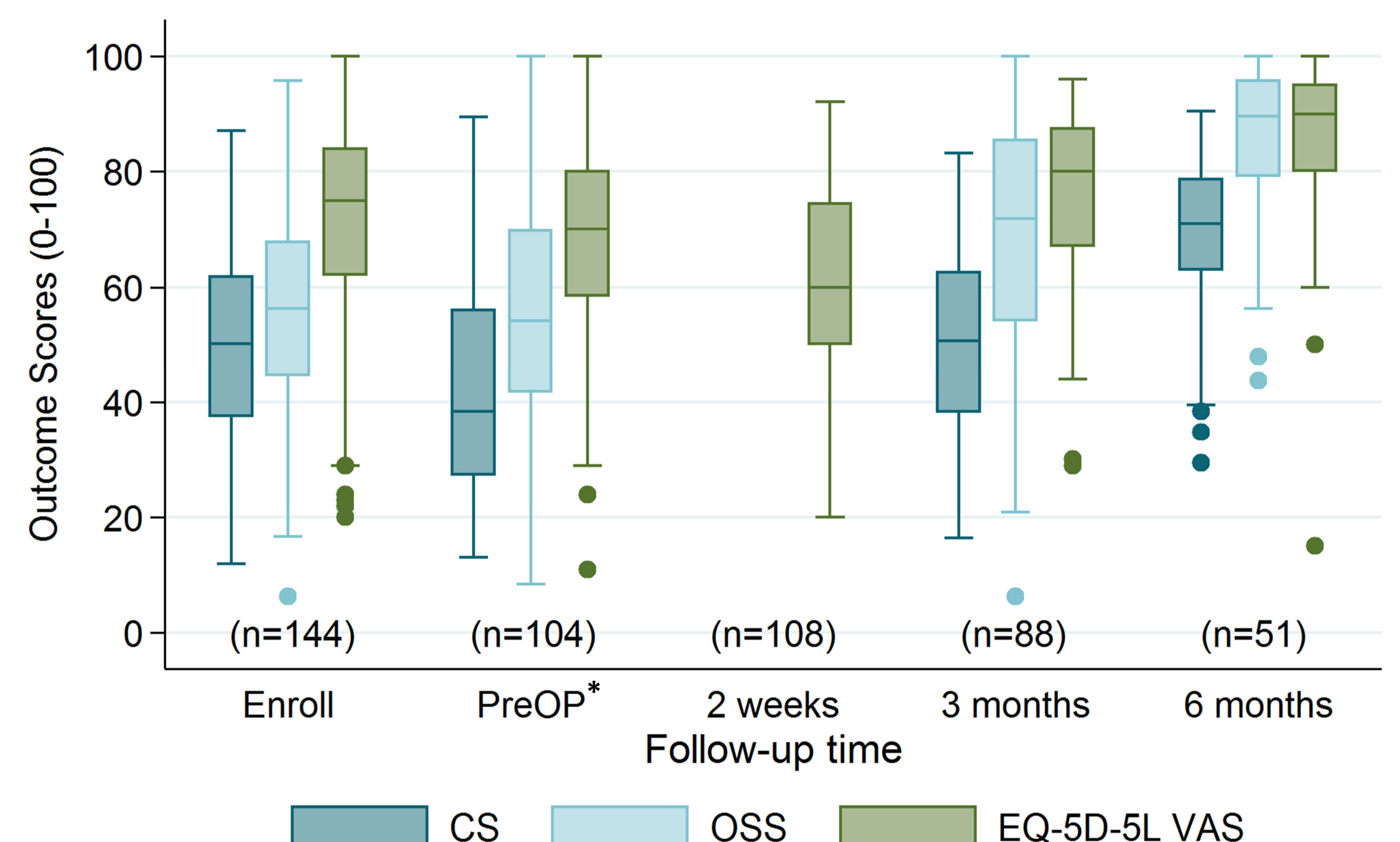


Figure 4: Change of functional outcome and general health over time. Functional scores: CS = Constant Score; OSS = Oxford Shoulder Score; General health: EQ-5D-5L VAS; each score calibrated from 0 (lowest) to 100 (highest). The scores differ significantly between enrollment (Enroll) and 6-month-follow-up ($p < 0.001$). *PreOP-examination was repeated, if the time after enrollment exceeded one week.

Conclusion

First data show a significant improvement of QOL and shoulder function in patients after receiving arthroscopic rotator cuff tear repair. We will compare these results with cost data and analyze the cost-utility and cost-effectiveness ratios. Setup of a data base for collection of routine health-economic data is feasible. Gained information will provide important insights for Swiss health services research into routine care of patients with common orthopedic procedures.

Reference

5Q-5D-5L; Use, value set, cross value set: www.euroqol.org

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