

PROMoting Quality

PROMoting Quality - A Cross-Sector implementation of patient-reported outcomes to improve care quality in elective orthopaedic surgery

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Introduction

With an ageing population, hip and knee replacements are two of the most common inpatient surgeries in Germany. Between 2006 and 2016, the number of surgeries increased by 17% and 38% respectfully [1] and these numbers are expected to rise in line with life expectancy and implantations at earlier ages.

Recent guidelines from German public health agencies clearly state the need for a more cost-efficient, patient-centred care delivery, however, recommended criteria focus solely on clinical and administrative outcomes. Standardised quality control of treatment success from the patient’s vantage point is not in use. This results in the delayed detection of complications, impacting on patients’ quality of life (QoL) and generating additional costs.

Methods

The goal of PROMoting Quality is to investigate the use of Patient-Reported Outcome Measures (PROMs) for cost-effectiveness and the early detection of post-surgical complications.

Design

Multi-centre, randomised intervention and economic evaluation.
10,000 adult patients with elective hip or knee replacements recruited over a 1 year period
9 German hospitals
Randomised into an intervention and a control group.

Endpoints

The primary endpoint of the study is the cost-effectiveness (patient outcome vs. costs ratio).
The secondary endpoints are outcomes measured in the **ICHOM Hip & Knee Osteoarthritis Standard Set** (incl. HOOS-PS / KOOS-PS Scores, EQ-5D-3L, pain and clinical indicators such as postoperative mortality, readmission and reoperation rates).

In the control group, PROMs are collected upon patient admission and one-year post-surgery. Whilst, in the intervention group, PROMs are collected upon patient admission, after discharge and at regular intervals (1, 3, 6, 12 months).

The regular capture of PROMs in the intervention group aims to facilitate the detection of complications and prompt early intervention. PROMs are monitored by a study nurse who will notify the wider care team with unexpected results. Care teams will then decide if further investigation or intervention is required.

Hypothesis

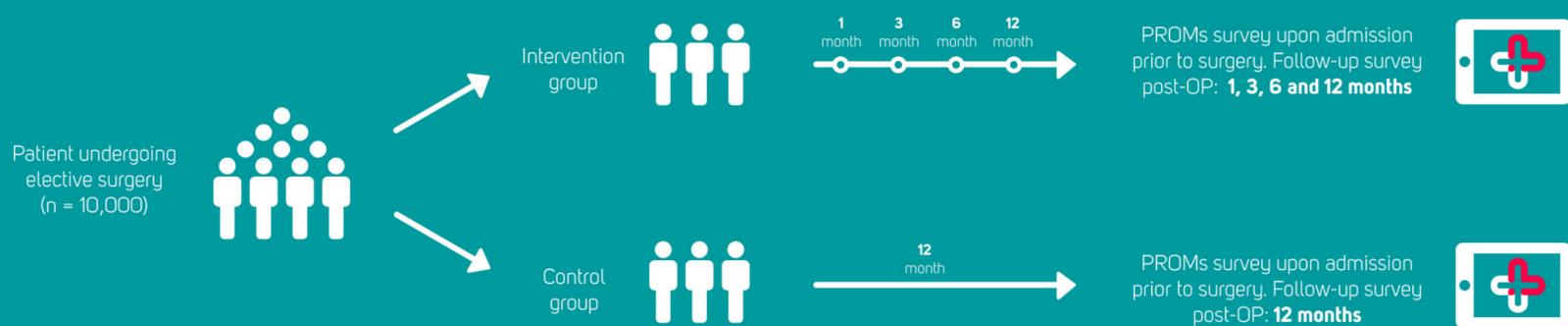
The cost- effectiveness ratio will be higher in the intervention group due to early detection of complications and subsequent management.

The cost of care delivery for each patient over the study will be estimated using the associated statutory health insurance routine data.

Results

Patient enrollment began in October 2019 and will be completed at the end of 2020. So far, 8000 patients have been enrolled and have completed the baseline questionnaire. To date, 7000 patients have responded to sent follow-up PROMs questionnaires (1 and 3 months post-admission). Based on estimated complication trigger thresholds, more than 1000 patients thus far have received an interventional treatment due to postoperative complications.

Final results are expected in 2022.



Challenges

One of the key challenges of this project is the collection, sharing and interpretation of a high-volume of patient reported data. Patient engagement needs to be sustained over a long period of time so that PROMs are collected at regular intervals and so actionable information can be shared in real-time with care teams. In order to address those challenges, PROMs are collected using a digital solution either in-clinic using a tablet or at-home by automated email.

Results are displayed immediately on the clinic interface with results outside of expected range highlighted. **So far, the follow-up collection rate is approximately 83%.**

Conclusions

By taking part in the PROMoting Quality Project, leading endoprosthesis centres and health insurance companies are delving deeper into the systematic collection of PROMs in line with the principles of value-based healthcare. By focusing on the patient quality of life, the project permits the identification and dissemination of best practices to make better use of resources. This study will estimate the potential impact of PROMs at a national level and prepare for a wider roll-out across the territory and additional medical areas.

[1] Kuklinski, D., Oschmann, L., Pross, C., Busse, R., & Geissler, A. (2020). The use of digitally collected patient-reported outcome measures for newly operated patients with total knee and hip replacements to improve post-treatment recovery: study protocol for a randomized controlled trial. *Trials*, 21(1), 322.