

PROMoting Quality - Preliminary Results of a Cross-Sector Implementation of Patient-Reported Outcomes to Improve Quality of Care for Knee and Hip Replacements

PROMoting Quality - Preliminary Results of a Cross-Sector Implementation of Patient-Reported Outcomes to Improve Quality of Care for Knee and Hip Replacements

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Introduction

With an ageing population, hip and knee replacements are two of the most common surgical interventions in Germany. Between 2016 and 2018, the number of surgeries increased by 17% and 38% respectively [1] and these numbers are expected to rise in line with the increasing and implications of our ageing population.

Recent guidelines from German public health agencies clearly state the need for a more cost-efficient, patient-centred care delivery. However, implementation of such a change is a challenge.

Objectives and Hypothesis

PROMoting Quality investigates the potential of integrating the patient perspective via digital Patient-Reported Outcome Measures (PROMs) into the patient pathway after knee and hip replacement. As an initiative of the governmental funded "Innovationsallianz", the goal of the study is to transfer this study design into German standard care.

We expect the cost-effectiveness ratio to be higher in the intervention group due to early detection of post-surgical complications and subsequent management.

The cost of care delivery for each patient over the study will be estimated using the associated study day health resource use data.

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

PROMoting Quality is a two-arm randomised controlled study. Adult patients with elective hip or knee replacement from seven German hospitals are digitally accompanied from hospital admission to 12 months after discharge by regular PROMs questionnaires.

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

Algorithm-based thresholds alert study assistants, clinical patients and primary care physicians to investigate and, if needed, adjust the post-operative process [2].

Endpoints

The primary endpoint of the study is the cost-effectiveness (patient outcomes over cost ratio).

The secondary endpoints are measures measured by the ICHOM Hip & Knee Characteristic Standard Rat (incl. HGS, PFS, KOS, PFS, HOS, EQ-5D-5L, pain and clinical indicators such as postoperative mobility, medication and complication rates).

Results

*Data collection was completed in December 2020 with a sample size of n=808.

To date, patients have provided 3,000 responses to follow-up questionnaires (1, 3, and 6 months post-discharge), resulting in a return rate of 80%.

Over the 6-month follow-up period, 15% of patients in the intervention group have triggered algorithm-based alerts. Consequently 30% of patients have engaged in conversations regarding their PROMs with their post-operative physicians. Additionally, numerous patients have received support from nursing.

Conclusion

By being part of the PROMoting Quality project, leading orthopaedic centers and health insurance companies are helping to create the systematic collection of PROMs in line with the principles of value-based healthcare.

By focusing on the patients' health-related quality of life, the project generates the identification and dissemination of best practices to make better use of resources.

The preliminary results based on excellent patient engagement rates indicate that PROMoting Quality can act as a catalyst for using PROMs as an observational and quality measurement tool in standard care.

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COOPERATION PARTNERS

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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% respectively [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.

OBJECTIVES AND HYPOTHESIS

PROMoting Quality investigates the potential of integrating the patient perspective via digital Patient-Reported Outcome Measures (PROMs) into the patient pathway after knee and hip replacements. As an initiative of the government funded “Innovationsfonds”, the goal of the study is to transfer the study design into German standard care.

We expect the cost-effectiveness ratio to be higher in the intervention group due to early detection of postsurgical 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.

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 postsurgical complications.

Design:

PROMoting Quality is a two-arm multicenter randomized controlled trial. Adult patients with elective hip or knee replacement from nine German hospitals are digitally accompanied from hospital admission to 12 months after discharge by regular PROMs questionnaires.

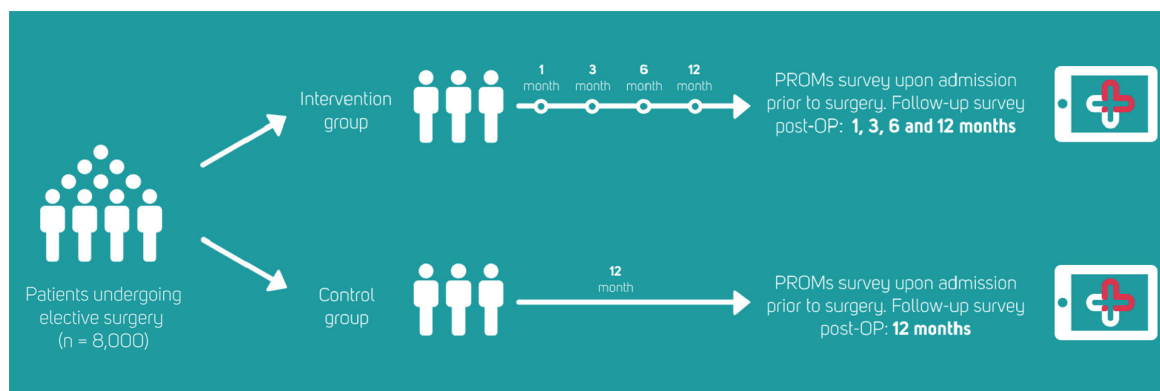
In the control group, PROMs are collected upon patient admission and one-year post-surgery. In the intervention group, PROMs are collected upon patient admission, after discharge and at regular intervals (1,3,6,12 months)

Algorithm-based thresholds alert study assistants, should patients not recover in line with expected recovery. The study assistants contact patients and their physicians to investigate and, if needed, adjust the post-treatment protocol.[1]

Endpoints:

The primary endpoint of the study is the cost-effectiveness (patient outcome over cost 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).



RESULTS

Patient enrollment was completed in December 2020 with a sample size of >8,000.

To date, patients have provided 9,000 responses to follow-up questionnaires (1, 3, and 6 months post-discharge), resulting in a return rate of 85%.

Depending on follow-up month, 15 - 30% of patients in the intervention group have triggered algorithm-based alerts. Concurrently 30% of patients have engaged in conversations regarding their PROMs with their post-treatment physicians.

Additionally, surveys among study assistants report time-saving and robust digital workflows with high acceptance rates of PROM-based interventions among physicians involved.

CONCLUSION

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 patients' health-related quality of life, the project permits the identification and dissemination of best practices to make better use of resources.

The preliminary results based on excellent patient engagement rates indicate that PROMoting Quality can set a blueprint for using PROMs as an intervention and quality measurement tool in standard care.

[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.

DISCLOSURES

Ethics ☐

The study was approved primarily by the Charité's Ethic Committee, Berlin (EA4/169/19). The other responsible ethical review committees of participating hospitals (Medical Chamber Hamburg, Medical Chamber Schleswig-Holstein, Hannover Medical School, Friedrich-Schiller University Jena, and Medical Chamber Brandenburg) agreed with the decision. German Clinical Trials Register (DRKS) trial number: DRKS00019916. ☐

Conflicts of interest

The research has been funded by the Innovation Funds of the German Federal Joint Committee (Gemeinsamer Bundesausschuss - G-BA). Subgroup: "Care models with comprehensive and measurable results and process responsibility". Funding period: 01.04.2019 - 31.03.2023. All authors of this abstract are employed by organisations who have received funding to carry out this project.

ABSTRACT

PROMoting Quality – Preliminary results of a cross-sector implementation of patient-reported outcomes to improve quality of care for knee and hip replacements

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Objectives

PROMoting Quality investigates the potential of integrating the patient perspective via digital Patient-Reported Outcome Measures (PROMs) into the patient pathway after knee and hip replacements. Early detection of adverse recovery pathways are expected to yield cost-efficient improvements of care quality. As an initiative of the government funded “Innovationsfonds”, the goal of the study is to transfer the study design into German standard care. □

Methods

PROMoting Quality is a two-arm multicenter randomized controlled trial. Patients from nine German hospitals are digitally accompanied from hospital admission to 12 months after discharge by regular PROM questionnaires (e.g., EQ-5D-5L, HOOS-PS, KOOS-PS). Algorithm-based thresholds alert study assistants, should patients not recover in line with expected recovery. The study assistants contact patients and their physicians to investigate and, if needed, adjust the post-treatment protocol [1]. Two major insurers will provide claims data at patient level to evaluate cost-effectiveness.

Preliminary results

Patient enrollment was completed in December 2020 with a sample size of >8,000. To date, patients have provided 9,000 responses to follow-up questionnaires (1, 3, and 6 months post-discharge), resulting in a return rate of 85%. Depending on follow-up month, 15 - 30% of patients in the intervention group have triggered alerts. Concurrently 30% of patients have engaged in conversations regarding their PROMs with their post-treatment physicians. Additionally, surveys among study assistants report time-saving and robust digital workflows with high acceptance rates of PROM-based interventions among physicians involved.

Discussion

The study allows participating hospitals and insurers to delve deeper into the systematic collection of PROMs in line with the principles of value-based healthcare. Preliminary results based on excellent patient engagement rates indicate that PROMoting Quality can set a blueprint for using PROMs as an intervention and quality measurement tool in standard care. □

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[1] Kuklinski, D., Oschmann, L., Pross, C. et al. 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, 322 (2020). <https://doi.org/10.1186/s13063-020-04252-y>