

# CLAHRCBITE

Brokering Innovation Through Evidence

**Can Patient Reported Outcomes Measures (PROMs) be used in emergency admissions?  
A cohort study exploring agreement of retrospective and contemporaneous PROMs  
with from hip and knee replacement patients in NHS hospitals.**



**Emergency admissions account for nearly 40% of hospital admissions and are an area of increasing demand. This is also an area where the NHS knows least about;**

- **the quality of patient outcomes,**
- **whether resources are being used effectively,**
- **and whether there are unexpected variation between different providers.**

There is also growing acceptance of the importance of patients' views when evaluating interventions and assessing the quality of services. This means that it is necessary to devise ways in which accurate Patient Reported Outcome Measures (PROMs) – which asks patients for their views on their health (on their functional status, and their health related quality of life) – can be obtained.

By collecting PROMs (patients' views of their health) at different time points (e.g. before and after hospital care) can provide information on the effectiveness of their treatment, an important component in determining the quality of healthcare. Development to widen use of PROMs helps to focus the health service towards

patient-centred care. The challenge of using PROMs in emergency admissions is how we capture patients' view of their health before their emergency episode, and whether it is feasible to collect PROMs in these acute settings.

The aim of this project is to investigate the use of retrospective PROMs to identify a reliable method that would allow the extension of PROMs collection into this important area of health care. We conducted a study on the reliability of retrospective PROMs by investigating the relationship between retrospectively and contemporaneously collected PROMs and explored the influence on the relationship of patients' age and socio-economic status in orthopaedic patients.

## What was the aim of the project?

Asking patients' for their views of their health is becoming a key and increasingly important focus in the NHS. It is also helps doctors and hospital providers know whether the care they have given helps patients recover, and to measure the effectiveness of care provided.

Emergency admissions account for nearly 40% of all NHS hospital admissions, making news headlines repeatedly due to their increasing rates and rising costs to the service. It is an area where the NHS knows least about the quality of care in terms of patients' views of their health and outcomes. PROMs are not currently used in this area of healthcare because the methods for doing so pose a challenge, for example in how we can record patients' views of their health before their admission, and whether it is feasible to collect PROMs in acute care settings.

This project investigates the possibility of extending PROMs collection into this area to allow better assessment of health services, and therefore guide further advances in understanding the quality of our health services to patients.

## What we did

Patients undergoing hip or knee replacement surgery in four hospitals who had completed a pre-operative questionnaire were invited to recall their pre-operative health status shortly after surgery. The questionnaires included a i) disease-specific (Oxford Hip Score; Oxford Knee Score) and ii) generic (EQ-5D-3L) PROM. Levels of association (the intra-class correlation coefficient consistency (ICC (C,1)) and agreement (ICC absolute agreement) between contemporary and retrospective reports were investigated. Systematic differences were explored using Bland-Altman Plots (which helps us see patterns of differences visually). Linear regression analysis was conducted to explore whether retrospective can predict contemporary PROM scores.

## What we found

520 patients completed a retrospective questionnaire, 276 knee replacements and 244 hip replacements. We have successfully linked retrospective and contemporaneous questionnaires for 484 (93%) patients.

- Retrospective assessment of pre-operative health status was similar to contemporaneous reports. Absolute agreement and consistency were strong and very strong shown by the intra-class correlation coefficients.
- Agreement for disease-specific PROMs (ICC 0.82) was stronger than for the generic PROM (ICC 0.62).
- The strength of association and of agreement was consistent regardless of the severity of a patient's primary condition.
- Patients' age and socioeconomic status had no significant influence on the relationship.
- Mean retrospective PROMs for groups or populations of patients can reliably predict what mean contemporary reports of PROMs would have been.

## What next?

While this study has demonstrated that that there is strong agreement between contemporary and retrospective PROMs and that it is feasible of collecting retrospective PROMs in patients who are recovering from an elective procedure, research is now needed to determine their feasibility for patients admitted to hospitals for emergency conditions and treatment. The latter have experienced an unexpected, sudden episode of illness and may still be unwell some days later. Whether collection of retrospective PROMs is feasible needs to be investigated.

## Find out more

Kwong, E., Neuburger, J. & Black, N.

**Agreement between retrospectively and contemporaneously collected patient-reported outcome measures (PROMs) in hip and knee replacement patients.**

Qual Life Res (2018) 27: 1845 <https://doi.org/10.1007/s11136-018-1823-6>

## Further reading

Patient Reported Outcome Measures (PROMs) – NHS England website  
[www.england.nhs.uk/statistics/statistical-work-areas/proms/](http://www.england.nhs.uk/statistics/statistical-work-areas/proms/)

Black, N.

**Patient reported outcome measures could help transform healthcare**

BMJ 2013; 346 doi:

<https://doi.org/10.1136/bmj.f167>

London School of Hygiene & Tropical Medicine PROMS research homepage

[www.lshtm.ac.uk/research/centres-projects-groups/proms](http://www.lshtm.ac.uk/research/centres-projects-groups/proms)