

CLAHRCBITE

Brokering Innovation Through Evidence

**Using patient reported outcome measures (PROMs)
for primary percutaneous coronary intervention**



Routine measurement of the outcome of myocardial infarction (commonly known as “heart attack”) is usually limited to immediate morbidity and mortality.

Our aim was to determine the response to patient reported outcome measures (PROMs) – which asks patients for their views on their health (such as their functional status, or their health related quality of life) and can be used to assess the effectiveness of care delivered to NHS patients, at three months later, identify response bias and explore the feasibility of comparing outcomes with their recalled view of their prior health state.

While there have been improvements in the management of cardiovascular disease, significant variation still exists in survival following acute myocardial infarction (AMI) between hospitals within England. Morbidity and mortality outcomes can be supplemented by Patient Reported Outcomes Measures (PROMs), but have not been used widely in routine care.

The feasibility of recruiting AMI patients to recall their pre-admission health status has been demonstrated, their likelihood of responding to a post-discharge mailed PROM questionnaire at three months is unknown.

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 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 also 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.

The feasibility of recruiting patients in hospital with a heart attack to recall their pre-admission health status has been successful; their likelihood of responding to a post-discharge mailed PROM questionnaire at three months is unknown.

What we did

Patients admitted with STEMI to five PCI centres were invited to complete a retrospective questionnaire containing the EQ-5D-3L and Short Form Seattle Angina Questionnaire (SAQ-7), an established instrument that measures patient-reported symptoms, function and quality of life for patients with coronary artery disease. Response rate for a 3-month mailed follow-up questionnaire and potential response biases were assessed. Patients' outcomes were compared with their baseline using statistical tests for differences such as the chi-square and paired t-test.

What we found

Of 392 patients contacted, 260 (66.3%) responded. Responders were more likely to be older, female, more affluent, and have a higher EQ-5D at baseline. Three months after admission, patients' SAQ-7 and angina symptom subscale returned to their baseline score. The physical limitation subscale score was worse than at baseline (79.9 v 73.2, $p=0.002$), whereas the QoL subscale was better (66.6 v 73.9;

$p<0.001$). The EQ-5D Index score was similar at 3 months and baseline (0.82 v 0.79). Evidence of bias arising from responders being in better general health at baseline needs further investigation and, if confirmed, needs to be taken into account in interpreting PROMs data.

We found that:

- PROMs can be successfully collected in patients three months after STEMI with a response rate of 66.3% using mailed follow-up.
- Most patients regained their prior level of cardiac health as measured by the SAQ-7. The physical limitation subscale score was worse than at baseline, whereas, the QoL subscale was better.

What next?

This study shows that it is feasible to collect retrospective and follow-up PROMs from patients admitted as emergencies with STEMI in NHS hospitals.

Further research is warranted to explore longer-term outcomes and compare these with patient risk profiles, clinical characteristics and recovery trajectories.

Larger studies are needed to collect PROMs in patients admitted with AMI and other emergency acute coronary syndrome patients to enable sub-group analysis of patient and clinical characteristics, to investigate further any response bias and to develop risk adjustment models to enable comparisons of providers.

Find out more

Kwong E, Neuburger J, Petersen S, Black N.

Using patient-reported outcome measures (PROMs) for primary percutaneous coronary intervention.

BMJ Open Heart (in press)

<http://dx.doi.org/10.1136/openhrt-2018-000920>

Further reading

Kwong, E and Black, N

Feasibility of collecting retrospective patient reported outcome measures (PROMs) in emergency hospital admissions

Journal of Patient-Reported Outcomes 2018 2:54

<https://doi.org/10.1186/s41687-018-0077-y>

London School of Hygiene & Tropical Medicine PROMS research homepage

www.lshtm.ac.uk/research/centres-projects-groups/proms

Short Form Seattle Angina Questionnaire

www.ncbi.nlm.nih.gov/pmc/articles/PMC4282595/figure/F1