

# Novel Service Model to increase uptake and retention of cardiac rehabilitation at Buckinghamshire Healthcare NHS Trust. Interim analysis.

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## Abstract

**Introduction and objectives** Effective cardiac rehabilitation (CR) programmes improve patient outcomes and are endorsed in national guidelines. Robust CR programmes can reduce cardiac readmissions up to 56%, with potential savings in excess of £30 million per year.

The 2013 NACR reported significant variation in uptake across regions with scope for general improvement highlighted. In partnership with BHT, Janssen Healthcare Innovation supported a patient-centric service redesign to improve care pathways to optimise recruitment and retention. Compliance with these new pathways was enabled through technology and tools that empowered patients to play an active role in their own care.

**Materials and methods** This is the first assessment of patients enrolled into the programme, with completion of the evaluation expected in March 2015. This service evaluation consists of patients hospitalised for cardiac events ('index event') before and after implementation of the service change, which commenced

in October 2013. Data was collected on cardiac related re-admissions for up to 1 year, patient pathway resource utilisation, uptake, compliance, patient performance, and staff and patient satisfaction

**Results** Preliminary comparisons between the pre and post service redesign are shown. Pre-implementation (based on 2012 data); 817 patients were referred for CR, of which 465 (57%) enrolled and 186 (40%) completed 3 or more exercise sessions. In the Post-implementation phase (based on 3 months of data) 196 patients were referred for CR, of which 173 (88%) were eligible and 152 (88%) were enrolled. As the study is still ongoing we are awaiting completion rates.

**Conclusion** Implementation of this service redesign to improve CR in BHT has shown better identification of patients and increased uptake, with an overall improvement of patient satisfaction. The initial results in the service redesign are promising and once the study has been completed the full improvement can be evaluated to the service, local health budget and patient outcomes.

## Introduction

- Coronary Heart Disease is the most common cause of disability and premature death causing up to 88,000 deaths per year<sup>1</sup>, with UK annual expenditure reaching £2 billion per year on healthcare costs on treating coronary heart disease alone<sup>2</sup>
- Cardiac Rehabilitation (CR) is a professionally supervised, menu-based programme that aims to reduce patient's cardiac risk and promote their return to a normal life. A robust CR service can reduce cardiac readmissions by up to 56%. In addition, analysis suggested improvements in the service nationally could release over £30 million per year in savings which could be reinvested<sup>3</sup>
- In partnership with Buckinghamshire Healthcare NHS Trust, Janssen Healthcare Innovation supported a patient-centric service redesign to improve care pathways to optimise recruitment and retention.

## Objectives of the study

### Primary objective

- To evaluate the impact on 1 year re-admission rates of a novel CR model for patients admitted with heart failure, coronary artery disease or for cardiac revascularisation surgery.

### Secondary objectives

- To evaluate the impact of a novel CR model on subsequent cardiac-related events leading to admission within 30 days and 6 months of discharge.
- Evaluate the change in uptake, compliance and patient performance measures associated with cardiac rehabilitation within Buckinghamshire Healthcare NHS Trust.
- Describe patient and staff satisfaction before and after implementation of the service change.
- To describe the patient pathway-related resource use and patient throughput before and after implementation of the service change.

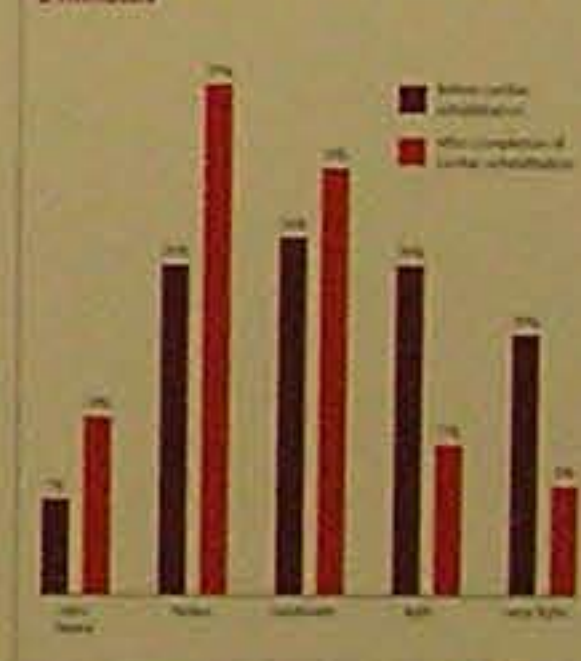
## Methods

- This is the first assessment of patients enrolled into the programme, with completion of the evaluation expected in March 2015.
- This service evaluation consists of patients hospitalised for cardiac events ('index event') before and after implementation of the service change, which commenced in October 2013.
- Data has been collected on cardiac related re-admissions for up to 1 year, patient pathway resource utilisation, uptake, compliance, patient performance, and staff and patient satisfaction.
- Implementation and delivery of this pilot study at Buckinghamshire Healthcare NHS Trust was conducted in collaboration with Janssen Healthcare innovation.

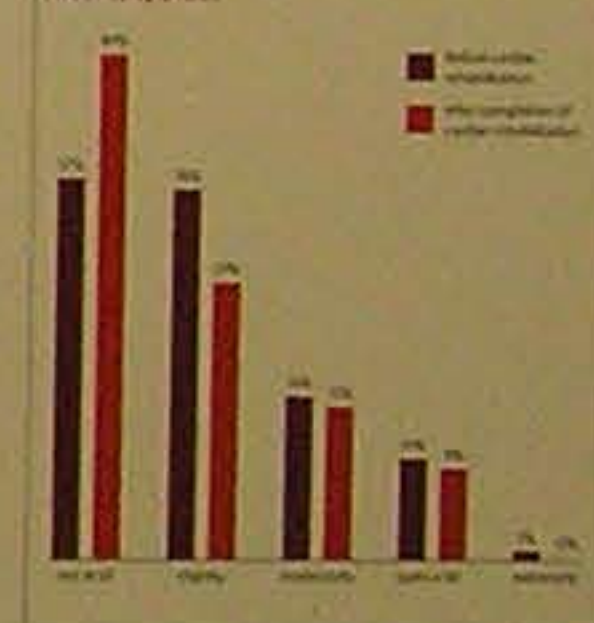
## Results

- Preliminary comparisons between the pre and post service redesign are shown:
- Pre-implementation (based on 2012 data); 817 patients were referred for CR, of which 465 (57%) enrolled and 186 (40%) completed 3 or more exercise sessions
- Post-implementation phase (based on 3 months of data) 196 patients were referred for CR, of which 173 (88%) were eligible and 152 (88%) were enrolled. As the study is still ongoing we are awaiting completion rates.
- These interim results only show quality of life measures and are based on the Dartmouth COOP scale. Data on long-term clinical outcomes will be shown in subsequent presentations.

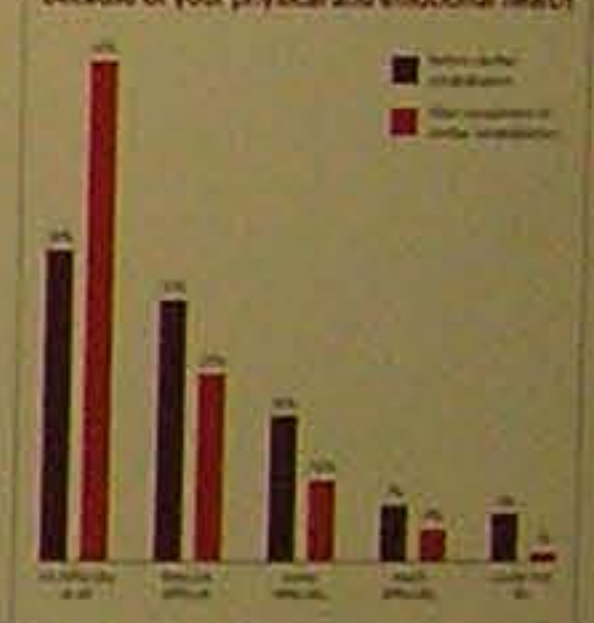
Q. During the past week what is the hardest physical activity you could do for at least 2 minutes



Q. During the past week how much have you been bothered by emotional problems such as feeling anxious, depressed, irritable or down-hearted/blue?



Q. During the past week how much difficulty have you had during your usual activities/tasks, both inside and outside the home because of your physical and emotional health?



- Redesign of the programme reduced average waiting times from cardiac event to first assessment to 40 days (mode 21 days; median 35 days). This compares favourably to the NACR national average of 55 days<sup>4</sup>

Waiting time from 'cardiac event' to first assessment



- 73% patients stated they would be extremely likely to recommend this programme to friends and family.

## Discussion

- Effective cardiac rehabilitation and support through activities can work to help patients achieve long term outcomes.
- Compliance was supported and facilitated using technology and tools that empowered patients to play an active role in their own care.
- Significant cost savings are possible through a service redesign by enabling staff to minimise non-clinical work and providing patients knowledge to take control of their care and improve outcomes.
- The collaboration between Buckinghamshire Healthcare NHS Trust and Janssen Healthcare Innovation.

## Conclusion

- Implementation of this service redesign to improve CR in Buckinghamshire Healthcare NHS Trust has shown better identification of patients and increased uptake, with an overall improvement of patient satisfaction.
- The initial results in the service redesign are promising and once the study has been completed the full improvement can be evaluated to the service, local health budget and patient outcomes.