

	Item No	
Title and abstract	1	<p>Patients with heart failure are not receiving cardiac rehabilitation: a national survey of the common barriers</p> <hr/> <p>Objective. To determine why so few patients with chronic heart failure in England, Wales, and Northern Ireland take part in cardiac rehabilitation</p> <p>Design. Two stage, postal questionnaire-based, national survey.</p> <p>Population & Setting. Stage 1: 277 cardiac rehabilitation centres that provided phase III cardiac rehabilitation in England, Wales, and Northern Ireland registered on the National Audit of Cardiac Rehabilitation register. Stage 2: 35 centres that indicated in stage 1 that they provide a separate cardiac rehabilitation programme for patients with heart failure.</p> <p>Main outcome measures. N/A.</p> <p>Results. Full data were available for 224/277 (81%) cardiac rehabilitation centres. Only 90/224 (40%) routinely offered phase 3 cardiac rehabilitation to patients with heart failure. Of these 90 centres that offered rehabilitation, 43% did so only when heart failure was secondary to myocardial infarction or revascularisation. Less than half (39%) had a specific rehabilitation programme for heart failure. Of those 134 centres not providing for patients with heart failure, 84% considered a lack of resources and 55% exclusion from commissioning contracts as the reason for not recruiting patients with heart failure. No difference was seen in the skill mix between programmes that did or did not provide rehabilitation for patients with heart failure. Overall, only 35/224 (16%) centres provided a separate rehabilitation programme for people with heart failure.</p> <hr/> <p>Introduction</p>
Background/rationale	2	<p>Heart failure is becoming more prevalent worldwide, mainly due to ageing of the population and improved survival after acute cardiac events. In the UK, about 900,000 people are living with heart failure. Strong evidence from meta-analyses shows that cardiac rehabilitation improves quality of life, reduces symptom burden, and reduces readmissions to hospital in patients with systolic heart failure. Current guidelines from the National Institute for Health and Clinical Excellence (NICE), American College of Cardiology (ACC)/American Heart Association (AHA), and European Society of Cardiology (ESC) recommend cardiac rehabilitation as an effective and safe intervention for heart failure. Despite the clear recommendations in the various guidelines, only a small minority of people affected by heart failure in the UK, and elsewhere, have participated in cardiac rehabilitation. Two main reasons may explain the suboptimal provision and uptake of this intervention in people with cardiac rehabilitation: the guidelines provide no specific details for healthcare planners about how and where these cardiac rehabilitation services would best be delivered, and healthcare staff involved in frontline cardiac rehabilitation services are unsure about the safety and benefits of cardiac rehabilitation in people with heart</p>

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Objectives	3	We aimed firstly to ascertain why such a small percentage of people with heart failure are receiving cardiac rehabilitation given that it is so widely acknowledged as beneficial and secondly to find out more about those centres that are providing a service specifically for heart failure. Our objective was to find out about the current provision of cardiac rehabilitation for patients with heart failure in England, Wales, and Northern Ireland
Methods		
Study design	4	Two stage, postal questionnaire-based, national survey.
Setting	5	England, Wales, and Northern Ireland, UK
Participants	6	Cardiac rehabilitation centres in England, Wales, and Northern Ireland registered on the National Audit of Cardiac Rehabilitation register
Variables	7	Not applicable
Data sources/ measurement	8*	Responses to two postal surveys : stage 1 and stage 2
Bias	9	Not applicable
Study size	10	277 cardiac rehabilitation centres that provided phase III cardiac rehabilitation in England, Wales, and Northern Ireland registered on the National Audit of Cardiac Rehabilitation register
Quantitative variables	11	See item 12
Statistical methods	12	We undertook frequency analyses for stages 1 and 2. We compared the results of the stage 1 questionnaire between centres that did provide separate cardiac rehabilitation programmes for HF and those that did not. We made comparisons using the test for binary data and Mann-Whitney U tests for ordinal data. We analysed data with SPSS software (version 19).
Results		
Participants	13*	Responses to all questions from the stage 1(17 items) and stage 2(44 items) national questionnaire received between October 2010 to March 2011 were analysed. This covers 81% of cardiac rehabilitation centres in England, Wales and Northern Ireland on the NACR register. The 2010 NACR report states that 60 477 patients participated in cardiac rehabilitation across the UK.
Descriptive data	14*	This data was collected only as part of the two questionnaires included as appendices to the main paper
Outcome data	15*	Not applicable

Main results	16	Full data were available for 224/277 (81%) cardiac rehabilitation centres. Only 90/224 (40%) routinely offered phase 3 cardiac rehabilitation to patients with heart failure. Of these 90 centres that offered rehabilitation, 43% did so only when heart failure was secondary to myocardial infarction or revascularisation. Less than half (39%) had a specific rehabilitation programme for heart failure. Of those 134 centres not providing for patients with heart failure, 84% considered a lack of resources and 55% exclusion from commissioning contracts as the reason for not recruiting patients with heart failure. No difference was seen in the skill mix between programmes that did or did not provide rehabilitation for patients with heart failure. Overall, only 35/224 (16%) centres provided a separate rehabilitation programme for people with heart failure.
Other analyses	17	Not applicable
Discussion		
Key results	18	Our survey shows that 60% of the cardiac rehabilitation centres in England, Wales, and Northern Ireland did not accept patients with heart failure, although most of those completing the survey accepted that there was good scientific evidence of benefit. Most cardiac rehabilitation centres are not implementing the latest guidance from NICE.
Limitations	19	The conclusions that can be drawn from stage 2 of the survey are limited because of the low response rate (n=17). Although we obtained detailed information about centres that provided a separate cardiac rehabilitation programme for patients with heart failure, inferences from this part of the study should be treated with caution..
Interpretation	20	Commissioning groups should follow the recently developed NHS Commission's guide to coronary heart disease and the need for cardiac rehabilitation and the recently published NICE guidance on commissioning on cardiac rehabilitation for all newly diagnosed patients with chronic heart failure.
Generalisability	21	The response rate of 81% for stage 1 of our survey demonstrates the current provision of cardiac rehabilitation for patients with heart failure in England, Wales and Northern Ireland. Given the high response rate we can be confident that our findings can be extrapolated to reflect provision throughout the UK .
Other information		
Funding	22	This study was supported by a Programme Development Grant (RP-DG-0709-10111) from the National Institute for Health Research (NIHR), Department of Health, England