Audit of cardiac rehabilitation in light of the National Service Framework for coronary heart disease

FIONA TAYLOR, ANDREW BESWICK, JACKIE VICTORY, KAREN REES, INGOLF GRIEBSCH, ROBERT WEST, ROD TAYLOR, JACKIE BROWN, MARGARET BURKE, SHAH EBRAHIM

Abstract

In England, the National Service Framework (NSF) defines a role for clinical audit in cardiac rehabilitation. Areas that audit should consider include: eligibility, recruitment, and patient age, sex and ethnicity. We surveyed cardiac rehabilitation centres to assess these parameters.

We contacted 51 centres in 2002. Thirty-three (65%) reported that audit had been undertaken and 24 (47%) were prepared to share information obtained. Reasons for not collecting audit data were lack of time, resources, computing facilities, personnel, training or support. Fifty per cent of audits supplied relied on a 'paper system' with retrospective data extraction, and the others used regularly updated computerised databases. Ninety-one per cent of centres with audit reported information on recruitment but only 43% reported numbers eligible. Information on sex, age and ethnicity was collected by 70–87% of centres but more complete information (adequate for analysis of equity of service use by sex, age and minority ethnic group) was collected by only 30%, 26% and 22% of centres, respectively.

In England, cardiac rehabilitation audit data collection is uncoordinated despite the standards set out in the NSF. A national and policy-driven standardised audit tool and appropriate facilities, staff and funding could facilitate the identification of eligible patients and the following of patients through rehabilitation. Audit may help to make certain that local provision of cardiac rehabilitation is inclusive and ensure that patients are attending.

Key words: coronary disease, clinical audit, rehabilitation.

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Bristol Heart Institute, Level 7, Bristol Royal Infirmary, Upper Maudlin Street, Bristol, BS2 8HW.
Fiona Taylor, Clinical Trial Co-ordinator

Department of Social Medicine, University of Bristol, Canynge Hall, Whiteladies Road, Bristol, BS8 2PR.
Andrew Beswick, Research Associate
Karen Rees, Research Fellow
Margaret Burke, Trial Search Co-ordinator
Shah Ebrahim, Professor in Epidemiology of Ageing

MRC Health Services Research Collaboration, Department of Social Medicine, University of Bristol, Canynge Hall, Whiteladies Road, Bristol, BS8 2PR.
Ingolf Griebsch, Research Associate
Jackie Brown, MRC Senior Scientist in Health Economics

North Bristol NHS Trust, Southmead Hospital, Westbury-on-Trym, Bristol, BS10 5NB.
Jackie Victory, Cardiac Rehabilitation Co-ordinator

Wales Heart Research Institute, University of Wales College of Medicine, Heath Park, Cardiff, CF14 4XN.
Robert West, Reader in Epidemiology

Department of Public Health and Epidemiology, Public Health Building, University of Birmingham, Birmingham, B15 2TT.
Rod Taylor, Senior Lecturer in Public Health and Epidemiology

Correspondence to: Mr A Beswick
(email: andy.beswick@bristol.ac.uk)

Introduction

In England, the National Service Framework (NSF) clearly defines the role of clinical audit in outpatient cardiac rehabilitation.[1] Trusts should review annually the number of eligible and recruited patients, patient characteristics (sex, age, ethnicity), the number of patients provided with an individualised plan for rehabilitation and secondary prevention before discharge from hospital, and information relating to one-year follow-up. As part of a systematic review on the provision of cardiac rehabilitation programmes for under-represented groups (women, the elderly and minority ethnic groups) in 2002, we surveyed a sample of cardiac rehabilitation centres contributing to the British Association for Cardiac Rehabilitation/British Heart Foundation database[2] in order to ascertain the level of audit being conducted.

Participants

All cardiac rehabilitation centres in the South West of England, London and the Midlands were invited to participate. These areas were selected to provide a sample of rehabilitation centres with a wide range of ethnic mix.

Methods

Cardiac rehabilitation co-ordinators were contacted by telephone and, if necessary, by follow-up letters and through the NHS Trust medical director and were requested to supply their

Table 1. Audit activity specified in the National Service Framework (NSF) for coronary heart disease

Documentation of information as specified in the NSF		Number of centres (%) complying with NSF (n=23)	
Patients discharged from hospital with a primary diagnosis of acute myocardial infarction or after coronary revascularisation		10	(43%)
Arrangements for cardiac rehabilitation in discharge communication to general practitioner		0	(0%)
Sex	Any information	20	(87%)
	Relating to equity of service use	7	(30%)
Age	Any information	18	(78%)
	Relating to equity of service use	6	(26%)
Ethnic group	Any information	16	(70%)
	Relating to equity of service use	5	(22%)
Number of patients recruited to cardiac rehabilitation		21	(91%)
Outcome information: one year after discharge, regular physical activity, not smoking and BMI		2	(9%)

most recent audit. Centres reporting no available audit were asked to provide reasons for not collecting audit data.

Results

Of the 51 centres contacted, 24 (47%) supplied audit information, nine (18%) reported that an audit had been undertaken but did not send it, and 18 (35%) stated that no audit had ever been undertaken. One centre provided a report limited to a single minority ethnic group. The main reasons cited for not collecting audit data included lack of time, resources, computing facilities, personnel, training or information technology support.

Data collection in six of the 12 (50%) audits where method of collection was clear, relied on a 'paper system' with retrospective data extraction from patient notes and attendance registers, while the remaining six used a range of regularly updated computerised databases. Audits ranged in length from four to 12 months and they presented data collected in 2002 (two hospitals), 2001 (10 hospitals), 2000 (eight hospitals), 1999 (two hospitals), 1998 (one hospital) and unspecified (one hospital).

Table 1 shows the number of centres collecting audit information as specified in the NSF for coronary heart disease. The audit with data on a single ethnic group is not included. Overall, 91% of centres collected information on recruitment to rehabilitation but only 43% reported numbers of patients discharged from hospital and potentially eligible for rehabilitation. Eight centres (35%) collected numbers of patients discharged who subsequently attended cardiac rehabilitation. This permitted uptake to be calculated at 35% (SD 12, range 14–54%). For centres providing services in areas with large populations of minority ethnic groups (London, Midlands), uptake was 29% compared with 45% in other areas ($p<0.001$). This did not reflect lower referral, which was similar for centres with and without (South West of England) a large minority ethnic population (60% *vs.* 59%).

Although most centres collected some information on sex, age and minority ethnic group (70%), this related only to those patients attending cardiac rehabilitation. More complete information, however, is required for analysis of equity of service use. For example, 30% of centres collected adequate data on sex, 26% on age and 22% on ethnic group. In 11/13 centres (85%) serving populations with large minority ethnic groups, audit data were available on provision for specific ethnic groups. In four (31%) this could be used to assess some feature of uptake. Conversely, in areas with lower than average numbers from minority ethnic groups, limited information was available in 5/10 centres (50%), with only one centre (10%) collecting adequate information to assess differences in attendance rates.

Only two centres (9%) reported one-year follow-up of patients after cardiac rehabilitation, as specified in the NSF.

Audits contained other information not directly relevant to the objectives of the NSF, such as reasons for non-referral and non-attendance, the patient's home postcode (useful for socioeconomic data), the patient's consultant, clinical history and risk factors, psychological morbidity, secondary prevention outcomes, exercise outcomes, and patient opinions and satisfaction. Eight centres (35%) also reported measures aimed at improving attendance: 'satellite' services in local hospitals, community-based programmes, evening programmes, women-only programmes, community liaison or link workers, programmes for specific minority ethnic groups, and audio information for visually impaired patients. Information evaluating their success was not available, however.

Discussion

Clinical governance incorporates audit to ensure that clinical care is up to date and effective.[3] However, a commitment to accuracy, appropriateness, completeness and analysis of healthcare information is required, if judgements about clinical quality are to be made and the impact of clinical governance is to be assessed.[4]

In our survey a minority of centres provided information on outpatient cardiac rehabilitation audit, with a third of centres reporting no audit availability. Some centres reported that audit had been conducted but were not prepared to share the information obtained, perhaps reflecting the perceived disadvantages associated with clinical audit of diminished clinical ownership and hierarchical and territorial suspicions.[5] Many audits were old: only two hospitals provided a 'current' audit. This survey was undertaken two years after publication of the NSF and, while recognising that it takes time to implement a recommendation for audit, we might expect more than 12 (of 51) to have completed an audit in this period.

Nearly half of the audits provided some information on clinical audit, as specified in the NSF, although information on potentially under-represented groups was more limited. Basic information on eligibility and attendance was collected in sporadic and

Key messages

- The National Service Framework sets standards for clinical audit in cardiac rehabilitation
- Audit of local cardiac rehabilitation provision helps to ensure that it is inclusive and that patients are attending
- In our survey a minority of centres provided information on outpatient cardiac rehabilitation audit
- There is an uncoordinated approach to audit data collection, with basic information on eligibility and attendance collected in sporadic and non-standard ways
- A national and policy-driven standardised audit tool with appropriate facilities, staff and funding is indicated

non-standard ways, and only a few centres were able to provide complete information on numbers of patients who attended cardiac rehabilitation in relation to numbers discharged. There was a suggestion that the proportion of patients attending a programme was lower in areas with large minority ethnic populations, which was not explained by different referral rates. Changes to services and interventions to improve uptake of cardiac rehabilitation by minority ethnic groups are indicated.

The NSF implies that patients should be followed up after one year for assessment of their smoking habits, exercise activity and body mass index. In this survey few audits included appropriate information on these factors. It is a stated NSF goal, but it is perhaps not surprising that rehabilitation departments were unable to include follow-up information in their audits as this may be seen as a responsibility of primary care rather than rehabilitation professionals. However, as long-term smoking, exercise and weight are important in assessing cardiac rehabilitation effectiveness, this information should be included in cardiac rehabilitation audit.

Our findings highlight an uncoordinated approach to audit data collection in some parts of England, with large variations in methods and content despite the standards set out in the NSF and cardiac rehabilitation guidelines. Examples of clinical audit tools have been included in cardiac rehabilitation guidelines[1,6] but these have included limited information on potential sources of under-representation. A more recent resource considers age, sex and ethnicity, and is currently under evaluation.[8] We recommend the use of appropriately funded modern medical records systems, with training for dedicated staff and dialogue between all contributors to services.

Implementation of a national and policy-driven standardised audit tool would facilitate the identification of patients by cardiac event and the following of all patients through the cardiac rehabilitation process. It is essential to realise these recommendations if the targets laid down in the NSF for coronary heart disease are to be met and the health outcomes are to be successful.

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Conflict of interest

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