Cardiac rehabilitation in Scotland: is current provision satisfactory?

Neil C. Campbell, Jeremy M. Grimshaw, John M. Rawles and Lewis D. Ritchie

Abstract

Background Cardiac rehabilitation is an effective intervention, lowering mortality following myocardial infarction and reducing morbidity in patients with coronary heart disease. However, its level of provision was unclear. This study aimed to provide a comprehensive description in Scotland.

Methods A national survey of hospital, general practice and community sources was conducted in 1994 to identify cardiac rehabilitation programmes in Scotland. Detailed information about each programme was collected by computer-assisted telephone interviews.

Results Sixty-nine programmes were identified, providing out-patient cardiac rehabilitation to 4980 patients and in-patient cardiac rehabilitation to 8920 patients. This represented 17 per cent and 30 per cent of patients admitted to hospital with coronary heart disease (excluding heart failure), respectively. There was considerable geographical variation in provision and dependence on sources outside the health service for much funding.

Conclusions Despite evidence of benefits from randomized trials, the overall provision of cardiac rehabilitation in Scotland was low. Considerable inequity was demonstrated between different health board areas. There is opportunity for better provision, which would improve care for many patients with coronary heart disease.

Keywords: cardiac rehabilitation, survey

Introduction

Cardiac rehabilitation can reduce the risk of sudden death following myocardial infarction by 37 per cent in the first year, and total mortality by 20 per cent over three years.1 Benefits have also been reported to patients with angina2 and following cardiac surgery.3 It is therefore appropriate to consider cardiac rehabilitation for most patients with coronary heart disease.4 It has been suggested that provision of cardiac rehabilitation in the United Kingdom is inadequate.5

However, the variety of possible providers, which include hospital, primary care and community sources,6 has made total provision difficult to establish. Previous studies have relied on hospital sources to identify programmes and may have missed provision in the community.5,6 This study was undertaken using hospital, general practice and community sources to provide a comprehensive description of the provision of cardiac rehabilitation in Scotland.

Methods

Cardiac rehabilitation schemes in Scotland were identified by a national survey. In total, 1270 potential sources of information were approached, including: all general practices; all acute medical or cardiac units; superintendent physiotherapists from all acute or rehabilitation hospitals and community units; and all community nursing directors. (Private health care sources were not specifically surveyed; however, private programmes were identified by general practitioners.) The overall response rate was 82 per cent (1045/1270), with regional response rates varying between 71 per cent and 100 per cent. Programmes were included that contained any organized activity (or activities) which aimed to assist the process by which a patient is returned to his greatest physical, mental, social, vocational and economic usefulness.7 Computer-assisted telephone interviews were conducted in April 1994 with the lead professional in all identified schemes to

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ascertain numbers of patients treated annually, referral criteria, programme structures, funding arrangements, and problems for staff and patients. Statistics for numbers of patients who survived hospital admissions with coronary heart disease (excluding heart failure) were sought from and provided by the Information and Statistics Division for the Management Executive in Scotland. (The data provided were for patients and not patient episodes.) This group of patients has been reported to benefit from cardiac rehabilitation and would have been eligible to receive it in the majority of identified programmes.

Results

Sixty-nine cardiac rehabilitation schemes were identified in Scotland. Ninety-six per cent (66/69) of programmes were open to patients with previous myocardial infarction, 81 per cent (56/69) to patients with previous cardiac surgery, 70 per cent (48/69) to patients with angina and 35 per cent (24/69) to patients with cardiac failure.

Approximately 4980 new patients attended outpatient cardiac rehabilitation programmes per year. This represented 17 per cent of patients with at least one hospital discharge with coronary heart disease, excluding heart failure; however, provision varied between 2 per cent and 46 per cent in different health board areas (Table 1). In-patient rehabilitation was provided for 8920 patients per year. This represented 30 per cent of patients with at least one hospital discharge with coronary heart disease, excluding heart failure, but varied from 0 per cent to 54 per cent between health board areas (Table 1). Hospital programmes accounted for 79 per cent (3950/4980) of out-patients provision.

The major barrier to the effective operation of cardiac rehabilitation schemes was identified by key personnel from the programmes to be inadequate resources. Forty-six per cent (32/69) of respondents stated they had insufficient funding, excessive patient numbers, shortage of time, lack of space, or shortage of staff. Frequently, funding was required from outside the health service: 50 per cent (34/69) of programmes depended on other sources (patients, charities, fundraising, council grants) for their majority funding during their first year, and 40 per cent continued to do so. The major barriers that prevented patients who had been invited from attending were identified as transport problems (34/69).

Discussion

Cardiac rehabilitation was provided by a variety of sources in hospital, general practice and community settings, and this suggests that previous reports based on hospital surveys are likely to have underestimated provision. In an attempt to assess whether provision was adequate, we expressed the number of people reported to have been treated as a proportion of patients who had one or more discharges with coronary heart disease. Our estimated rates of 17 per cent for outpatient schemes and 30 per cent for in-patient schemes

<table>
<thead>
<tr>
<th>Patients discharged with coronary heart disease</th>
<th>In-patient cardiac rehabilitation</th>
<th>Out-patient cardiac rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argyll and Clyde</td>
<td>558</td>
<td>154 (28)</td>
</tr>
<tr>
<td>Ayrshire and Arran</td>
<td>681</td>
<td>154 (23)</td>
</tr>
<tr>
<td>Borders</td>
<td>621</td>
<td>192 (31)</td>
</tr>
<tr>
<td>Dumfries and Galloway</td>
<td>536</td>
<td>235 (44)</td>
</tr>
<tr>
<td>Fife</td>
<td>714</td>
<td>52 (7)</td>
</tr>
<tr>
<td>Forth Valley</td>
<td>626</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Grampian</td>
<td>542</td>
<td>108 (20)</td>
</tr>
<tr>
<td>Greater Glasgow</td>
<td>664</td>
<td>256 (39)</td>
</tr>
<tr>
<td>Highland</td>
<td>543</td>
<td>28 (5)</td>
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<tr>
<td>Lanarkshire</td>
<td>600</td>
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</tr>
<tr>
<td>Lothian</td>
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<td>313 (54)</td>
</tr>
<tr>
<td>Orkney</td>
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<tr>
<td>Shetland</td>
<td>430</td>
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</tr>
<tr>
<td>Tayside</td>
<td>724</td>
<td>161 (22)</td>
</tr>
<tr>
<td>Western Isles</td>
<td>486</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>
may be underestimates if some schemes were not identified, but this calculation excluded hospital patients discharged with heart failure and patients with angina treated at home, who also may benefit from cardiac rehabilitation. Numbers for each programme were provided by one key individual, who may have been open to bias, although this is more likely to lead to overestimates.

Evidence from this study suggests that overall current provision of cardiac rehabilitation is poor. There was considerable inequity of access for patients in different health board areas. Furthermore, the majority of provision was hospital based; this has been shown to create particular problems of access for patients in rural areas.

Providers were clear about the difficulties that they encountered. There were frequent reports of programmes being hampered by inadequate resources, and complaints of poor support from medical staff and management. Although the difficulties that the providers expressed were value judgements, they were illustrated further by the fact that half of the programmes required their initial funding to be obtained from sources outside the health service. Difficulties for purchasers can also be anticipated. First, they must determine what priority should be given to cardiac rehabilitation relative to other services. Second, with sources of provision so diverse, including hospitals, general practice and the community, they may find that contracting is complex.

Cardiac rehabilitation is an effective intervention, supported by strong evidence of mortality and morbidity benefits. However, to achieve its potential, it must be implemented widely to all who would benefit. It is clear from this study that the provision of cardiac rehabilitation is erratic. There is opportunity for more widespread and equitable application, and this would substantially improve the care of many patients with coronary heart disease.

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References


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