Can we see more outpatients without more doctors?

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SUMMARY
A reduction in the number of return patients attending general cardiology clinics, if achievable without harm, would improve access for newly referred patients. Outpatient clinic letters (525) sent to general practitioners over a three-month period were reviewed. Simultaneously, physicians’ opinions were collected by questionnaire. A subset of 30 clinic patients who attended three local general practitioners were studied to identify how many were assessed in primary care, and how often, in a six-month period. The hospital records of these patients were reviewed to determine whether information about these visits to the general practitioner was documented in the hospital notes.

From the outpatient clinics the discharge rates were only 26% and the reason for further clinic review was often not clear. The fact that many patients had no intervention or treatment change performed at the clinic (42%) indicates that patients are reviewed to assess symptom change rather than to receive further interventions. The use of fixed times for review appointment (six months or 1 year) suggests that the intervals are determined by habit rather than clinical indication. A high proportion of patients (28/30) were reviewed at least once in primary care by general practitioners between hospital clinic visits and 20/30 were seen three or more times. There was poor documentation of these consultations in the hospital case notes, and so hospital physicians may be unaware that symptoms are under regular review in primary care.

This study suggests that a substantial proportion of current cardiology return outpatients do not require regular outpatient review. However, alternative management demands good communication and exchange of information between secondary and primary care, development of formal written discharge planning in outpatient letters and other forms of follow-up.

BACKGROUND
Waiting times to see a cardiologist in the UK are often long; thus patients with cardiovascular conditions are often managed by non-cardiologists. It is possible, however, that changes to current practice would help reduce waiting times for cardiology, and outpatient services are an obvious area for attention. Most patients seen in outpatient clinics are ‘returns’—i.e. patients who have been seen previously. Which cardiac patients benefit from outpatient follow-up is unclear. This study was designed to determine whether it may be possible to reduce the numbers of return patients attending cardiology clinics, thereby increasing access to specialist care for newly referred patients.

METHODS
Data were collected retrospectively on return patients seen at cardiology outpatient clinics in two district general hospitals within one acute NHS trust in Scotland. Clinic letters sent to general practitioners over a three-month period were retrieved in electronic form from the relevant medical secretaries, anonymized, and reviewed by two independent observers. Both observers reviewed all letters. Observer 1 is a specialist registrar in cardiology, while observer 2 is a project manager in redesign with a background in physiotherapy. There was good agreement between observers. Simultaneously physicians’ views were collected by questionnaire. A subset of 30 clinic patients who attended three local general practitioners were studied to see how many were seen in primary care and how often they were seen over a six-month period. The hospital records of these patients were reviewed to determine whether they contained information about these visits to the general practitioner.

Data are expressed as absolute value and percentage unless otherwise stated. Differences between responses
were assessed by non-parametric tests; chi-squared and binomial multisample tests. Data from observer 1 are reported.

RESULTS
525 clinic letters were retrieved. Eleven doctors were involved in reviewing patients in these general cardiology clinics—three consultants and eight non-consultant physicians. 323 patients (59%) were male. The average age was 61 years.

Quality of clinic letter documentation
Most letters recorded symptoms (97%) and a clinical plan (97%) but few documented a staged management plan (22%)—i.e. a plan in which general practitioners are provided with multiple options should therapy or conditions change. Follow-up arrangements were recorded in 92% of letters.

Outcomes of clinic visit
Overall 34% of patients had further tests requested (not including blood tests), 33% had treatment changes, 2% were referred to a third party and 41% had no intervention. 26% of patients were discharged from the outpatient clinics to primary care. Discharge rates differed according to the initial diagnosis—Ischaemic heart disease (IHD) 36%, arrhythmia 26%, heart failure 12%, valve disease 4%. 71% of review appointments were made for six months or 1 year. The timing of review appointment did not vary greatly with different diagnoses except that review intervals for patients with valve disease tended to be longer (Figure 1). In 41% of patients the reason for initial review was the same as that for the follow-up. In this subgroup of patients 46% had no treatment change, tertiary referral or test ordered during their clinic visit.

Alternative options for follow-up
Both observers judged from the clinical letters that, for as many as 60% of patients not discharged, either the need for consultant review was unclear or the patient could have been dealt with outside the traditional outpatient review. Of these 219, 91 (42%) were thought suitable for follow-up in primary care, the others requiring secondary care follow-up, with or without consultant supervision. Most patients who were identified as potentially manageable in primary care had a diagnosis of IHD or heart failure (Table 1).

Physician questionnaire
All physicians responded to the questionnaire examining physicians' perceptions of their activity in outpatient clinic. Doctors were good at estimating the proportion of patients they discharged (25% estimated versus 26% actual) and with treatment change (30% versus 34%) but overestimated
the proportion in whom tests were ordered (40% versus 34%) and who had tertiary referrals (11% versus 2%). All respondents believed that there were potential alternatives to traditional clinic review, and their suggestions included a nurse-led heart failure service, a technician-led valve clinic, a nurse-led chest pain service and telephone consultations with patients.

**Follow-up in primary care**

Of 30 patients from three general practices included in this study, 28 were reviewed in primary care at least once in a six-month period. Indeed 20 of these patients were seen three or more times (Figure 2). Review of the hospital case notes revealed that in only 2 cases was there written communication from the primary care team on clinical status or treatment change.

**Potential impact of reducing return appointments**

Availability of new patient appointments might be substantially increased by small reductions in numbers of return patient appointments (Table 2). For example, in a clinic with a new-to-return patient ratio of 1 to 5, a 10% reduction in return patients will permit a 25% increase in new patient appointments. In one of the study hospitals, a 20% reduction in return outpatient appointments would increase the yearly throughput of new outpatients from about 700 to 910.

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**Table 1** Number of patients considered not to require a traditional outpatient clinic follow-up (219 of 525 reviewed) and potential alternative follow-up strategies: reason for continuing review and diagnosis

<table>
<thead>
<tr>
<th>Reason for review</th>
<th>Primary care follow-up n=91 (42%)</th>
<th>Direct access hospital investigations n=54 (25%)</th>
<th>Hospital investigation with consultant supervision n=74 (34%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom assessment</td>
<td>61</td>
<td>26</td>
<td>51</td>
</tr>
<tr>
<td>Treatment change</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Test result</td>
<td>2</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Not clear</td>
<td>25</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHD</td>
<td>39</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Heart failure</td>
<td>14</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Valve disease</td>
<td>0</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>10</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Pacemaker</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Not clear</td>
<td>23</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

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**Figure 2** Frequency of patient review in general practice

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**Table 2** Potential increases in new outpatient capacity created in response to reviewing fewer patients depending on current new patient to review patient ratio for the clinic based on 1 new patient appointments substituting 2 return patient appointments

<table>
<thead>
<tr>
<th>Target decrease in return patients</th>
<th>New/return outpatient ratio</th>
<th>1/3</th>
<th>1/4</th>
<th>1/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td></td>
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<tr>
<td>30%</td>
<td>45%</td>
<td>60%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td>75%</td>
<td>100%</td>
<td>125%</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

In this study of return patients attending cardiology clinics 42% had no treatment change but only 26% were discharged. The reason for continued review was often
not clear. Seemingly in many cases the aim of review was to assess symptom change rather than to offer further interventions. The most common intervals for review were six months and 1 year, and the use of these fixed times may be 'habit' or 'custom and usual practice' (though perhaps influenced by the perceived availability of clinic appointments).

Responses to the questionnaire indicated that physicians overestimated the number of clinic interventions, so the perceived workload may differ from the reality. In addition, a high proportion of patients are reviewed in primary care by general practitioners between hospital clinic visits, some of them three or more times in the space of six months. Similar findings have been recorded for patients attending outpatient clinics in other specialties. There was poor documentation of these appointments in the hospital notes, so hospital physicians may be unaware that a patient's symptoms are under regular review in primary care. If physicians recognized the duplication of work, they might be less reluctant to discharge patients from clinic follow-up. This would not necessarily increase general practitioner workload. Much depends on the consultant's letter, from which consultants and general practitioners require different things. The general lack of staged management plans in our clinic letters and length of time between review appointments suggests that, with our current routines, the general practitioner may be deprived of information from the cardiology clinic regarding continuing management. The time required to implement structured discharge criteria and make the necessary arrangements to facilitate discharge from outpatient clinics is said to be a concern for hospital physicians. However, positive outcomes have been shown for heart failure patients with an integrated care plan in which follow-up alternates between general practitioner and a heart failure clinic.

Might patients themselves do more to monitor their symptoms on discharge from secondary care services? In cardiology, a self-management plan for patients with newly diagnosed angina had beneficial impact on their psychological, symptomatic and functional status. If patients receive a copy of their discharge management plan they have more reason to become actively involved. This ties in with the Department of Health initiative to copy letters to patients, due to be implemented in 2004, and with previous recommendations on sharing information with patients to facilitate discharge. Effectiveness management by either the patient or the primary care practitioner also depends on rapid access to secondary care services when they are needed. Williams et al. showed that, rather than routine follow-up, patients with inflammatory bowel disorders simply wanted access as required. Shared decision-making between primary care, secondary care and the patient has the potential to alter service usage and allows sharing of risk but depends greatly on information. In general, alternatives to outpatient review, other than discharge to primary care and patient self-management, are likely to require some supervision by consultant staff. The hope, however, is that they will allow more efficient use of consultant time and effective management of more patients. In the present study the conditions most commonly identified as manageable by alternative pathways were IHD and heart failure—two diagnoses that are making increasing demands on health services. Examples of alternative follow-up strategies shown to have a positive impact include nurse-led secondary prevention clinics for CHD, nurse specialist or multidisciplinary team based intervention for heart failure at home or in clinics, and telemedicine. The likelihood, therefore, is that some cardiology patients can be safely and appropriately followed up by a non-consultant review.

In a clinical area where there is negligible scope to manipulate supply to match demand, a combination of supply and demand management is required. Our study suggests that a substantial proportion of current cardiology return outpatients could be managed effectively by alternative methods, allowing a large increase in new patient appointments for assessment by cardiologists. This process, if it is to work, demands good communication and exchange of information between secondary and primary care, formal written discharge planning and further development of alternative care pathways.

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REFERENCES


