

CLINICAL AUDIT

Management of chronic heart failure: perceived needs of general practitioners in light of the new general medical services contract

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Background: Despite the existence of several chronic heart failure (CHF) guidelines the treatment of patients with CHF is suboptimal. The new general medical services (GMS) contract in primary care has only three specific performance indicators for patients with left ventricular dysfunction. The aim of this current questionnaire survey was to assess the views of general practitioners (GPs) on CHF treatments and services in light of the new GMS contract.

Methods and Results: All local GPs (717) were sent a questionnaire. Fifty three per cent were returned. Forty five per cent of GPs had access to a community CHF nurse. Having read a national guideline (SIGN) and having the support of a CHF nurse did not seem to affect the knowledge of GPs in terms of perceived benefits of drug treatments. GPs with access to a specialist CHF nurse service attached more importance to it than those with no specialist nurse ($p=0.003$).

Conclusions: Most GPs were aware of the existence of a national guideline but many had not read it. There was little or no difference in the knowledge level for various evidence based treatments between GPs who had or had not read the guideline suggesting that reading guidelines may not be a key factor in determining knowledge. Support for a specialist CHF nurse was higher among GPs who already had this service, suggesting that this service is valued. The new GMS contract may improve identification and diagnosis of patients with CHF but there is a danger that it may fall short of ensuring optimal treatment for patients with CHF.

The diagnosis and management of chronic heart failure (CHF) in primary care is increasingly complex.^{1–3} CHF remains an important cause of morbidity and mortality in the United Kingdom,^{4,5} with the cost of managing this population escalating in both primary and secondary care.⁶ This is likely to continue as mortality in patients suffering myocardial infarction improves and there is a general increase in life expectancy.

Despite excellent trial evidence and the existence of several CHF guidelines,^{7–11} it is well recognised that the treatment of patients with cardiovascular disease^{12–13} and in particular, patients with CHF^{14–15} is suboptimal. While the impact of guidelines on management in secondary care is suboptimal¹⁶ it is unknown in primary care. Previous studies have suggested that guidelines combined with expert advice represent an effective way of providing tailored management. However, while patients may have contact with specialists during admission to hospital and at outpatient follow up, most care will be delivered in the community and led by general practitioners (GPs). The development of community based nurse specialists has proved to be beneficial by facilitating a community based multidisciplinary approach.^{17–18} Despite this, a number of barriers to improving heart failure services have been identified by GPs including uncertainty about diagnosis, lack of awareness of relevant research evidence, lack of diagnostic resources such as echocardiography, and lack of access to specialist advice.^{19–21}

Recently there have been important contractual changes in how GPs are remunerated with increasing emphasis on cardiovascular disease management. However, the new general medical services (GMS) contract in primary care has only three specific performance indicators for patients with left ventricular dysfunction attributable to coronary artery disease, and does not specifically include heart failure

attributable to other causes. These performance indicators are, firstly, creating a patient register, secondly, obtaining echocardiographic confirmation of left ventricular dysfunction and thirdly, establishing patients on an angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocking drugs (ARB). These performance indicators clearly fall short of ensuring the implementation of "best practice" and it is questionable whether they will result in improvement in patient care given that they do not include the use of a number of other important treatments such as β blockers, spironolactone, and non-pharmacological treatments. While there has been considerable interest and research performed studying the knowledge of GPs in the area of heart failure, there have been no studies on the perceptions of GPs in the area of CHF in light of the new GMS contract. An understanding of these issues is crucial if the new GMS contract is to be successfully implemented.

This study aimed to answer the following questions.

- What is the goal of GPs when prescribing various drug therapies in patients with CHF?
- What is the perceived difficulty in the start and dose titration of these therapies in patients with CHF?
- How do GPs rate community based services for CHF and does the presence of a community based CHF nurse affect this?
- What are GPs views on the management of CHF in light of the new GMS contract?

Abbreviations: CHF, chronic heart failure; GP, general practitioner; GMS, general medical services; ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; LHCC, local health care cooperative

Representative selection of comments from survey regarding heart failure management

Comments about chronic heart failure management

- Feeling I have confidently excluded COPD is a problem
- In many patients starting β blockers is a problem
- Drug compliance a problem because of multiple therapies
- Not easy in extreme old age
- Main problem is confirming diagnosis
- The diagnosis is a very confusing one from my point of view it is often part of multiple pathology.
- We know what to do!
- Not many of my patients have heart failure alone.
- Even reading questionnaire makes me feel I need an up-date

Comments about new GMS contract

- Contract only applies to LVD associated with CHD? Should apply to all causes
- No resources—that is, staff for contract requirements.
- Yet again political interference in medical matters.
- Paper exercise for absolutely no great benefit to patients.
- Recording who has had an echo is hard because we have not prospectively done this.
- Secondary care will be limiting factor for achieving targets
- GP will be financially penalised? Government's objective all along
- So many competing priorities and so few practice staff to assist.
- Provision of staff trained to produce data base and audit would be cost effective help

Comments about the local services

- We need time and resources here not more advice!
- Nurses have been a big improvement but we need access to echo
- Big disparity between ideal practice and real world—long waiting for cardioreview and echos
- In my practice/local service very good
- It is the resources and workload for doing these thing which will be the issue
- Clearly a pressing need for more readily available echo facilities
- Difficult to offer structured exercise/rehab therapy because of lack of resources
- Best managed in the community
- We would welcome palliative care input
- Catch up with diabetes—What services?
- Need good secondary care as CHF treatment is becoming increasingly complicated
- Further IT support and staff support as necessary to do the above
- I feel that open access echo might save a lot of hospital consulting time
- Open access echo would be excellent (we know that we're wrong 50% of the time)
- Quick/easy access to BNP+echo most important

- Open access clinics are a good idea for recent diagnosis or difficult cases
- The appointment of community based heart failure nurse specialist would be an important step forward
- Seems a very disjointed service
- The heart failure nurse has been an asset to our practice
- There seems to be very little coordination between primary+secondary care currently
- We are happy to manage CHF patients in primary care but we need open access echo.
- Vital ingredient for a heart failure clinic must be speedy access
- Unclear as to access to echo and appropriateness of starting bb in community
- Secondary care does not deliver
- We need help and resources to provide holistic care

METHODS

Participants

All GPs (717) in the Lothian health board area were sent a postal questionnaire. The general practices (131) in this area are arranged in eight local health care cooperatives (LHCCs) each containing about 16 practices. At the time of this survey only four of the eight LHCCs had the services of a specialist heart failure nurse.

Questionnaire

A questionnaire was designed to investigate issues related to the diagnosis and management of patients with CHF. Specific questions were asked regarding the impact of national guidelines and perceived needs for improvement in local services for CHF patients. In addition, GPs were asked for their comments on any aspect of CHF management (box). The questionnaire design was discussed, reviewed, and approved by members of the local multidisciplinary heart failure steering group that included GPs, hospital doctors, pharmacists, and nurses from primary and secondary care. Questionnaires were then sent by post to all GPs in the study area over a one week period. Questionnaires were re-sent three weeks later. A prize draw for a magnum of champagne was offered as an incentive for returning the questionnaire.

Data handling and statistics

Data were entered onto a spreadsheet (Excel Microsoft, CA, USA) and analysed for differences between groups. Data are expressed as percentages (absolute numbers) unless otherwise indicated. Differences were assessed using χ^2 test (Excel Microsoft, CA, USA) and a p value of <0.05 considered significant.

RESULTS

Demographics

Fifty three per cent (379) of the questionnaires were returned; 83% (315) were GP principals, 4% (14) assistants, 6% (21) retainers, 4% (15) registrars, and 2% (8) locums. Two per cent (6) of GPs did not report their position. Most respondents (56% (211)) were full time and 40% (150) part time. 45% (170) of GPs had access to a community heart failure nurse while 47% (180) had no community heart failure nurse.

Knowledge and perceived impact of national guidelines

GPs were asked about their experiences of a national guideline (SIGN 35). Eighty nine per cent (339) of

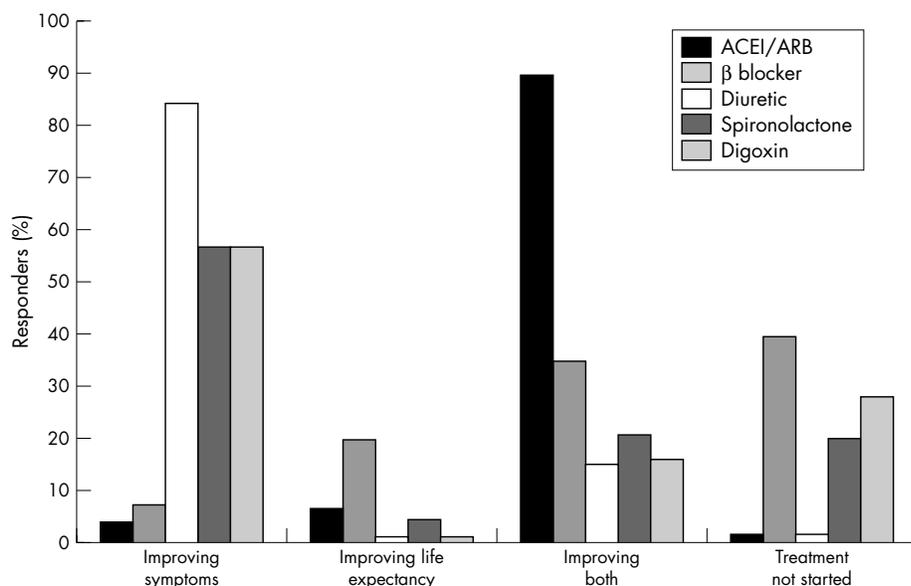


Figure 1 Perceived aims of general practitioners when prescribing specific therapies in patients with chronic heart failure.

respondents were aware of its existence and 59% (225) had read it. Forty nine per cent (168) of GPs reported that the guidelines had influenced their management of CHF patients. Thirteen per cent (45) of GPs felt that the guideline had not influenced their CHF management while 14% (47) were unsure.

Diagnosis of CHF and use of hospital based services

Eighty nine per cent (339) of respondents performed an ECG on all new suspected cases of heart failure. Only 27% (103) referred all new patients with suspected heart failure to a cardiologist. The reason given by GPs for referral was often to gain echocardiographic confirmation of the diagnosis rather than for treatment advice; "we are happy to manage CHF patients in primary care but we need open access echo". Many GPs commented that referral would depend on the age and comorbidity of each patient. For example, "would not perform an electrocardiogram (ECG) or refer to a cardiologist if too frail or immobile". Many GPs reported that they felt comfortable treating older patients with significant comorbidity on the basis of a clinical diagnosis of CHF.

Pharmacological treatment and complications of CHF

GPs were asked what they perceived to be the primary reason for prescribing specific drugs for CHF patients; for relief of symptoms, to improve life expectancy, or both (fig 1). Most respondents (92%) prescribed ACEI expecting both symptomatic and mortality benefits but fewer recognised that β blockers (35%) and spironolactone (22%) had similar benefits. Eighty five per cent recognised that loop diuretics were used primarily for symptomatic benefit but 55% thought that spironolactone was also useful for symptomatic relief only. Overall, only 25% recognised that spironolactone had morbidity and mortality benefits. There were no significant differences in perceived benefits of drug therapies between GPs who had or had not read the national guideline and those who did or did not have the support of a specialist heart failure nurse. Figure 2 shows perceived difficulties with patient compliance or tolerance of specific drug therapies. Twenty eight per cent (106) of GPs reported that they started β blocker therapy in their CHF patients. This proportion was higher in those GPs with a CHF nurse compared with those without this support (31 v 24%, $p < 0.05$). In GPs who start β blockers, 46% (49) reported that up-titration was problematic.

Local heart failure services

GPs were asked to rate the importance of a range of local services on a scale of 1 (not important) to 5 (critically important). GPs attached most importance to open access echocardiography and least to a heart failure lay volunteer support service; a service that is currently being developed in our area as a new initiative with a local charity organisation. Interestingly, GPs with access to a specialist heart failure nurse attached more importance to this service than those with no specialist nurse (average score: 3.0 (SEM 1.5) compared with 2.5 (SEM 1.6), $p = 0.003$). Other services, including hospital and community based heart failure clinics were ascribed a similar level of intermediate importance (fig 3).

New GP contract performance indicators

Most GPs (81% (238)) thought that it would be easy to create a register (performance indicator 1) and 79% (223) thought that it would be easy to determine and record which patients were receiving an angiotensin converting enzyme inhibitor or angiotensin receptor blocker (performance indicator 3). However, only 46% (124) thought it would be easy to meet the target for echocardiography to confirm left ventricular dysfunction (performance indicator 2).

Written comments from general practitioners

GP's were asked to provide written comments on their views regarding management of CHF patients and current provision of services within their region. In general, the comments reflected frustration with the provision of local diagnostic services. In particular, many GPs wished for more access to echocardiography to help with diagnosis although some GPs also wished access to plasma BNP (brain natriuretic peptide) assay; "main problem is confirming diagnosis", "open access echo would be excellent (we know that we are clinically wrong 50% of the time)". There was concern that there was not good access to investigation for all patients; "many of my patients with heart failure have other problems so access to echo, clinic etc. can be difficult", "many patients are old and don't get out much, they find investigations disruptive and unpleasant".

Furthermore, there was general concern that the new GMS contract entailed more work for little benefit in terms of improvement in patient care; "a paper exercise for absolutely no great benefit to patients". With regard to guidelines one GP commented "Can't read them all! Do you know there are 71 SIGN

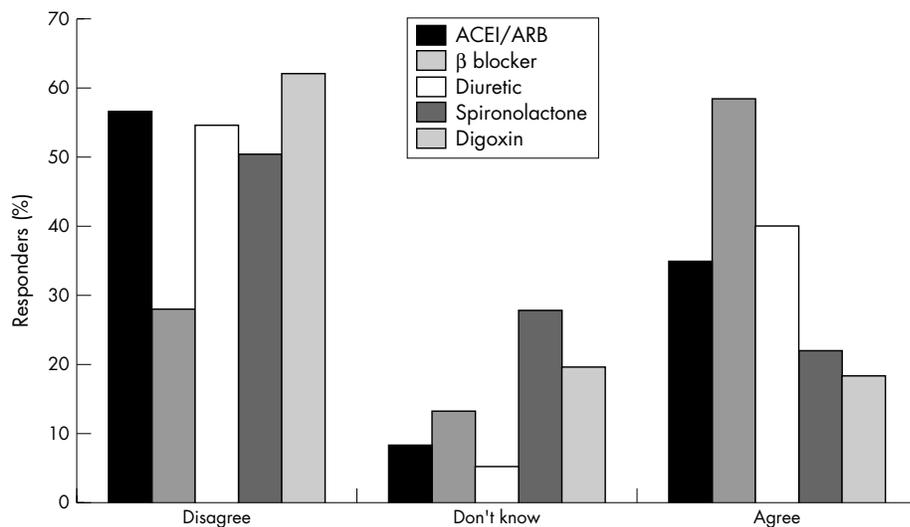


Figure 2 Perceptions of general practitioners with regard to patient compliance or intolerance of specific drug therapies in patients with chronic heart failure.

guidelines!'. Many GPs did not feel that additional guidelines were helpful; 'we know what to do', 'it is the resources and work load for doing these things which will be the issue', 'we need time and resources here not more advice'.

A representative selection of the GP comments are reported as written by GPs in the box under three subheadings.

DISCUSSION

The management of CHF is increasingly recognised as requiring a multidisciplinary approach across organisational boundaries. Although secondary care services may be necessary for diagnosis and management of acute exacerbations, most CHF management is provided in primary care. It is recognised that the treatment of CHF is suboptimal.¹⁴⁻¹⁵ The reasons for this are multifactorial, but several barriers to the implementation of evidence based practice in primary care have been identified including uncertainty about diagnosis, lack of awareness of relevant research evidence, lack of diagnostic resources such as echocardiography, and limited access to specialist advice.¹⁹⁻²¹

In this survey, most GPs were aware of the existence of a national guideline but a large proportion had not actually read it. Time constraints dictate that GPs will be unable to read all published guidelines and because patients with CHF may constitute a small proportion of the total workload, CHF

guidelines may consequently not be a priority with individual GPs. There was little or no difference in the knowledge level for various evidence based therapies between those who had or had not read the guideline suggesting that reading guidelines alone may not be a key factor in determining knowledge of disease management.

Reason for implementing specific CHF therapies

Eighty nine per cent of GPs prescribed ACEI for mortality and morbidity benefits reflecting the large body of evidence and widely adopted use of this class of drug for CHF over the past 10 years.²²⁻²³ However, the knowledge level of respondents in our survey for use of β blockers was lower with a large proportion (63%) of GPs failing to recognise the combined morbidity and mortality benefits of β blocking drugs.²⁴⁻²⁶ In addition, 38% of GPs stated that they did not prescribe these drugs and almost two thirds stated that they had experienced significant problems with compliance and intolerance. Until recently the initiation of β blockers in CHF patients was predominately undertaken in a secondary care environment in keeping with recommended guidelines,⁸ but clearly there is a growing confidence for their use in primary care. If CHF patients are to benefit fully from β blockers there is a clear need to provide greater support to primary care teams in the initiation and up-titration. This may take the form of

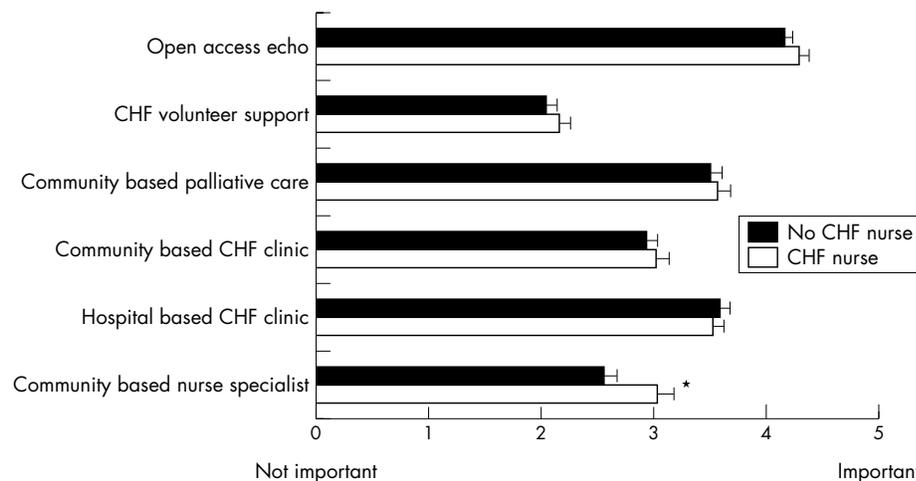


Figure 3 Level of importance attached to selected community services by general practitioners (data expressed as mean (SEM) score; *p<0.05).

specialist clinics, training of primary care staff, or integrated specialist nurse involvement across the primary-secondary care interface. The low use of β blockers in a recent audit in our area suggests that such initiatives are clearly needed.¹⁶ Most GPs (83%) prescribed loop diuretics for symptom relief while 55% believed that use of spironolactone in CHF was intended to improve symptoms. Only 25% of respondents recognised the mortality and morbidity benefits of spironolactone. These findings highlight the challenges in translating recent trial evidence into knowledge and suggest that better information and clinical support may further improve the delivery of evidence into practice. As suggested above, the production of clinical guidelines may not translate into improved clinical practice and alternative methods for increasing understanding and knowledge should be used. This is of particular importance with regard to spironolactone, which adds to the complexity of management for the CHF patient, with regular blood chemistry checks and the risk of deteriorating renal function and hyperkalaemia, for very little perceived benefit by the patient and their GP. This adverse trade off of perceived benefit compared with gain may be one of the reasons why spironolactone remains underused in both primary and secondary care.¹⁶

The GMS contract

Most GPs who responded, reported that creating a register and determining how many patients were prescribed an ACEI or ARB would be comparatively easy. Fewer GPs thought that echocardiographic confirmation in all new cases would be easy. In addition, the new GMS contract seems to exclude patients with CHF that have a cause other than coronary disease (for example, dilated cardiomyopathy, hypertension, alcohol). It has been suggested that these limited performance indicators represent a missed opportunity and fall a long way short of ensuring optimal management of patients with CHF with no provision for the use of β blockers, spironolactone, or other non-pharmacological treatments. Indeed, the omission of these treatments in the new contract may actually be an active disincentive to their use in primary care. However, many patients with left ventricular systolic dysfunction will have comorbidities such as hypertension, hypercholesterolaemia, angina, and diabetes, which are individually covered by other parts of the new contract. This difficulty reflects the disease or condition specific way in which the contract has been designed. For example, a patient with coronary heart disease and a previous myocardial infarction resulting in significant left ventricular dysfunction may appear in the CHD register and should also be included in the heart failure register. In this situation the patient should be started and slowly uptitrated onto a heart failure specific β blocker, such as bisoprolol or carvedilol. This may not be done if the GP approaches the patient's treatment from the CHD perspective. Similarly drugs such as spironolactone and other non-pharmacological advice may not be offered to the patient.

Access to services

Additional support by secondary care and community based services will be required if GPs are to reach the targets of the new GMS contract. This point was made by many of the GPs. There are significant numbers of patients, especially the very elderly or those with significant comorbidity in whom GPs felt it may not be appropriate to send to hospital for assessment, these patients are currently under-investigated. The lack of community based cardiac assessment by ECG or echocardiography was identified as a problem and impediment to the delivery of care as set out by the new contract. Despite the lack of investigation in some patients, GPs were, in general, comfortable with treating these patients in

primary care based on a clinical diagnosis although felt "forced back onto clinical skills and competence". However, it is well known and acknowledged by GPs that a clinical assessment and diagnosis is unreliable; one GP commented "we know that we are wrong 50% of the time". This is especially the case in patients who are older with associated comorbidities where breathlessness and ankle swelling can be related to a combination of factors including chronic lung disease, chronic venous insufficiency, obesity, and immobility caused by osteoarthritis. Uncertainty about diagnosis may increase the reluctance of GPs to prescribe multiple therapies, especially in elderly patients. Services such as community based echocardiography or BNP testing may benefit patients by avoiding the unnecessary use of drugs in breathless patients without left ventricular systolic dysfunction. Economic studies comparing ECG, echocardiography, and BNP testing in patients with breathlessness are currently underway in the UK and should provide useful evidence as to which method is most cost effective in the primary care setting.

Specialist CHF nurse

When GPs were asked which services they thought important for their patients with CHF, there was highest support for an open access echocardiography service, and specific hospital based heart failure clinic. Interestingly, there was greater support for the specialist heart failure nurse from GPs who had access to one, despite no difference in support for other services. This suggests that despite an overall comparatively low priority for these nurses, once in place their contribution is valued. The expansion in numbers of specialist heart failure nurses in the UK has been driven by emerging evidence that, combined with integrated models of care between secondary and primary care, they provide substantial improvements in quality of care with related cost savings of around £16 900 per 100 patients treated.²⁷⁻²⁸ It seems obvious that GPs should welcome such developments to help them achieve the new GMS targets for heart failure.

Limitations

This survey has limitations. The response rate was 53% and therefore the findings may not represent the views of a large number of GPs in our area. However, the response rate was fairly high for such a complex questionnaire and does represent the majority. It is possible that the responders were not representative of all the GPs and could represent a cohort with greater knowledge who found it easier to complete the questionnaire. Furthermore, while it is recognised that there may be a dissonance between what practitioners say and what they do, the questionnaire encouraged GPs to provide written comments which may be more representative of the "truth". It is also possible that the questions asked did not address all the relevant issues although the content and nature of the questions was prepared and reviewed by a multidisciplinary heart failure steering group.

Conclusions

Although many GPs see few patients with CHF, the number is likely to increase because of an aging population and falling mortality after myocardial infarction. This survey has highlighted the need for provision of information and clinical support for GPs as part of a multidisciplinary clinical network. However, there were many concerns raised by GPs about the level of support provided by secondary care, especially in relation to the provision of echocardiography and the impact this would have on the new GMS contract "performance indicators". Support for specialist heart failure nurses was higher among GPs who already had this service.

The new contract may improve identification and diagnosis of CHF but there is a danger that it may fall short of ensuring optimal treatment for patients with CHF. Further work will be required in the future to assess the true impact of the new GMS contract with regard to patients care.

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