

# Barriers to diagnosing and managing heart failure in primary care

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**H**ear failure affects more than 300 000, mainly elderly, Australians, and its prevalence is expected to continue to rise.<sup>1,2</sup>

The literature on diagnosing, treating and managing heart failure indicates that there are significant gaps between best practice and current practice, both in community and hospital settings.<sup>1,3-6</sup> This is an issue which has recently been identified by the National Institute of Clinical Studies as an important disparity between evidence and practice in Australia.<sup>7</sup> Angiotensin-converting enzyme (ACE) inhibitor therapy has been shown to improve symptoms of heart failure, improve heart function, decrease admissions to hospital, enable patients to live longer and stop asymptomatic patients with left ventricular dysfunction from later developing symptoms.<sup>8</sup> Similarly,  $\beta$ -blocker therapy can improve survival, decrease hospitalisation and improve left ventricular function.<sup>9</sup> However, the Cardiac Awareness Survey and Evaluation (CASE) study and similar overseas studies have highlighted some important discrepancies (such as underuse of echocardiography, and under-prescribing of ACE inhibitors and  $\beta$ -blockers) between the best available research evidence and day-to-day practice among both GPs and specialists in managing patients with heart failure.<sup>1</sup>

The current views of Australian GPs about diagnosing and managing heart failure and the reasons for discrepancies between best evidence and practice are not well known. We aimed to elicit GPs' perceptions of the difficulties associated with diagnosing and managing heart failure in the primary care setting, and to identify barriers to the transfer of research findings to general practice.

## METHODS

Thirty-five general practitioners from four Divisions of General Practice in Victoria and

## ABSTRACT

**Objective:** To explore potential barriers to the optimal diagnosis and management of heart failure in primary care.

**Design and setting:** Qualitative study involving semi-structured focus groups or telephone interviews with general practitioners, in three urban and one rural Division of General Practice with above-average elderly resident populations, conducted between 1 April and 31 July 2002.

**Participants:** 31 self-selected GPs who responded to a general invitation and four GPs who were personally invited to participate in the study.

**Main outcome measures:** Issues identified by GPs as barriers and GPs' ratings of their importance.

**Results:** GPs reported that most of the difficulties in accurately diagnosing heart failure were associated with masking of the disease by other conditions and the lack of specificity of the symptoms, particularly in the early stages. They felt that echocardiograms can be difficult to access, were of unclear benefit and may not be warranted in obvious cases. Concerns about possible side effects and reliance on other forms of therapy were common reasons for the suboptimal use of angiotensin-converting enzyme inhibitors. Underuse of  $\beta$ -blockers was associated mainly with concerns about side effects, contraindications and comorbidities, and a lack of experience with initiating therapy, particularly in community settings.

**Conclusions:** This study identified specific barriers to GPs implementing evidence-based recommendations in managing heart failure. Tailored strategies that address the practical concerns of GPs about applying research evidence in the primary care setting and that facilitate better linkages between GPs and specialists are needed.

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South Australia participated in this study. The Divisions were selected for their above-average proportion of residents aged over 65 years.<sup>10</sup> The 35 GPs comprised 29 men and six women. One was aged under 36 years, 10 were aged 36-45 years, 12 were aged 46-55 years and 12 were aged over 55 years. They had practices in a variety of locations in urban and rural Victoria and South Australia. For the most part they were well experienced in treating heart failure patients.

The 28 urban GPs were interviewed in one of three 1.5-hour focus groups, and the seven rural GPs in 30-minute individual telephone interviews. Most (31) participating GPs were self-selected in response to a

general invitation for interested practitioners to participate in the research through their local Division of General Practice; the remaining 4 were rural GPs to whom personal invitations were sent. GPs were reimbursed at the rate of \$120 per hour for participating in this study.

In the focus group meetings, GPs were asked to respond individually to questions in the interview schedule before discussing their views with the group. Following discussion, a list of most frequently mentioned issues was drawn up. Participants were individually asked to rate the relative importance of the listed issues on a scale from 0 ("not critical at all") to 100% ("very critical"). The focus group sessions were audio-taped.

A similar approach was used with telephone interviewees, except that they were sent a copy of the interview schedule in advance, enabling them to complete the personal details section and open-ended questions before the interview time. During the telephone interviews, they were asked to

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rate the relative importance of the issues they had noted, as well as any issues mentioned in the focus groups that had not already been covered. Participants returned their completed questionnaires after the interviews.

This study was conducted in accordance with National Health and Medical Research Council guidelines on ethics.<sup>11</sup>

**Analysis**

Common emerging themes were analysed by cumulative process, in which responses from different sources become reinforcing of

a particular interpretation.<sup>12,13</sup> At the end of each focus group, we (SP and RM) drew up a list of the most commonly cited issues under each of five main subject headings (Diagnosis — difficulties, Echocardiograms — low use, ACE inhibitors — low use, ACE inhibitors — low doses,  $\beta$ -blockers — low use). Individuals' written responses to questions under each heading were analysed, and issues were grouped under commonly occurring themes. The ratings given by participants to issues that emerged during the focus groups and interview sessions were analysed to establish their relative impor-

tance. Finally, audiotape recordings of meetings were reviewed to help confirm findings. We found that by the end of the third focus group, no new issues were emerging, implying that the major themes had been captured. This approach, referred to as triangulation, helps strengthen the results by overcoming charges of personal bias.<sup>12,13</sup>

**RESULTS**

Results are presented under the five topics that were discussed with participants and include examples of quotations from interview transcripts. A summary of the main issues identified is shown in Box 1.

**Topic 1: Diagnosing heart failure**

We found strong agreement among participating GPs that the main difficulties in accurately diagnosing heart failure were the masking of the disease by other conditions and the lack of specificity of the symptoms, particularly in the early stages. This was especially the case with elderly patients with comorbid conditions. Typical comments were: "At the early stages the symptoms and signs are so subtle"; "Comorbid conditions, especially in the elderly, emphysema, polypharmacy... and something as simple as depression are very common, and can mask the signs of heart failure". Other, less frequently mentioned reasons included GP inexperience with heart failure, pressure of time, and difficulty in referring patients to specialists because of distance or time taken for referral.

**Topic 2: Using echocardiography**

GPs offered three main reasons why echocardiography is not more commonly used in assessing suspected heart failure patients: difficulties in accessing echocardiography services; a lack of awareness of the diagnostic benefits of echocardiograms; and a view that echocardiograms are not warranted, particularly in obvious cases. One rural GP commented that his patients had to travel to the capital city for the service — "the cost and inconvenience of the patient going to the city is a real problem". Several GPs pointed out that access to echocardiography was difficult for frail and elderly patients, particularly those in nursing homes. Some GPs argued that they were confident with their assessments and did not require confirmation or further investigation.

Other, less commonly cited, reasons were the cost to the patient or taxpayer (particu-

**1 Barriers to optimal diagnosis and management of heart failure for 35 GPs**

Issues raised by individual GPs	No. responses (%*)	% Importance rating (SD) <sup>†</sup>
<b>Diagnosis — difficulties</b>	<b>57 (100%)</b>	
Masked by multiple symptoms/other conditions	33 (58%)	83 (16)
Early stages/no classic symptoms	16 (28%)	74 (18)
Other (inexperience, access problems, time issues) <sup>‡</sup>	8 (14%)	na
<b>Echocardiograms — low use</b>	<b>73 (100%)</b>	
Access issues (delays, availability, etc.)	18 (25%)	52 (30)
Not warranted (confident in own diagnosis)	18 (25%)	64 (26)
Cost to patient, taxpayers	13 (18%)	50 (30)
Unaware of value	18 (25%)	38 (35)
Other (GP inexperience, patient refusal) <sup>§</sup>	6 (8%)	na
<b>ACE inhibitors — low use</b>	<b>65 (100%)</b>	
Unaware of value, conflicting advice	17 (26%)	63 (33)
Effective treatment without ACE inhibitors	11 (17%)	54 (25)
Fear of side effects/contraindications	29 (45%)	53 (29)
Cost	4 (6%)	na
Other	4 (6%)	na
<b>ACE inhibitors — low doses</b>	<b>51 (100%)</b>	
Not confident/inexperienced/believe up titration is the cardiologist's role	15 (29%)	77 (17)
Fear of side effects	19 (37%)	60 (30)
Not warranted (current dose is controlling symptoms)	10 (20%)	65 (28)
Other (cost, patient desires; minimise polypharmacy) <sup>¶</sup>	7 (14%)	na
<b><math>\beta</math>-Blockers — low use</b>	<b>61 (100%)</b>	
Unaware/not confident	20 (33%)	71 (24)
Fear of side effects/comorbidity	35 (57%)	57 (25)
Other (cost, adequate response to other medication) <sup>**</sup>	6 (10%)	na

ACE = angiotensin-converting enzyme. na = not applicable (means that an overall importance rating cannot be given or that an issue was not rated).

\* Percentage of responses within each topic. <sup>†</sup> Mean % rating. <sup>‡</sup> Also includes GPs inexperienced in heart failure cases, too many patients to see in a short time, and echocardiography referrals take time. <sup>§</sup> Also includes patients diagnosed by others, cardiologist should see early, and regarded as a specialist procedure.

<sup>¶</sup> Also includes goal to lessen hospitalisations, and started on low dose by other provider. <sup>\*\*</sup> Also includes prolonging life not always a goal, expect cardiologist to initiate, initiating and monitoring difficulties.

larly if ordered on a routine basis), patient refusal to have the investigation, and that echocardiography was the province of specialists or hospitals.

**Topic 3: Using angiotensin-converting enzyme (ACE) inhibitors**

Participants were asked to express their views on why GPs might not prescribe ACE inhibitors in newly diagnosed cases. The most common reason noted was a concern about possible side effects, such as hypotension, worsening renal dysfunction, or an allergic reaction.

Not all GPs shared these views, offering comments such as: “The evidence for their [ACE inhibitors] use is very good, and if there is a side effect then I will look for an alternative”; and “Side effects are not an issue because they are generally well tolerated by patients”.

Another main reason was that many GPs were unaware or unconvinced of the benefits of ACE inhibitors, or were more familiar with the use of other drugs. A few noted that they have received conflicting advice about the benefits of ACE inhibitors, and that teaching hospitals and specialists should lead by example in promoting the value of this drug in treating heart failure.

That other medications are effective in controlling heart failure symptoms was another significant explanation. Other less frequently noted reasons concerned cost and overservicing, and the fact that the patients were initially treated by physicians using other medications.

**Topic 4: Increasing the ACE inhibitor dose**

Participants were asked to provide reasons why GPs might not up-titrate the dose after initiating ACE inhibitor therapy. The most common concern was possible side effects of increasing the dosage. This included concerns about hypotension, cough, renal dysfunction, and haemodynamic intolerance. The next most common group of reasons related to lack of experience. Some described it as a lack of awareness of recommended practice, ignorance of the possible benefits, or simply a lack of confidence in up-titrating the dose.

Some GPs mentioned that the dose of ACE inhibitors was not increased because the patient had responded well to the low dose, and that it was controlling the condition. One GP “wanted room to move if the condition later worsened”. Others observed, “If a patient’s condition is controlled, why

increase the dose?”. Other reasons included, firstly, a desire to minimise medication because patients are often on multiple medications; secondly, patient reluctance to increase the dose; and thirdly, cost.

**Topic 5: Using  $\beta$ -blockers**

Participants were asked to consider what, if anything, might inhibit GPs from using  $\beta$ -blockers. The most common explanations offered were concerns about the possible side effects of the drug, difficulties associated with comorbidities and polypharmacy, and contraindications such as asthma and diabetes mellitus. The side effects of concern included renal impairment, bradycardia and heart block or cardiac decompensation.

Other reasons for not prescribing  $\beta$ -blockers were lack of awareness of the recommendation that they should be used; lack of familiarity with the findings of trials; lack of confidence in applying these findings; and no experience in  $\beta$ -blocker use, particularly in a community setting. Many noted that current trial results and recommendations for  $\beta$ -blocker use directly contradicted advice given during their medical training.

**DISCUSSION**

Many clinical guidelines on assessing and managing heart failure have been published in recent years, including those for Australia and New Zealand.<sup>14</sup> This study has identified some reasons why GPs have difficulty implementing the recommendations in these guidelines in the primary care setting. The main barriers were related to GPs’ need for more information on the benefits of new tests or drugs (both for themselves and for convincing their patients), and for practical information on initiating and optimising complex therapies. External factors, both real and perceived, such as access to echocardiography services, as well as patient issues, such as age, mobility, cost and perceived willingness to comply, also affected implementation of best practice. Box 2 summarises the main needs identified in this study. The issues raised were consistent with the findings of recent similar UK studies,<sup>15-17</sup> but had not previously been documented in the Australian context. The fact that the obstacles identified were so similar suggests that they are likely to be experienced by GPs in other countries as well.

Our study focused on selected aspects of managing heart failure from the point of view of GPs only. It did not take the perspective of others involved in heart failure man-

**2 Needs identified by general practitioners for improved heart failure diagnosis and management**

**Echocardiography**

- Improved access
- Understanding of its role
- Having knowledge of significance of specific findings

**ACE inhibitors and  $\beta$ -blockers**

- When to use, when and how to titrate
- Side effects and influence of comorbidities

**Patient-related issues**

- How to explain to patient the value of echocardiography and other treatment
- Avoiding risk of medication side effects, especially if the patient is feeling well

**Communication**

- Better communication, especially when patients are hospitalised
- Improved linkage with specialists

agement (such as cardiologists, general physicians, cardiac nurses, or home carers) or of patients themselves, nor did it examine systems of care. We acknowledge that our research involved qualitative methods and used doctors who were largely self-selected. However, although the sample was not necessarily representative of all GPs, there was a mix of city and rural GPs from different locations, and the questions were designed to gain an understanding of what determines the dynamics of heart failure practice within given patient circumstances (as described in the interview scenarios) and different GP contexts (eg, urban, rural, experienced and less experienced in treating patients with heart failure).

Obtaining information on barriers to change is important because it can be used to tailor strategies to improve implementation.<sup>18</sup> The barriers identified in heart failure practice are many, suggesting that different approaches are likely to be needed to bridge the gap between evidence and best practice.

Firstly, there is a need to focus on providing specific information on the importance of echocardiography in both confirming the diagnosis and determining underlying ventricular function and cause of heart failure, thus aiding in management. Access problems need to be overcome, and doctors need to be given practical information on when and how to refer patients for echocardiography. In the future, use of B-natriuretic peptide assays (BNP and pro-BNP) will likely prove an important adjunct in diagnosis.

Secondly, there is a need to reinforce the value of immediate control of congestive symptoms and the effectiveness of ACE inhibitors and  $\beta$ -blockers in retarding disease progression, improving the patient's quality of life, and reducing the risk of rehospitalisation and death.

GPs are inundated with treatment guidelines, and greater attention needs to be paid to providing guidance on how to implement them. There should be clear schedules describing when and how to initiate and titrate medication. Recent studies have suggested that physicians may be deterred from following guidelines that involve complex diagnoses or inconvenient procedures. In such cases, tools for applying the evidence, such as algorithms and interactive workshops, might facilitate adherence to complex recommendations and the acquisition of new skills and knowledge.<sup>19,20</sup>

Thirdly, it needs to be recognised that diagnosis and management of heart failure is often complex, as the symptoms may be non-specific and the patient may have confounding comorbidities. While GPs should be the central providers of care, studies have confirmed it is beneficial for cardiologists to treat patients with heart failure, and their authors have recommended closer collaboration between GPs and cardiologists, particularly in complex cases involving the use of specialised diagnostic tests and multidrug therapy.<sup>21</sup>

Heart failure will certainly become more prevalent in our community. Improving the application of evidence-based research requires implementation strategies tailored to meeting the information needs and practical concerns of GPs, and to facilitating better links between GPs and specialists.

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## COMPETING INTERESTS

None identified.

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