Patients and health professionals’ perspectives on the sociocultural influences on secondary cardiac behaviour: a qualitative study of the implications in policy and practice

Victoria Ononeze, Andrew W Murphy, Molly Byrne, Colin Bradley and Anne Macfarlane


Objectives. To explore the similarities and differences between patients and health professionals’ perspectives on the sociocultural influences on secondary cardiac behaviour, and the implications in policy and practice.

Methods. Qualitative study using grounded theory research. We used a linked, phased study to ascertain the factors which helped shape patients’ views about their heart problems and how these influence secondary cardiac behaviour. We also explored health professionals’ perspectives on patients’ views and interpretations. A total of 70 participants, 56 patients and 14 health professionals, took part in individual and group interviews and focus groups.

Results. Patients seemed in control of their heart condition and communicated a sense of satisfaction in how they manage it. To interpret the sociocultural influences on secondary cardiac behaviour, patients used theirs and community knowledge of heart disease, personal constructions of cardiac illness, together with their individual belief systems, particularly relating to lay health beliefs. Individual interpretations were unique and contextual, but there were many common views which did not differ between patients.

Conclusions. Patients and health professionals reported similar areas of influence but there were important differences in emphasis. Providers described the ambivalence between being positive about the future health of patients to boost their recovery process, and recognition that this positive outlook could be construed as a ‘cure’.

Keywords. Grounded theory research, lay and professional perspectives on heart disease, secondary heart disease prevention, sociocultural influences.

Introduction

Studies have shown that appropriate medication, rehabilitation and lifestyle change aimed at people with established heart disease are effective.1,2 The management of risk factors in these patients, however, remains suboptimal.3 There is evidence that this relates to poor uptake or adherence to recommended treatment. The failure to consider individual heart disease beliefs and experience has been suggested as a factor that may limit the extent to which behavioural change is likely to occur.4,5 Increasingly, attention is being focused on the need to study secondary cardiac behaviour within a sociocultural context, particularly the

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effects of psychosocial and clinical factors.\(^5\)\(^6\) This is to help understand why behavioural changes may be problematic for, or resisted by, people living with heart disease.

The study of care processes is considered an essential part of the evaluation of health care interventions. This is because it can help to improve the understanding of how health outcomes are produced and the strengths and weaknesses of care provision.\(^7\)\(^8\) The literature on heart disease experience suggests that such an examination would be useful in helping care providers understand how cardiac care practice and delivery influence secondary cardiac behaviour.\(^3\)\(^6\)\(^9\)

For these reasons, this study aimed to explore the individual heart disease experience including heart disease beliefs, understandings of heart condition and views about cardiac care, and how these factors influence health behaviour. Care providers’ views on patients’ experiences and perspectives were also obtained, to ascertain how they might contribute to these. This multi-perspective study was carried out in order to improve the understanding of the impact of patients’ and provider perspectives on heart disease and care processes, on the outcome of secondary preventive measures.

Participants and methods

Study outline

The study was conducted in general practice and hospital settings in the West of Ireland, which serve a mixed rural and urban population. Grounded theory research\(^10\) and symbolic interactionism\(^11\) frameworks were used to guide sampling and data collection, analysis and interpretation.

The study consisted of three linked phases and involved 70 participants, 56 patients and 14 providers. In keeping with grounded theory research, an iterative sampling and data collection and analysis framework was used to explore individual patient heart disease experiences in Phase I. In Phase II, focus groups were used to assess whether the experiences described in the previous phase were reflected amongst patients with a similar level of cardiac illness and demographic details (Table 1).

In Phase III of the study, cardiac care providers were asked in individual and group interviews to comment on patients’ experiences and perspectives on heart disease. From the diverse range of patients’ and provider responses, a coherent patient-centred framework for understanding the influences on secondary preventive behaviour was developed. The description of the study is summarized in Figure 1.

Participants

Fifty-six patients with a primary diagnosis of angina or myocardial infarction (MI) were recruited from general practice heart disease registers,\(^12\) using the maximum variation and theoretical sampling strategies.\(^13\) These sampling strategies helped to capture some of the social characteristics, which may affect experiences or perspectives on heart disease (Table 1). These include patient factors such as age and gender, primary diagnosis of MI or angina, length of heart disease experience and practice settings (rural, urban, size of partnership). Recruitment was by a letter from GPs requesting patient participation.

The 14 cardiac care providers were recruited from the community and two hospitals, a regional centre and district hospital (Table 2). These providers were selected using strategies\(^13\) which helped to ensure that they reflected the range of professionals involved in the daily care of heart patients.

Iterative data collection and analysis

Phase I. In the individual interviews, the 26 patients were asked to recount their heart disease experiences. These include the symptoms they experienced and the context within which these were experienced, and their responses to these symptoms and the diagnosis of a heart condition. Patients’ understandings of the nature of their heart problems, views about services and treatments and experiences of living with heart disease were also explored (Box 1).

Fourteen interviews were held in patients’ homes and 12 in general practice surgeries. Interviews lasted between 45 minutes and 2 hours. The interviews were transcribed and analysed using NUD*IST5

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\text{Table 1 Individual patient interviews and focus groups—sample profile} \\
\begin{array}{|l|l|}
\hline
\text{Individual interviews} & \text{Focus groups} \\
\hline
\text{Number of patients} & 26 & 30 \\
\text{(16 males, 10 females)} & (21 males, 9 females) \\
\text{Average age} & 68 years & 66.5 years \\
\text{(range 35–81)} & (range (46–83)) \\
\text{Educational level} & 6 1st\(^a\), 13 2nd, 7 3rd \\
\text{Health insurance\(^b\)} & 14 GMS\(^c\), 9 Private & 13 GMS, 12 Private \\
\text{Angina\(^a\)} & 11 & 15 \\
\text{(6 males, 5 females)} & (10 males, 5 females) \\
\text{MI\(^d\)} & 15 & 16 \\
\text{(10 males, 5 females)} & (11 males, 5 females) \\
\text{Range of years} & 1.5–21 years & 3–22 years \\
\text{with heart condition} & & \\
\hline
\end{array}
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\(^{a}\) 1st primary education, 2nd secondary education, 3rd higher education and university.  
\(^{b}\) Three patients in each sample group described themselves as fee paying.  
\(^{c}\) About a third of the population (in 2003 those whose income is below €132 per week for a single person aged up to 66 living alone) in Ireland are registered with a GP and receive free primary care and medication. Two-thirds of the population are responsible for their own primary care and costs.  
\(^{d}\) Primary diagnosis of angina or MI.
As the analysis of data took place at the same time as interviewing patients, the interviews were conducted over 10 months, from April to December 2002. Interviewing ceased at the point of saturation, that is, no new themes were emerging.\textsuperscript{15}

Phase II. The main findings from Phase I on heart disease beliefs, knowledge of risk factors and perceptions of individual risk, understandings of heart problem and everyday life with heart disease were used to direct discussions in six focus groups (3–7 people per group) consisting of another 30 patients (Table 1). The findings were presented in the form of vignettes,\textsuperscript{16} written texts of individual experiences and perspectives (Box 2) to which participants were asked to respond. The focus groups took place in general practice surgeries. Data generated were transcribed and
analysed using the framework developed from the individual interviews in Phase I.

Phase III. For the interviews with cardiac care providers the schedule (Box 3) consisted of structured vignettes statements on the key findings from the patient interviews and focus groups. Providers were asked for their views on these statements, including what they thought helped patients form these views and the implications of these for implementing appropriate preventive measures. The interviews were carried out in general practice and hospital settings. The information obtained was analysed in the context of patients’ experiences and perspectives.

Interviews and focus groups were conducted by VO (PhD student researcher) under the guidance of AM (experienced qualitative researcher) and AWM (Professor of General Practice), who also assisted with data analysis and guided interpretation.

Data analysis
In line with grounded theory, data analysis involved the complementary process of coding and categorization of data, and developing analytical questions and a conceptual framework. Deviant case analysis was carried out to increase the validity of analysis. Data analysis consisted of a four-stage process (Box 4). The first stage concerned the identification of the central and unifying categories of data. These related to the many common interpretations of experiences which permeated the datasets. The second stage involved integrating the central data categories to identify the ‘theoretical link’ in the data or the basic social process of experience (patients’ common beliefs and attitudes to heart problems). In the third stage of analysis, the factors that helped determine these common beliefs and attitudes were examined within a sociocultural framework. Care providers’ views on patients’
experiences and interpretation of heart disease were included in this analysis. To enhance the understanding of the effects of the various factors in the framework on secondary cardiac behaviour and the relationships between them, three linked explanatory concepts (Box 5) were developed in the final stage of analysis. The explanatory concepts detail patients’ descriptions of how personal and community beliefs, heart disease experiences and sociopolitical structures influence the way they view their heart condition and behave.

Results

Patients and health professionals’ views on the sociocultural influences on secondary cardiac behaviour are presented under the two explanatory concepts of secondary cardiac behaviour: beliefs and attitudes to heart disease and the impact of general and heart health policies. The impact of health and social interactions is described within these contexts. Each concept comprises of key themes which are supported by extracts from the three sets of data (patient interviews, patient focus groups and provider interviews). The similarities and differences between patients and providers’ perspectives are highlighted. For some issues, there are more provider quotes compared with patients to illustrate the perspectives of the professional groups interviewed.

Beliefs and attitudes to heart disease
This concept contained factors that were considered as antecedents to health behaviour, and provided the reasoning or motivation for patients to implement secondary preventive measures. These facts are presented under three key themes: cardiac illness beliefs, beliefs and attitudes to medical treatments and interpretations of causes of heart disease.

Box 4  Data categories analysis levels

<table>
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<tr>
<th>Development of data category system</th>
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<tr>
<td>3 Unifying categories containing 24 central categories</td>
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<tr>
<td>First level analysis of data categories</td>
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<tr>
<td>Identification of the process of heart disease experience: the theory of ‘keeping it going’</td>
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<td>Second level analysis of data categories</td>
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<td>A sociocultural framework to illustrate determinants of process and health behaviour</td>
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<tr>
<td>Detailed third level analysis of data categories (including provider perspectives)</td>
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<td>3 Explanatory concepts of secondary cardiac behaviour</td>
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Box 5  Development of explanatory concepts of secondary cardiac behaviour

| Knowledge, beliefs and attitudes to heart disease: |
| Cardiac illness beliefs |
| Attitudes to lifestyle |
| Impact of health and social interactions: |
| Cardiac care providers |
| Family |
| People with heart disease |
| People with other diseases |
| Wider social networks |
| Implications of cardiovascular health policies: |
| Availability of cardiac services |
| Accessibility of cardiac services |
| Local/national cardiac health priorities |
| Professional education; skills and attitudes |
**Cardiac illness beliefs**

Patients' considered heart disease as a condition that either leads to sudden death or survival with good recovery and quality of life. Heart disease was referred to as an illness which now allows people to carry on with normal life. This was based on the views that many people experience few symptoms and that effective treatments to reduce these symptoms are available. Patients cited negative representations of illness and care and treatment experiences in the past. Some looked at cardiac illness as an acute or episodic illness, rather than a life-long chronic illness. Providers agreed with patients' interpretations of cardiac illness. However, there were important differences in emphasis. The two cardiologists and three GPs felt that such positive attitudes should be encouraged. The cardiac registrars and nurses, on the other hand, emphasised the difficulties in changing patients' behaviour in the context of such beliefs (Box 6).

**Beliefs and attitudes to medical treatments**

Patients' beliefs about cardiac illness reflected positive views about medical treatments. The effectiveness of medical treatments in the control of heart disease was the key influence in patients' attitudes to cardiac illness and behaviour. Some viewed medical treatments, especially a bypass operation, in terms of securing the future or effecting a cure. The risks and benefits of treatments appear not to be accurately understood. The potential risks and complications of treatments were often played down. Providers' views differed from patients' beliefs, and were clear in highlighting the factors which they felt have contributed to these beliefs (Box 6).

**Interpretations of causes of heart disease**

Patients' reflections on the causes of heart disease and what may have caused their heart problems drew on personal and other peoples' experiences and medical knowledge. This level of reflections often created tensions between individual experiences and medical explanations. Many were of the opinion that medical knowledge does not fully explain the implications of

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**Box 6  Cardiac illness beliefs**

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<th>Patients</th>
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<td>‘I think it’s because more can be done for you now than years ago, definitely more can be done now, and more is known about it and probably, special medication and everything. I think myself cancers is a bigger worry because it wouldn’t be that many heart problems that there can’t be something done for’ (Female patient 7).</td>
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<td>‘I had a bypass and I’d a pacemaker put in there last July as well. But I’m fine. I’m getting on. It’s a thing you can live with, by comparison to cancer now or anything. It’s not as much feared I think as cancer or as much as it used to be, we’ll say 20 years ago...people learn to live with it and go about and most of their daily living that they were doing anyway...’ (Group B, male patient 1)</td>
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<tr>
<td>Providers</td>
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<td>‘Well in many ways it is acute and it is episodic. You get episodic unstable episodes, they can be modified by coming to hospital and having procedures done and modifying medications. And then they go back to a more stable form of their condition...But I mean, certainly we don’t want to give them the perception that they are very sick people because they are well people with a problem, a lot of these patients’ (Cardiologist 2)</td>
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<td>‘To some extent it is cured. I mean, okay, if he has had left ventricular failure and there’s muscle damage then it’s not cured. But if he has had angina and his cardiac muscle is now properly revascularised, it is “cured”...I would to some extent see it as being a positive step to believe that he is cured as long as he doesn’t ignore all the other things’ (GP 1)</td>
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<td>‘There is so much more to offer people. If people say my next door neighbour had a heart attack and he is back playing 18 holes of golf and sure nothing happened to him. That guy maybe living with heart failure for the rest of his life, he may be stable but he has a pretty high mortality’ (Cardiac Registrar 2)</td>
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<td>‘And sometimes they are back to their bad habits within one or two or three years of having the bypass because they are feeling so well. And it is not in their minds you know, that this has been a very serious thing. I would have to say the majority’ (Practice Nurse 1)</td>
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**Box 7  Beliefs and attitudes to medical treatments**

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<td>‘Nowadays people have triple bypasses. So it’s kind of “two a penny now”. You have angiogram and angioplasty and people have this everyday. The mystery is gone out of it and they’re all so successful. There’s a whole series of medication’ (Male patient 10).</td>
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<td>‘It gives you a new lease of life after the operation. You are so delighted that you are still alive you start doing things you wouldn’t normally do, chopping down trees, all that. People are having them (cardiac surgery) now everyday and there’s no problem, no danger in it’ (Group W, male patient 3)</td>
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<td>Providers</td>
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<td>‘But the positive things are, you know, ‘here is the cure and here is the magic stent and here is the magic portion. So I think they’re getting fed that information. So one can understand why they have these beliefs that the cure is there and we don’t need to worry because all these fancy things are around’ (Cardiologist 1)</td>
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<td>‘It sounds very cool, not cool, but it sounds very good cardiac surgery. “Go in and cut it out or repair it and that is the job done, away you go”. I think that is what people, the message people tend to get. But I agree (cardiac surgery being perceived as routine)’ (GP 3)</td>
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<td>‘A lot of money has been ploughed into the health service and in particular the facilities for heart disease, and people are getting access to bypasses now instead of having to wait 2 or 4 years. They are being done in sometimes 2 to 4 weeks. So they are more common now...if a surgeon is doing a bypass every day the chances are he won’t have as many complications’ (Cardiac Nurse 1)</td>
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lifestyle in heart disease at the individual level. Such a view seems to help lessen the burden of individual responsibility. These interpretations of heart disease causality were also reflected in patients' attitudes to recommended lifestyle changes. Decisions on self-care activities were undertaken and evaluated based on personal and other peoples' experiences, rather than professional advice. Provider perspectives differed. All felt that the lack of appropriate and sustained patient education was helping patients form these perceptions (Box 8).

Impact of general and heart health policies
Most notable policy and practice influences on secondary cardiac behaviour were captured under two key themes: attitudes to living with heart disease and philosophy of cardiac care practice.

Attitudes to living with heart disease
Patients seem to consider heart disease as a good example of the success of modern medicine. This was explicitly explained in terms of the availability, accessibility and effectiveness of medical treatments and cardiac services. All reported positive attitudes and good adherence to medicines. Some were confident that by adhering to their medicines that they were unlikely to suffer future cardiac events. Together with the lack of serious symptoms, many interpreted their cardiac illness as being under control. Hence, there was a perception of cure and less emphasis on lifestyle change. Valid positive outlook for the future was in the context of the availability of effective treatments. Providers emphasised the practice dilemma associated with these patients' attitudes. In particular, the focus on acute events or current episodes of symptoms, which have been successfully treated, rather than on the chronic condition (Box 9).

Philosophy of cardiac care practice
Patients' and providers' accounts indicated the tendency of health professionals to present information on heart disease to patients in a positive manner to boost recovery. This seems to be done purposefully to move patients away from viewing heart disease as causing much disability. Many patients remembered being told by the 'heart doctor' that they would make a good recovery within a short time. In most cases, this hopeful view of recovery matched individual experiences. As with cardiac illness beliefs, there were differences in emphasis on providers' perspectives on information and advice given to patients. The

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**Box 8** Interpretations of causes of heart disease

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<td>‘And most of, I think except for one who was addicted to drink, they (group participants) were all like you know, very much into walking and quality of life like. I don’t think there were many smokers or anything among them, no. ... You wonder like what does cause it with all that you hear like you. Weight obviously has nothing to do with it anyway’ (Female patient 6)</td>
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<td>‘...because I’ve seen different types of people and they got heart attacks. And you’d say that person knows how to look after themselves, there’s no danger of him getting it, and it happens’ (Group S, male patient 1)</td>
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<th>Providers</th>
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<td>‘But it all comes down to appropriate public education particular for those who haven’t heart disease or not aware they might have it’, in terms of primary prevention. I think that’s crucial’ (Cardiologist 1)</td>
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<td>‘And people are probably more keen to modify risk factors for cancer reasons than for heart disease reasons. There are very few people who give up cigarettes for heart disease unless they have it’ (GP 2)</td>
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<td>‘So if you’re not doing any of these things (smoking, drinking and over eating) you don’t expect it. ‘I do everything right so therefore it’s not going to happen to me’ ... They (health messages) don’t look at the actual family history or that it can just come out of blue to some people’ (Outpatient administrator/Nurse)</td>
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**Box 9** Attitudes to living with heart disease

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<td>‘I know it is there always before you. But you don’t want to be thinking about it all the time. It’s bad enough to think about it when it hits you like. But you know there is something there that can be done for you and all that eventually’ (Male patient 9)</td>
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<td>‘I would never forget to take my medication. I will never miss out on it. I always take it. And I don’t think about it after that. Nobody in my family consider me to be a heart patient.... Well I have no problem getting on anyway. Well it doesn’t draw me back in anyway. I don’t think it held me back in anyway once that I got over that (cardiac event)’ (Female patient 12)</td>
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<th>Providers</th>
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<tr>
<td>‘I suppose it’s a learning process really, isn’t it? Especially, the problem is that patients come with an acute problem, they’re in for a few days in hospital, they’ve had a procedure and they go home to GPs or clinics. And then once they get into that scenario it’s difficult to explain things further’ (Cardiologist 1).</td>
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<td>‘Very few people realise that certainly their bypass is probably not going to prolong their lives very much. Most people think they are cured... That is I suppose where we fall flat because we don’t educate people in this manner. We don’t tell them what they need to know’ (GP 1).</td>
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<td>‘But I do think maybe because of the way we openly talk about how well people should be post treatment or all the drugs available to make them lead an easier, more fulfilled life and everything like that. They feel that if everything is there and I’m on it then I should be feeling good. And there’s no reason why they should be watching out or looking over their shoulder for something that may not happen’ (Practice Nurse 2).</td>
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<td>‘Well you see with the cardiac rehabs now too and when they’re exercising so hard and everything else, they feel, ‘well it’s no harm not to cut the lawn’. It’s no harm to go back to normal, whatever I was doing, ... So therefore they feel secure in themselves’ (Outpatient administrator).</td>
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cardiologists and GPs felt that encouraging patients to carry on with normal life should not be considered a barrier to secondary prevention. Cardiac registrars and nurses tended to emphasise the need to get the balance right, between giving patients positive reassurances and making them aware of the nature of their heart condition (Box 10).

Discussion

Summary of findings

Secondary cardiac behaviour was greatly influenced by patients’ previous ideas about heart disease, based on the experiences of other people and from information in the public domain. These ideas concern the nature and causes of cardiac illness, its medical treatments, attitudes to living with heart disease and information and advice on general and heart health. Patients’ perspectives on these issues play a part in how they look at and manage their heart problems within the context of their lives. Of particular interest is the way in which these perspectives were similar to or differed from those of providers.

Patients and providers emphasized similar spheres of influence in their explanatory models of heart disease, in terms of physical and social functioning. Providers identified the majority of patients with heart disease as healthy, ‘not sick but well people with a problem who are able to continue with normal life’. This perspective was not related to medical diagnosis but to the low symptoms experienced by the majority of patients with heart disease. They distinguished between this group of patients, whose treatments have been successful and heart conditions stabilised, from the minority with more serious forms of heart disease. Providers’ views on medical treatments also echoed some of the patients’ perspectives on their effectiveness in arresting the disease and potential risks and complications.

Patients and providers somewhat differed in their emphasis on the explanatory models of heart disease process. While both made references to cardiac illness as being acute or episodic, providers were concerned with the perceived lack of understanding of the underlying disease process. That is, that some patients did not have a clear understanding of the coronary heart disease process. Of particular concern was that these assessments of cardiac illness reflected individual and community experiences. Providers blamed patients’ misunderstandings of the disease process on the difficulties in achieving an appropriate balance between encouraging ‘normality’ and preventing ‘cardiac invalidity’.

Comparison with other studies

A number of studies in the literature have produced rich descriptions of heart disease experiences and have suggested how these might influence secondary cardiac behaviour. This study adds to previous knowledge by showing that secondary cardiac behaviour is related to a complex interaction of beliefs and attitudes to heart disease, and care experiences and practice. A key finding is the interpretation and evaluation of heart disease in terms of medical treatments and physical and social functioning. This accords closely with previous assertion that improved uptake of preventative measures would require overcoming ideas that cardiovascular disease is a ‘natural’ cause of death or one that does not lead to considerable disability.

Patients and care providers described the majority of people with heart disease as having good personal control of illness (primarily with medical treatments) and relatively ‘normal’ life due to minor restrictions on everyday activities. A similar relationship between the absence of or low symptoms and assessments of future risks was found in a study of patients with diabetes. This emphasises and supports the importance of a performance orientation to health
and illness documented in the literature on lay health beliefs.\textsuperscript{23,24}

However, this study has revealed a dissonance between the low risk as perceived by patients themselves and the accepted high risk by health professionals for all patients with established heart disease. Providers highlighted the difficulties in encouraging patients to carry on with ‘normal’ life and at the same time ensuring that they understand the disease process. The potential impact of such dissonance on patients’ making and maintaining the necessary behavioural changes to reduce the risk of further events can be significant. Thus, supporting the growing recognition of the value of individual beliefs and subjective experience of illness and care in developing appropriate and effective health messages and interventions. These findings are also consistent with other research on the effectiveness of health messages, generally based on population risk, in negotiating behavioural change or treatment at the individual patient level.\textsuperscript{25,26}

**Implications of the study**

This study provides insight into the social and clinical context within which secondary heart disease prevention is implemented. The findings have key implications for daily clinical practice. At the community level, primary care professionals need to acknowledge and examine the beliefs and knowledge base of patients. At the hospital level, cardiologists and other professionals need to ensure that patients understand the coronary disease process, with emphasis on a chronic condition and not just acute interventions.

The findings also have important policy implications for health promotion and illness prevention. They show considerable tension between risk interpretation for individuals at moderate risk and the potential population gain from reduction of risk factors for all individuals. Specifically, they highlight the impact of readily accessible information and community experience on individual interpretations of heart disease risk factors and preventative messages.

**Strengths and limitations of study**

The theoretical framework of this study is centred on examining illness behaviour in social context. A key principle in this approach is that people should be regarded in the context of their environment.\textsuperscript{10,11} The framework was, therefore, useful in helping to understand some of the complex processes which influence secondary cardiac behaviour.

The methods used were designed to maximize the credibility and transferability of the findings to other settings and contexts.\textsuperscript{27,28} The findings emerged from multiple perspectives, patients and professionals, from a range of backgrounds and personal and professional experiences. Data were collected using a number of methods which helped to validate findings and to explore contradictory views. Patients’ and provider input in establishing the credibility of the findings worked well in helping to make clear the main issues. The large sample size of 70 participants (56 patients and 14 professionals) is also a strength of the study.

The patient samples do, however, have limitations. The sample did not include patients with heart failure, who may experience more limiting symptoms and have different perspectives. The reason was that the study was focused on patients with angina or MI, who form the majority of cardiac patients. The samples were also dependent on lead GPs in participating general practices. This made the recruitment of patients with a wider range of characteristics, such as those who may have more unfavourable attitudes to their heart problems or negative experience, more difficult.

**Conclusion**

The advances in medical technology in the management of heart disease have been remarkable. It is within these contexts that patients and providers in this study have interpreted the sociocultural influences on secondary cardiac behaviour. There has been a growing recognition in the literature that increasing medical activities in health may limit the ability of health services systems to combine self-care with the use of modern medical technology.\textsuperscript{29–31} This is a very important point that this study has drawn out. Providers reported the practice dilemma between being positive about the future health of patients to bolster their recovery process and recognition that this optimistic view could be construed as a ‘cure’. In part, this reflects competing policy priorities between investments in medical treatments and effective support for lifestyle change. As health care is increasingly judged in terms of provable outcomes, the provision of skilled support to achieve lifestyle change remains a challenge.

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preliminary identification of themes and in writing the paper. AM assisted in reviewing data collection and interpretation and the write-up of the study and paper.

Declaration
Competing interests: None declared.

References