

Cardiovascular disease



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Introduction

This paper utilizes qualitative data drawn from a series of focus group discussions with patients living with coronary heart disease which explored their understanding of and adherence to a prescribed monitoring and medication regime. These findings are drawn upon in order to contextualize, from the patient's perspective, the outcomes of the Departments of Health's Coronary Heart Disease National Service Framework strategy.

The paper focuses attention on the consequences of this regulatory approach to clinical and risk management for those patients already living with coronary heart disease.

Case Study

Patient is 59 yrs old and had a myocardial infarction 2 years ago. He is obese, a smoker and poorly motivated. The case exemplifies many of the difficulties that frequently arise in managing cardiovascular disease, and suggests potential avenues for improving outcomes through the application of a disease management programme.

The Coronary Heart Disease National Service Framework

By the mid 1980s, it had been generally accepted by most clinicians that there was strong evidence to support the existence of a linear relationship between cholesterol levels and cardiac mortality (Shaper et al. 1985, Stamler et al. 1986), and that therefore lowering total cholesterol levels would reduce the risk of individuals developing coronary heart disease.

This opened the way to the process of establishing a recommended cholesterol threshold level at which treatment should be instigated (Leitch 1989). Since then, the trend has been towards setting ever-lower threshold targets for treatment for those designated as being at high risk of developing coronary heart disease and for those already living with the disease.

In 2000, the Department of Health published its Coronary Heart Disease National Service Framework which set out 12 standards for the prevention, diagnosis and treatment of the disease (Department of Health 2000). The National Service Framework standard Number 3 recommended that GPs identify and develop a register of diagnosed patients and those patients at high risk of developing coronary heart disease. Dietary and lifestyle advice (what the document terms 'modifiable risk factors') was to be offered to these patients, and their medication reviewed at least every 12 months. It was also recommended that statins be prescribed to anyone with coronary heart disease or having a 30% or greater 10-year risk of a 'cardiac event,' in order to lower their blood cholesterol levels to less than 5 mmol/l or by 30% (whichever is greater). These recommendations were vigorously promoted when they were incorporated into the new General Medical Services contract that came into operation in 2003.

The relative performance of an individual Primary Care Organization in meeting each of these indicators attracts points on a sliding scale that are then converted into payments for individual GPs. In relation to the management of patients with coronary heart disease, higher payments are received if a Primary Care Organization increases the percentage of patients with coronary heart disease who have their total serum cholesterol regularly

monitored, and whose last cholesterol reading was less than 5 mmol/l (Department of Health 2004a).

The most recent Department of Health progress report on the National Service Framework argues that the massive growth in statin therapy since 2000; ‘. . . is one of the most important markers of progress on the NSF,’ and was directly saving up to 9, 000 lives per year (Department of Health 2005: 19). Statin prescriptions have been rising at the rate of 30% per year since 2000, and in 2004/5 £750 million was spent on statins, equivalent to some 2.5 million people on statin therapy in England (Department of Health 2005). In July 2004, low doses of statins became available over the counter without prescription for the first time, for those at moderate risk.

The Public Health Discourse(S) Of Cardiac Risk

The application of risk discourses in the field of public health (or more precisely the ascription of health risk to particular behaviours) as conceptualized within those elements of the risk literature most influenced by Foucauldian notions of governmentality, are seen as serving to construct the socially recalcitrant as distinct from the responsible citizen (Foucault 1977, Turner 1987, Lupton 1995). In a similar way, Dean (1999) argues that once risk has been attributed to particular health behaviours, the distinction is then drawn within public health policies between ‘ active citizens’ who are perceived as able to manage their own health risks, and ‘ at-risk’ social groups who become the object of targeted interventions designed to manage these risks.

Two distinct dimensions or approaches to the conceptualization and public health management of cardiac health risks also emerge from an examination of the 'guiding values and principles' which inform the Department of Health's Coronary Heart Disease National Service Framework (Department of Health 2000). While one approach (described below as the 'epidemiological' model of risk) largely conforms to the individualized 'at-risk' discourse, a second discourse (described below as the 'social' model of risk) which is much more concerned with health risk at a social and material level can also be discerned within the National Service Framework. These two distinct and arguably competing discourses of risk point to a complexity in current public health policy that might not be anticipated from a reading of the governmentality literature alone.

The first conceptualization of cardiac risk within the Coronary Heart Disease National Service Framework is one that can be termed the 'social' model of health risk. This model essentially reflects a socio-economic understanding of the determinants of population health, and draws attention to the importance of addressing material, social and psychological risk factors in addition to the known biological factors in heart disease.

In the National Service Framework, this social model is reflected in the endorsement (albeit at a rhetorical level) of an interventionist role for the state in addressing these wider determinants of the disease: 'The Government's actions influence the wider determinants of health which include the distribution of wealth and income. A wide range of its policies will have an impact on coronary heart disease including social and legal policies and policies on transport, housing, employment, agriculture and food,

environment and crime’ (Department of Health 2000: Section 1, Para 17).

There is also an explicit acknowledgement that these risk factors disproportionately disadvantage particular sections of society, demonstrated in the higher incidence of coronary heart disease among the manual social classes. It is also acknowledged that there is inequity in health service provision; ‘. . . there are unjustifiable variations in quality and access to some coronary heart disease services,’ with many patients not receiving treatments of ‘proven effectiveness’ (Department of Health 2000: Section 1, Para 13).

This formal acknowledgement of the government’s role in addressing the wider social and economic influences on cardiac health risk could to some degree be said to conform to Beck’s (1992) notion of the ‘risk society’; wherein many of the health risks faced by the population are a consequence of unchecked scientific and industrial ‘progress.’ Beck asserts that in response a greater public awareness or ‘reflexivity’ of risk has emerged which reflects a shift from ignorance or private fears about the unknown to a widespread knowledge about the world we have created. The question of whether a reflexivity concerning the social and environmental factors associated with cardiac risk can be discerned in a patient’s own discourses of cardiac risk is something that will be explored in the discussion below.

The second risk discourse emergent within the National Service Framework (Department of Health 2000) is one which reflects a predominantly epidemiological understanding of health risk. In this model, the relative risk of an individual developing heart disease is based upon a calculation of the mean values associated with certain ‘lifestyle’ behaviours such as smoking,

diet and exercise that are drawn from aggregated population data for heart disease incidence. This is a statistical approach that all too often perceives such calculated health risk factors as being realities or causative agents in their own right, often with little acknowledgement of the social and material context of these health behaviours.

Nevertheless, it is on the basis of this epidemiological model of health risk that the Department of Health has confidently set national guidelines that now require General

Values and principles underlying the CHD National Service Framework

Nine stated values underlying development of national policies for CHD

1. Provision of quality services irrespective of gender, disability, ethnicity or age.
 2. Ready availability of consistent, accurate and relevant information for the public.
 3. Consideration of health impact in regard to social and legal policies and policies on transport, housing, employment, agriculture and food, environment and crime.
 4. Public health programmes led by health and local authorities to ensure targets for CHD are met.
 5. Reduction in health inequalities. Resources will be targeted at those in greatest need and with the greatest potential to benefit.
 6. Evidence-based. CHD policies are to be based on the best
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available evidence.

7. Integrated approach for the prevention and treatment of CHD in health policy, health promotion, primary care, community care and hospital care.

8. Maintenance of ethics and standards of professional practice.

9. Recognition of the importance of voluntary organizations and carers at home in addressing CHD.

Four stated principles underpinning the CHD NSF

. Reducing the burden of CHD is not just the responsibility of the NHS. It requires action right across society

. The quality of care depends on:

1. ready access to appropriate services

2. ii. the calibre of the interaction between individual patients and individual clinicians

3. iii. the quality of the organization and environment in which care takes place.

. Excellence requires that important, simple things are done right all the time.

. Delivering care in a more structured and systematic way will substantially improve the quality of care and reduce undesirable variations in its provision.

Practitioners to identify and monitor 'high risk' patients and to prescribe the recommended drug treatment regime. It can be argued that this regulatory or 'managerialist' approach to clinical decision-making constitutes a challenge to the discretion that has been traditionally enjoyed by general practitioners in relation to the clinical management of patients.

This second 'official' discourse of health risk could be seen as indicative of the regulatory and surveillance forms of governmentality identified within Foucauldian social theory. From this perspective, those social groups whose health behaviour or lifestyle are seen to fall outside the acceptable bounds of self-management then become constructed as 'at-risk.'

These are social groups who are seen to, 'deliberately expose themselves to health risks rather than rationally avoiding them, and therefore require greater surveillance and regulation' (Lupton 1995: 76); once identified these groups and individuals then become subject to various health promotion or 'health improvement' initiatives.

Implicit in such forms of governmentality as applied within health policy interventions designed to manage risk are a set of assumptions about the nature of human action predicated on the notion of the 'rational actor' model. Jaeger, Renn, Rosa and Webler (2001) have argued such models of rationality operate at three levels of abstraction. In its most general form, it presupposes that humans are capable of acting in a strategic fashion by linking decisions with actions. That is, human beings are goal-orientated who have options available from which they are able to select a course of action appropriate to meeting these goals. The second level of abstraction which

the authors term the 'rational actor paradigm,' and which is the level at which rationality is probably understood by policy-makers, contains the following assumptions: all actions are individual choices; individuals can distinguish between ends and means to achieve these ends; individuals are motivated to pursue their own self-chosen goals when making decisions about courses of action/behaviour; individuals will always choose a course of action that has maximum personal utility, that is it will lead to personal satisfaction; individuals possess the knowledge about the potential consequences of their actions when they make decisions. Finally, that rational actor theory is not only a normative theory of how people should make decisions about in this case health behaviour, but is also a descriptive model of how people select options and justify their actions (Jaeger et al. 2001: 33).

Many of these rational actor assumptions underpin and inform the Coronary Heart Disease National Service Framework. Such assumptions manifest themselves in a seemingly unproblematic approach to the promotion of 'risky' health behaviour change which plays down the influence of culture, habitus and the material basis of group socialization. This uncritical rationality also threatens the sustainability of the National Service Framework strategy in other ways. The social psychological and sociological literature see the notion of 'trust' as constituted through two dimensions, the deliberative or rational and the affective or non-rational.

As Peter Taylor-Gooby (2006) has pointed out in his work on the problematic of public policy reform, the rational deliberative processes associated with the achievement of greater efficiency in the provision of public services have

unwittingly served to undermine the non-rational processes that contribute to the building of trust in public institutions and in public sector professionals. In this context, the National Service Framework will need to build trust both in terms of the presentation of the biomedical evidence for the effectiveness of statins and other cardiac drug interventions, as well as the more affective elements associated with the belief that the national targets are designed with the best interests of patients in mind rather than being driven by financial considerations alone.

Significantly, given its centrality to a 'disease management' strategy, neither the Coronary Heart Disease National Service Framework (Department of Health 2000) nor the NHS Improvement Plan (Department of Health 2004b) which sets out the governments priorities Coronary heart disease and the management of risk 363 for primary and secondary healthcare up to 2008, attempts to define the use of the term 'risk,' and by extension 'higher risk.' Nevertheless, the conception of risk that shapes the practical interventions proposed within both these strategy documents is clearly the epidemiological one that is described above. In the past, such public health interventions have been largely concerned with bringing about health behaviour change, however now the strategy would appear to be less focused on encouraging greater responsibility for the 'self management' of cardiac risk and more on ensuring compliance with clinical management regimes of monitoring and drug treatment.

Optimising Care Through Disease Management

In the last 15 years, there have been dramatic advances in the pharmacotherapy of heart disease, most notably the introduction of

angiotensin converting enzyme (ACE) inhibitors. (Jaeger et al. 2001: 33)

Unfortunately, numerous studies have suggested that ACE inhibitors are substantially underutilised in heart disease patients. Moreover, there are a multitude of factors which may confound heart disease management heart disease virtually never occurs in isolation, and comorbidities such as hypertension, diabetes, coronary artery disease, chronic pulmonary or renal disease and arthritis occur frequently.

The presence of these comorbid conditions may interfere with heart disease management in several ways. In PATIENT's case, pre-existing renal insufficiency may have contributed to her intolerance to ACE inhibitors. In addition, her use of NSAIDs could promote salt and water retention and antagonise the antihypertensive effects of her other medications. (Jaeger et al. 2001: 33)

Multiple comorbidities may also result in polypharmacy, which, in turn, may compromise compliance and lead to undesirable drug interactions.

Adherence to dietary sodium restriction is often problematic (as in patient's case), particularly in older individuals who are either not responsible for preparing their own meals, or who rely heavily on canned goods and prepared foods. Depression, anxiety and social isolation are common in patients with heart disease, and each may interfere with adherence to the heart disease regimen or with the patient's willingness to seek prompt medical attention when symptoms recur. Similarly, the high cost of medications may limit access to therapy in patients with restricted incomes. Physical limitations, such as neuromuscular disorders (e. g. stroke or

Parkinsonism), arthritis and sensory deficits (e. g. impaired visual acuity), may compromise the patient's ability to understand and comply with treatment. Finally, cognitive dysfunction, which is not uncommon in elderly heart disease patients, may further confound heart disease management.

Impact on Clinical Outcomes

Despite the widely publicised effects of ACE inhibitors, b-blockers, angiotensin receptor blockers and other vasodilators on the clinical course of heart disease, morbidity and mortality rates in patients with established heart disease remains very high. heart disease is the leading cause for repetitive hospitalizations in adults, and in 1997 Krumholz et al. reported that 44% of older heart disease patients were rehospitalised at least once within 6 months of an initial heart disease admission. Remarkably, this rate was no better than that reported in several prior studies dating back to 1985. (Krumholz et al. 1998)

From the disease management perspective, it is important to recognise that the majority of heart disease readmissions are related to poor compliance and other psychosocial or behavioural factors, rather than to progressive heart disease or an acute cardiac event (e. g. myocardial infarction). Thus, Ghali et al. reported in 1988 that 64% of heart disease exacerbations were attributable to noncompliance with diet, medications or both and that 26% were related to environmental or social factors. Similarly, in 1990 Vinson et al. (Vinson, 1995) found that over half of all readmissions were directly attributable to problems with compliance, lack of social support, or process-of care issues, and these authors concluded that up to 50% of all readmissions were potentially preventable.

More recently, Krumholz et al, reported that lack of emotional support among older heart disease patients was a strong independent predictor of adverse outcomes, including death and hospitalization

Rationale and Objectives

The above considerations provide the rationale for a ‘ systems’ approach to heart disease management.

The objectives of this approach are as follows:

- To optimise the pharmacotherapy of heart disease in accordance with current consensus guidelines. (Vinson, 1990)
- To maximize compliance with prescribed medications and dietary restrictions.
- To identify and respond to any psychological, social or financial barriers that might interfere with compliance with the prescribed treatment regimen.
- To provide an appropriate level of follow-up through telephone contacts, home visits and outpatient clinic visits.
- To enhance functional capacity by providing an individualized programme of exercise and cardiac rehabilitation.
- To enhance self-efficacy by helping the patient and family understand that heart disease can be controlled, largely through the patient’s and family’s efforts.

- To reduce the frequency of acute heart disease exacerbations and hospitalizations.
- To reduce the overall cost of care.

The Disease Management Team

Although the composition of a disease management team may vary both from centre to centre and from patient to patient, a suggested list of team members are given below:

- nurse coordinator or case manager
- dietitian
- social services representative
- clinical pharmacist
- physical therapist/occupational therapist
- exercise/rehabilitation specialist · home health specialist
- patient and family
- primary care physician
- cardiologist/other consultants.

Each team member provides their own unique expertise and/or perspective, and these are then woven into an integrated package tailored to meet each individual patient's needs, expectations, and circumstances. Importantly, not all patients will require the services of all team members, and it is therefore essential to identify a team leader. In most cases, this will be the nurse coordinator or case manager, who, in addition to being the patient's primary

contact person and educator, is also responsible for coordinating the efforts of other team members, including the selective activation of appropriate consultations on an individualized basis.

In addition to the team itself, several other components are essential for effective disease management. First, the patient and family should be provided with comprehensive information about heart disease, including common etiologies, symptoms and signs, standard diagnostic tests, medications, diet, activity, prognosis and the role of the patient and family in ensuring that heart disease remains under control.

This information should be provided in a readily understandable patient-friendly format and several patient-oriented heart disease brochures are now commercially available. In addition to these materials, the patient should be given a scale (if not already owned) and a chart to record daily weights, an accurate and detailed list of medications supplemented by medication aids if needed (e. g. a pill box), and specific information about when to contact the nurse, physician, or other team member in the event that questions or new symptoms arise. In this regard, the importance of establishing an effective one-on-one nurse-to-patient relationship cannot be overemphasized, as this interaction will often be critical to the early diagnosis and effective outpatient treatment of heart disease exacerbations.

Patient Perspective

While the above studies indicate a beneficial effect on costs, hospital readmissions, etc., they do not address concerns related to the patient's perspective on this interdisciplinary care. What issues are important to the

patient, and what the advantages are to the patient of participating in an heart disease disease management programme?

In recent years, it has become increasingly evident that it is insufficient to merely provide high quality medical services. In a competitive market, it is essential that the patient is also satisfied with the medical encounter, both in terms of the process of care as well as the clinical outcomes.

Healthcare is an industry, and like all industries, customer satisfaction is critically important. However, unlike most industries, which deal with a tangible product, the healthcare industry deals with a multifaceted service, the myriad qualities of which are difficult to quantify. As a result, the assessment of patient satisfaction is often complex, and the development of a valid and universally accepted instrument for measuring patient satisfaction has been elusive.

Despite these problems, several patient satisfaction questionnaires have been developed, (Garg, 1995) and these have been helpful in defining those issues which are important to patients, and in identifying specific concerns that patients often have with respect to current approaches to healthcare delivery. (Garg, 1995)

Factors which have been consistently shown to play a pivotal role in determining patient satisfaction include: communication, involvement in decision- making, respect for the individual, access to care and the quality of care provided. (Philbin, 1996) Not surprisingly, problems in each of these areas are frequently cited as factors which diminish patient satisfaction. Several components of the heart disease disease management system will

be of direct assistance in answering patient's questions and helping her cope with this new and frightening diagnosis. In particular, the nurse case manager will establish an effective rapport with the patient and her family, and provide an ongoing source of information and emotional support. The patient education brochure and other printed materials will help answer many of Patient's questions and assist in relieving some of her anxieties.

The nurse, clinical pharmacist and physician (s) can provide detailed information and teaching about the medications used to treat heart disease, and the dietitian can directly address the dietary questions and provide an individualized diet that takes Patient's current dietary practices and food preferences into account. The social service representative can assist patient with any financial concerns she may have, make provisions to ensure an adequate social support network, and serve as an additional source of emotional support. The physical therapist or exercise specialist can help in providing recommendations about activities and in the development of an exercise or rehabilitation programme.

The nurse case manager, social service representative, home care specialist, and physician will provide assistance to patient in making the transition from the hospital back to the home environment, and they also will ensure a high level of follow-up care. Perhaps most importantly, the comprehensive care provided by the disease management team will reassure patient that she truly is being cared for, and that all of her needs and concerns are being met.

Invariably, this will lead to a high level of patient satisfaction. In addition, in the case of patient there is good reason to believe that implementation of a disease management programme at the time of her initial hospitalization may have eliminated the need for a second hospitalization. (Young, 1995)

To the extent that patient might have to pay for some of the costs of readmission (e. g. deductible or copayment), the disease management programme would also save her money, a benefit which is universally viewed in a favorable light. And finally, based on compelling data from recent clinical trials, optimizing Patient's medication regimen should translate not only into an improved quality of life, but also into increased survival.

Conclusion

In summary, heart disease management systems provide a win-win-win situation. They are a 'win' for the providers, because they improve clinical outcomes and quality of life. They are a 'win' for the payors, because effective disease management programmes decrease health care expenditures. And they are clearly a 'win' for the patients, who reap multiple benefits, including improved quality of life and well-being, enhanced self-efficacy due to a greater sense of health control, improved exercise tolerance and functionality, increased survival (as a result of more optimal utilisation of heart disease medications), and, in some cases, reduced out-of-pocket expenditures.

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