

Nuffield Occasional Papers  
Health Economics Series: Paper No. 8

# Managed Care

Panacea or  
Palliation?

Alan Maynard and  
Karen Bloor

Introduction by  
John Wyn Owen



The Nuffield Trust  
FOR RESEARCH AND POLICY  
STUDIES IN HEALTH SERVICES

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# Managed Care

Panacea or  
Palliation?

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## CONTENTS

- 5 About the Authors
- 6 Introduction
- 8 Foreword
  
- 10 Abstract
- 11 Managed Care and the Goals of Health Policy
- 18 Managed Care: Structure and Process
- 34 Implications of Managed Care Techniques for the  
UK National Health Service
- 44 Conclusions
  
- 46 References



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## INTRODUCTION

The government is once again undertaking a comprehensive health spending review. Sustainable financing of health care with appropriate mechanisms for individual community and national priority setting are important public policy objectives which have been under scrutiny over many years and must now be addressed with some urgency. The Trust has informed this debate in the past and will continue to do so.

These Occasional Papers offer the economists' contribution and should be of interest to policy-makers at the highest level as they strive to improve the effectiveness of the National Health Service, improve patient care and create the right incentives to reward efficient performance within inevitable financial constraints.

Paper 8 – *Managed Care: Panacea or Palliation?* – by Alan Maynard and Karen Bloor, defines managed care as the practice of funding agencies using purchasing power to control prices and the activity of clinicians and their patients. This exemplifies the transition of purchasers of health care from being passive price takers who accepted provider rates and activities to aggressive price and activity makers who determine rates, volumes and the content of care.

Maynard and Bloor point out that the managed care revolution in the USA has stabilised the share of national income spent on health care at around 13.6% of gross domestic product – approximately twice the amount spent per capita in this country but with much greater inequality in access to care.

They conclude that simple emulation of US managed care would be naïve and inappropriate. All health care markets require to be 'managed' but this regulation should be based on evidence of effective or at least palliative politics, rather than rhetoric suggesting a panacea in health care.

John Wyn Owen  
April 1998

## FOREWORD

The application of economic analysis to health and health care has grown rapidly in recent decades. Alan Williams' conversion of Archie Cochrane to the virtues of the economic approach led the latter to conclude that:

“allocation of funds and facilities are nearly always based on the opinion of consultants but, more and more, requests for additional facilities will have to be based on detailed arguments with ‘hard evidence’ as to the gain to be expected from the patient’s angle and the cost. Few could possibly object to this.”\*

During most of the subsequent twenty-five years many clinicians have ignored Cochrane’s arguments whilst economists busily colonised the minds of those receptive to their arguments. More recently clinicians and policy makers have come to equate, erroneously of course, health economics with economic evaluation. Thus the architects of the Department of Health’s R&D strategy have insisted that all clinical trials should have economic components and tended to ignore the broader framework of policy in which economic techniques can be used to inform policy choices by clinicians, managers and politicians. †

The purpose of this series of Occasional Papers on health economics is to demonstrate how this broad approach to the use of economic techniques in policy analysis can inform choices across a wide spectrum of issues which have challenged decision makers for decades. The authors do not offer ‘final solutions’ but demonstrate the complexity of their subjects and how economics can provide useful insights into the processes by which the performance of the NHS and other health care systems can be enhanced.

The papers in this series are stimulating and informative, offering readers unique insights into many aspects of health care policy which will continue to challenge decision makers in the next decade regardless of the form of government or the structure of health care finance and delivery.

Professor Alan Maynard  
University of York

\* Cochrane AL. *Effectiveness and Efficiency: random reflections on health services*. Nuffield Provincial Hospitals Trust, London, 1972.

† Maynard A and Chalmers I (eds). *Non-random Reflections on Health Services Research: on the 25th anniversary of Archie Cochrane's Effectiveness and Efficiency*. British Medical Journal Publishing, London, 1997.

**ABSTRACT**

Managed care involves the purchasers of health care transforming themselves from being price takers, where they passively pay providers the 'usual, customary and reasonable' rate for the task, into price makers, contracting more aggressively to control prices and the activities of providers and patients. In the United States, managed care was a response to cost inflation and to continued observation of variations in medical practices and other apparent inefficiencies. Cost inflation in health care limits the profits and international competitiveness of US industry, and variations in care are of considerable concern to consumers.

The managed care revolution in the USA has stabilised the share of national income spent on health care at around 13.6 per cent of gross domestic product (GDP). This is still approximately twice the amount spent *per capita* in the UK, with much greater inequality in access to care. The rewards of hospitals, doctors and pharmaceutical companies have been restricted, with resources switched to increased expenditure on management, information technology, marketing and profits.

Simple emulation of US managed care in the UK would be naïve and inappropriate. Many of its policies are however central to current British health care policies. US and UK health care systems have many common concerns, many similar policy responses to these concerns, and similar propensities to avoid evidence based policy formulation. The US managed care industry has proved a potentially short term palliative intervention, but is is not a panacea.

## MANAGED CARE AND THE GOALS OF HEALTH POLICY

### What is managed care?

Managed care is the practice of funding agencies (usually insurers) using purchasing power vigorously to control prices and the activity of clinicians and their patients. This ‘industry’ exemplifies the transition of purchasers of health care from being passive price takers who accepted provider rates and activities, to aggressive price and activity makers who determine rates, volumes and the content of care.

The term ‘managed care’ describes a variety of different models of health care finance and delivery. It is defined by Iglehart<sup>1</sup> as:

*...a system that, in varying degrees, integrates the financing and delivery of medical care through contracts with selected physicians and hospitals that provide comprehensive health care services to enrolled members for a predetermined monthly premium. All forms of managed care represent attempts to control costs by modifying the behaviour of doctors, although they do so in different ways.*

Managed care consists of a variety of strategies to control both the utilisation of health services and their costs, and in some ways can resemble the pre-1989 NHS in terms of integrating finance and delivery of care.

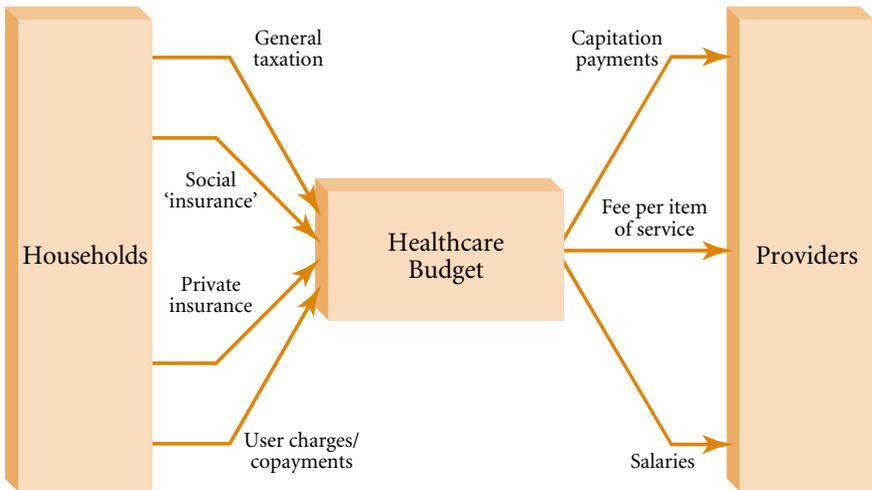
### Goals of health policy

The use of the market mechanism in health care, managed or unmanaged, is a means of achieving health policy goals. Generally governments seek macro-economic cost control, efficiency and equity in health care, with a priority ranking which can be implicit and shift in an uncertain manner.

MANAGED CARE AND THE GOALS OF HEALTH POLICY

There are two schools of thought about the means to control health care expenditure: those who argue that competition and/or a regulated market can, by producing greater efficiency, control costs; and those who believe that markets are often captured by providers, intent on often inefficient demand generation, and therefore costs can be controlled only by cash limited prospective budget setting. The market position is adopted, with varying degrees of regulation, by many US economists, for example Pauly<sup>2</sup> argues for little regulation, and Enthoven<sup>3</sup> and others argue for extensive regulation. The acceptance of markets in health care is a product of US ideology, with its suspicion of government intervention, originating from colonial times and remaining strongly today. Other leading US health economists (e.g. Hsiao<sup>4</sup> and Reinhardt<sup>5</sup>) reject the market and favour the use of global cash limited budgets in health care.

Figure 1: The expenditure – income identity



Source: Reinhardt 1978<sup>7</sup>

The latter's rejection of markets in health care is supported by most non-US health economists. They argue that cost control can only be achieved by the use of cash limited prospective budgets which are tax financed, and by Government resistance to the self interested advocacy of provider groups.<sup>6,7,8</sup> Households can pay for health care from one or more of the four funding pipes in Figure 1: tax, social insurance (disguised taxation), private insurance and user charges (levied by public or private agencies). Households fund all health care expenditure from one or more of these sources. Health care purchasers buy services and goods from health care providers, paying them by salary, fee per item of service or by capitation. The expenditure of households creates, and is always equal to, the income of providers. Provider advocacy of increased expenditure on health care is essentially a demand by doctors, nurses, drug companies and hospitals for increased incomes, often on the basis of little or no information about the cost-effectiveness of the investments they advocate. Such advocacy has always to be analysed carefully to ensure it is in the public interest, and not merely in the interest of providers.

Whilst evidence is limited,<sup>9</sup> the European-Canadian consensus is that fragmented funding leads to cost inflation. US expenditure inflation is therefore not surprising but a product of the lack of control over funding due to disparate groups independently harnessing family incomes to finance health care.

The pursuit of efficiency in health care systems was until recently lost in the 'noise' of disputes about cost control. The lack of focus on efficiency was also the product of a widespread belief by public and private funders, that providers were, due to professional regulation, behaving in the interests of the public and therefore ensuring that scarce resources were used efficiently.

## MANAGED CARE AND THE GOALS OF HEALTH POLICY

Cumulatively over the last two decades concern increased about the inefficiency of resource allocation. The radical and foresighted doctor AL Cochrane<sup>10</sup> argued over 25 years ago that:

*Allocations of funds and facilities are nearly always based on the opinions of senior consultants, but, more and more, requests for additional facilities will have to be based on detailed arguments with 'hard evidence' as to the gain to be expected from the patient's angle and the cost. Few can possibly object to this.*

The discretion of doctors, afforded to them by autonomy which permitted clinical and cost ineffectiveness, produced both large variations in practice and also inappropriate care throughout the world:

*Our study shows that inappropriate care, even in the face of waiting lists, is a significant problem in Trent. In particular, by the standards of the UK panel, one half of coronary angiographs were performed for equivocal or inappropriate reasons, and two-fifths of CABGs were performed for similar reasons. Even by the more liberal US criteria, the ratings were 29% equivocal or inappropriate for coronary angiography and 33% equivocal or inappropriate for CABG.<sup>11</sup>*

In the absence of allocation by the price mechanism in publicly financed health care systems, resources are allocated on the basis of need. Need can be defined in terms of demand or supply side considerations.<sup>12</sup> The usual definition of need is patient ability to benefit. If the budget of, for example, the UK NHS was allocated efficiently, its £42 billion would produce the maximum overall improvement possible in health status. At the individual level this means that resources should be targeted on those patients who can benefit most per unit of cost. In terms of the 'rationing debate', not all

patients who can benefit from care will obtain treatment: only cost effective interventions will be provided.

For public and private health care systems to operate efficiently, it is essential to have better information about the relative costs and benefits of competing medical interventions. The existing ignorance of such information and reluctance to disseminate and adopt what information is known, combined with the asymmetry of knowledge between producers and consumers of health care, means that providers may induce demand for care which is not always in the patient's interest.

The efficiency goal in public health care policy is linked to equity, and these goals may at times conflict. Equity is both a finance (who pays?) and a provision (who gets?) issue in health care. It may also be an issue about the distribution of 'health', a benefit for patients produced by many factors other than health care, such as education, housing and the distribution of income.

Societies may be willing to trade off efficiency to achieve greater equity in health care. For example, Williams has argued that age equity weights should reflect a 'fair innings' approach.<sup>13</sup> Resources would be transferred from the efficient treatment of elderly people who have had a 'fair innings' to the perhaps inefficient treatment of younger people. The value of such equity weights would be a social choice of this type of equity over the desire to maximise the overall level of health.

Another approach to equity in health care is that the weights reflect a social desire to reduce health inequalities by discriminating in favour of the poor when allocating health care. Evidence suggests that poor people seek access to health care less than the rich, when adjusted for age and health status.<sup>14</sup> Once in the care system, the treatment of the poor is similar to that of the rich.<sup>14</sup> To reduce health inequalities

## INTRODUCTION

resources could be taken from the treatment of the rich to fund improving access to health care of the poor, and/or treating them preferentially when they are in the system. The possible implication of this policy may be that it would reduce the rate of growth of overall improvement in population health. Thus improvements in population health would be foregone in order to reduce health inequalities between social classes.

All too often, equity goals are implicit and thus decision makers and care providers cannot be held to account by taxpayers. Often policies are adopted for reasons which are imprecise but have significant effects on equity. For example user charges may have equity effects which are not intended by their advocates. In addition, such devices may frustrate cost control (by fragmenting financial sources away from a single tax pipe), efficiency and equity, as argued by Stoddart, Barer and Evans.<sup>15,16</sup> They concluded that user charges are:

*misguided and cynical attempts to tax the ill and/or drive up the total cost of health care while shifting some of the burden out of government budgets.*

Any judgement of health care reform, be it managed care in the USA or the current Labour 'reorganisation' of the UK NHS, has to be undertaken in relation to policy goals. Has managed care proved a panacea, in terms of producing greater cost containment, efficiency and equity in the USA? Are any beneficial effects temporary or permanent? What impact are similar policies likely to have in the UK health care system?

Whilst many of the advocates of managed care in the United States advise caution in the use of this approach overseas, many commercial and some academic groups are marketing this form of health care

organisation as a panacea for the common problems faced by health care systems world-wide. This is unwise. Managed care, just like the UK National Health Service reforms introduced from 1991 onwards by the Thatcher government, has strengths and weaknesses in theory and in practice. The Conservative government in the UK argued that the internal market was 'a success'. The present Labour government claims that it 'failed'. Neither have adequate evidence to substantiate these claims.<sup>6</sup>

In the United States, advocates of managed care point to its intellectual robustness (e.g. the Jackson Hole Group)<sup>3</sup> and its apparent success as shown in systematic reviews of literature.<sup>17,18</sup> However the evidence, whilst encouraging in part, is incomplete and does not support managed care as a panacea. Advocates tend to a position whereby they argue that its failures are a product of incomplete implementation: they argue that, like Christianity and socialism, it has not failed, but has simply not yet been tried properly. Thus Enthoven's recent State Commission on managed care in California has advocated more extensive regulation to achieve better cost containment and efficiency objectives.<sup>19</sup>

So, while the UK NHS reforms have little data to support or refute their success, US managed care reforms have data illuminating some successes. Such successes are not the product of 'free markets' but the result of acceptance of the need to regulate comprehensively structures and processes in health care provision to enhance performance.

The purposes of this paper are firstly to appraise US experience with managed care, addressing in particular why new forms of organising care were needed, what managed care involves and how it has worked. Secondly, the implications of managed care for the UK National Health Service are examined.

## MANAGED CARE: STRUCTURE AND PROCESS

There is no agreed and simple definition of managed care: at its simplest ‘managed’ means controlled, and ‘managed care’ simply means to control externally the relationship between patients and health care providers. Traditionally, the market for health care in the US has been characterised by private insurance, with free choice of practitioners and fee per item of service reimbursement. In this environment, care is ‘managed’ by the choices of patients and doctors, with little control by third party payers (insurers). ‘Managed care’, by restricting some of these choices, shifts some control to insurers or other funders. Under managed care insurers contract selectively with providers (i.e. they are price makers), and give consumers incentives to use providers preferred by and contracted to insurers.

Whilst this definition of managed care appears quite simple, in reality it manifests itself in many forms. Furthermore, it is in a continual state of flux as insurers develop new ways of being aggressive and efficient purchasers, and providers seek to prosper by ameliorating or reconstructing the purchaser constraints imposed upon them. Federal and State governments are also adopting and developing these techniques for the Medicare and Medicaid programmes for elderly people and some groups of poor people. With Government facing escalating health care costs, it is seeking to move to systems whereby a fixed, limited contribution will guarantee a basic package of care, to which individual beneficiaries of the programmes can add supplementary coverage if they have the resources.

The advocates of managed care argue that by careful regulation of the market, in particular the development of micro-economic controls, it could be made more efficient. Furthermore they believe that a market regulated vigorously can, via competition, reduce the rate of growth of expenditure and give industrialists, concerned about their

international competitiveness, respite from the inexorable increase in their production costs due to health care cost inflation.

A belief espoused by some US economists is that the market can be used as a mechanism to deliver services to patients efficiently, and through promoting efficiency it can control health care costs. Some believe that this can be done with minimal regulation, and if regulation is required, it should be implemented on the demand side of the market.<sup>20</sup> Others, in particular Alain Enthoven, have argued that the market has to be managed by an extensive regulatory framework on both the demand and supply sides of health care.

The Jackson Hole Group proposed that institutions be created to regulate most market activities ‘to assure the supply of information necessary for uniform health outcome accountability and to oversee the functioning of competitive markets.’<sup>3</sup> In the ‘Jackson Hole Group Initiatives’, a trio of health care standards setting boards were suggested (see Box 1).

The Group also proposed the abolition of tax exemptions for middle class insured citizens, redistributing the savings to permit universal purchase of a basic package of care. Insurers were to compete for customers in terms of the price and quality of this basic package, and of additions to these benefits. The complex and sophisticated regulatory system proposed by the Jackson Hole Group threatened provider and insurer groups in ways similar to the Clinton health reform proposals.

The rapid development of managed care in the period since 1992 is a product of the failure of the Clinton reforms, and the demand by industry, concerned with its international competitiveness, for greater control of cost inflation in the US health care system. Essentially,

## MANAGED CARE: STRUCTURE AND PROCESS

**Box 1. Jackson Hole Group Initiatives: Health Care Standard Settings Boards**

- ◆ an Outcomes Management Standards Board, responsible for establishing accepted health services accounting practices, including providing and monitoring standards for the content and format of data to be used in accounting publicly and internally for the outcomes of medical care;
- ◆ a Health Standards Board, involving providers, insurers, consumers, medical scientists and others to undertake health technology assessment and benefit plan design. Accumulating clinical epidemiological data would be used to identify those technologies and treatments that are sufficiently effective, in relation to their costs and risk, to justify inclusion in a uniform effective health benefits plan (a basic minimum package) which would receive favourable tax treatment;
- ◆ a Health Insurance Standards Board, to establish underwriting practices with emphasis at the outset on the small group insurance market, ensuring that competition can take place within a community rating framework on the basis of health services cost, quality and patient satisfaction, rather than on risk selection and market segmentation.

Source: Ellwood *et al* 1992<sup>3</sup>

managed care involves more aggressive purchasing behaviour by insurers which curtails the power of the providers and constrains the choice of consumers. Although labelled a 'market reform', it involves much greater regulation of price, quantity and quality of health care, and cannot be regarded as a 'free market' development. Following the rejection of public sector health care reform in the US, managed care reflects acceptance that for the market to achieve policy goals (cost

control, efficiency and equity), it has to be comprehensively regulated. Free markets, without regulation either by public or private organisations, do not exist in the provision of health care or of other goods and services. As Coase argued when describing the stock exchange:<sup>21</sup>

*It is not without significance that these exchanges, often used by economists as examples of a perfect market and perfect competition, are markets in which transactions are highly regulated (and this quite apart from any government regulation that there may be). It suggests, I think correctly, that for anything approaching perfect competition to exist, an intricate system of rules and regulations would normally be needed.*

### Forms of managed care

Managed care is not a new concept. Kaiser-Permanente, the best known not for profit health maintenance organisation, was formed in California in 1942, and the roots of managed care can be traced to the funeral and benevolent societies that immigrants set up to cover death expenses in the 1800s.<sup>22</sup> A number of different organisational forms of managed care exist in the US, including health maintenance organisations (HMO), preferred provider organisations (PPO), independent practice associations (IPA) and point of service plans (POS). Table 1<sup>23</sup> gives definitions of six US organisational forms of health care delivery, listed by intensity of management from least managed (traditional fee for service indemnity insurance plans) to most managed (HMO).

In 1996, 70 per cent of people covered by employer-sponsored health plans<sup>24</sup> and 60 per cent of the population<sup>25</sup> in the US were enrolled in managed care plans. Approximately 33 per cent of enrollees in private

MANAGED CARE: STRUCTURE AND PROCESS

**Table 1: Definitions of six representative organisational forms of health care delivery listed by intensity of management**

<b>Organisational form*</b>	<b>Definition</b>
<i>Indemnity plan with fee for service</i>	Complete freedom of choice to patients. Insurer reimburses physicians on a fee-for-service basis.
<i>Managed indemnity plan</i>	Free choice and fee for service, but insurer exercises some degree of utilisation control to manage costs.
<i>Preferred provider organisation</i>	Insurer channels patients to ‘preferred’ physicians who are usually paid discounted fee for service. The insurer, not the physician, usually accepts financial risk for performance.
<i>Independent practice association</i>	Insurer channels patients to physicians usually solo or in small groups who have agreed to some financial risk for performance. Payment may be either capitation or fee for service with financial incentives based on performance.
<i>Network independent practice association</i>	Similar to independent practice association but consists of a network of larger group practices. Payment is usually capitation to each group, which then pays the physicians.
<i>Staff/group health maintenance organisation</i>	The classic, prepaid, large multi-specialty group practice. Patients are covered only for care delivered by the health maintenance organisation. The physicians are usually salaried and work either for the plan (staff-model health maintenance organisation) or for a physician group practice (group-model health maintenance organisation) that has an exclusive contract with the plan.

\* Not shown are hybrid arrangements such as open-ended and point-of-service arrangements whereby patients in a preferred provider organisation, independent practice association, or staff/group health maintenance organisations may have some insurance coverage for care outside the providers approved by the insurer.

Source: Rivo *et al* 1995<sup>23</sup>

health plans were with indemnity plans, and 31 per cent with HMOs.<sup>24</sup> HMOs require patients to use participating physicians for all medical care except emergencies, and physicians may be directly employed by the HMO (staff model HMO) or function in private practices contracting with the HMO (group model).<sup>26</sup> HMOs integrate the insurance and provision functions in health care delivery, in contrast to traditional insurers that are responsible only for reimbursing providers for services that patients have sought on their own. HMOs provide comprehensive health care for a prepaid premium, and therefore agree to bear substantial financial risk. No HMO is able to predict accurately an individual's future need for health care, and a small group of individuals who develop conditions which are expensive to treat can have a significant impact on the organisation's budget. This creates the necessary incentives to reduce 'excessive' utilisation, and minimise other inefficiencies (e.g. pronounced, long observed and poorly explained variations in medical practice). It also creates incentives to provide preventive care when it is cost-effective (such as advice to stop smoking). HMOs and other managed care organisations also use a system of 'pre-certification' whereby any non-emergency hospitalisation requires prior authorisation by other doctors to verify the treating physician's recommendation.

Preferred provider organisations (PPO) cover around 30 per cent of private health plan enrollees.<sup>24</sup> A PPO is an arrangement by which patients are given financial incentives to receive care from a limited number of doctors and hospitals, with which the payer has contracted. Networks of individual doctors, medical groups and hospitals contract with a plan for a discounted rate of payment. In return, plans deliver large volumes of services by giving patients a list of preferred providers. Patients can consult non-participating physicians, but pay

## MANAGED CARE: STRUCTURE AND PROCESS

higher out of pocket costs when they do so. Independent practice associations (IPA) consist of solo, small groups or larger networks of practitioners who agree to some financial risk of performance, and insurers channel patients to them. Payment is generally based on capitation but with some financial incentives based on performance. Finally, point of service plans, the newest form of managed care which cover around 6 per cent of private health plan enrollees,<sup>24</sup> represent a hybrid between more restrictive HMOs and less restrictive PPOs. POS plans rely on a patient selecting a physician gatekeeper, who is responsible for co-ordinating all medical care. Again, for an additional fee, patients can consult non-participating doctors.

Managed care in the US therefore consists of aggressive micro management of resources by linking finance and delivery of health care, usually by detailed and closely monitored contracts. These arrangements curtail the freedoms of doctors and hospitals by establishing and implementing strict protocols and guidelines (not always evidence based) which restrict the choice of patients and providers. There is more emphasis on primary care and patients increasingly tend to access secondary care via primary care gatekeepers, who may be networks of nurse practitioners and primary care physicians. Access to specialists is restricted by these gatekeepers, in order to reduce the demands for specialist physicians and hospital care.

Most of the managed care market covers employees, and recently there has been some extension of these techniques to government Medicare and Medicaid schemes. The employers offer their staff health insurance coverage, but many employees may have no choice and have to join the plan chosen by their employer. Employee contributions can be offset against tax: a considerable Federal subsidy to generally affluent workers.

Finance of health care under a managed care plan is usually capitation based, with a prepaid premium, contrasting with traditional fee for service remuneration. This reduces incentives for over-treatment and supplier induced interventions. There are considerable pressures on provider organisations to reduce costs, and health plans make more profit when physicians provide less care, a reversal of the previous system of incentives. Capitation rates are set aggressively by managed care organisations. There are concerns within the American medical profession that such incentives are dangerously restricting, and threaten the quality of patient care, particularly as increasing numbers of health plans are commercial enterprises rather than not-for profit organisations.<sup>27</sup>

Managed care organisations work energetically to reduce variations in practice, which are increasingly viewed as unacceptable by US clinicians. In the US and world-wide, many clinical choices are ill-informed and made under great uncertainty and, as a consequence, there are large variations in how clinicians treat patients of similar age, sex and other characteristics.<sup>28</sup> For example a study of 30 hospital markets in Maine, USA, demonstrated up to eight fold variations in surgical and medical practice.<sup>29</sup> Medical practice variations also exist between countries. McPherson and others compared the incidence of seven common surgical procedures in England, Norway and the USA, and found that English and Norwegian rates were lower than the USA for all procedures except appendectomy. Hysterectomy and tonsillectomy were four times as common in the USA as in Norway, prostatectomy was twice as common in the USA as in England.<sup>30</sup>

Attempts to reduce variations in practice centre around development and dissemination of protocols and guidelines. Federally funded organisations such as the Agency for Health Care Policy and Research

### MANAGED CARE: STRUCTURE AND PROCESS

have developed a number of detailed evidence-based guidelines,<sup>31</sup> which are used by managed care organisations. The American Medical Association now has over 1,800 practice guidelines available, and in 1998 these will be accessible via the Internet. Clinicians in managed care organisations have much less discretion about the use of guidelines than other US (and UK) clinicians. Adherence to guidelines is required by payers who can refuse to reimburse and drop clinicians from their plans if guidelines are ignored.

#### Performance of managed care systems

A range of potential advantages and disadvantages of health maintenance organisations and other managed care systems in comparison to traditional US indemnity insurance systems have been identified:<sup>26</sup>

- ◆ *managed care organisations may reduce the quantity and intensity of care.* This is a major potential cost advantage of HMOs. With fixed fee reimbursement there is an incentive to minimise utilisation and reduce length of stay in hospital and length of treatment period, rather than to provide unnecessary or marginal care. This may however introduce incentives to ‘under-provide’ care, particularly by commercial for-profit organisations and where physicians’ remuneration may be tied to reducing prescriptions, hospital admissions and other costs. This may be ameliorated by the competition that exists between HMOs and also by the professional ethos of medical care, but the ‘morality of the marketplace’<sup>27</sup> continues to create much concern within the American medical profession.

- ◆ *managed care organisations may substitute lower cost care for higher cost care.* In particular, HMOs have incentives to use outpatient care whenever possible. A report by Kaiser Permanente showed how HMOs try to balance cost control and patient care, for example by considering outpatient (day care) alternatives for procedures such as gallbladder surgeries, appendectomies and mastectomies.<sup>32</sup> HMOs are also more likely to, for example, use generic drugs rather than branded alternatives, like hospitals in the UK which often explicitly enforce generic substitution.
- ◆ *managed care organisations may enjoy economies in the purchase or use of inputs.* HMOs may be better able to make efficient use of facilities and equipment, and may be able to exploit economies of scale. Scale benefits much lauded in the US may however be illusory or limited, as illustrated in a systematic review of economies of scale and scope.<sup>33</sup> However, they do have a strong incentive to improve productivity and make better use of physician and non-physician inputs, such as nurse practitioners. Managed care organisations employ fewer physicians, particularly specialists and may further change skill mix by using other practitioners. Weiner (1994)<sup>34</sup> forecasted the effects of increases in the use of managed care on the requirement for physician workforce, estimating that if 40-65 per cent of Americans receive care from integrated managed care networks in the near future, there could be a surplus of up to 163,000 patient care physicians in the US by the year 2000, with specialists accounting for at least 85 per cent of this surplus. This has far-reaching implications for US

## MANAGED CARE: STRUCTURE AND PROCESS

health care provision. Costs may be reduced, but there are concerns that this will be achieved at the expense of reduced quality of care. In particular, doctors' incentives to remain employed may threaten their professional role as a patient advocate. If the number of physicians can be reduced without reductions in care (by, for example, changing skill mix and reducing utilisation) there may be scope for some emulation in the UK.<sup>35</sup>

- ◆ *managed care organisations may be quicker to develop effective utilisation review.* HMOs have incentives to measure performance and develop controls to monitor physicians. The number of guidelines and protocols for care in existence in the US continues to increase rapidly, and HMOs have more incentive to implement and monitor such guidelines than the traditional fee-for-service (FFS) sector, which has incentives to increase revenues by over-treating.
- ◆ *managed care organisations may use or adopt new technology more efficiently.* In particular, HMOs may be more likely to require evidence of efficiency before using new technologies. This may slow the proliferation of new and expensive technologies which has been one of the major reasons for expenditure inflation in the US and elsewhere.
- ◆ *managed care organisations may encourage the use of cost-effective preventive care,* as this reduces subsequent use of potentially more expensive curative care. Typically, these organisations encourage physical exercise and 'healthy living', but the benefits of behaviour change only accrue to investing managed care organisations if enrolees stay as

members for long enough for the plan to benefit.

- ◆ *managed care organisations may enjoy administrative economies*, by reducing paperwork and collection costs as billing procedures are simplified due to integrated finance and delivery systems. However, these savings may be ‘one off’. The development of systems such as utilisation review and the costs of competition in terms of marketing, contracting and profit distribution to shareholders may reduce the cost savings produced by vigorous management. In the end, the results of managed care in the USA may be merely to redistribute expenditure, i.e. to reduce payments to hospitals, doctors and pharmaceutical equipment manufacturers and transfer them to administration (marketing, contracting and information technology) and profits.

In addition to these aspects of managed care, the issues addressed in systematic reviews are ‘do these mechanisms control costs?’ and ‘is this achieved without reduction in quality of care?’ Studies attempting to answer these questions has been reviewed by Luft (1981),<sup>36</sup> Miller and Luft (1994)<sup>17</sup> and Steiner and Robinson (1997).<sup>18</sup>

In the 1981 study of data from the second half of the 1970s, Luft found moderate to large HMO plan differences in hospital admissions, no consistent differences in hospital length of stay and similar ambulatory physician visit use. Thus costs were moderated and there was no evidence of reduced quality.

The Rand Health Insurance Experiment<sup>37</sup> randomly assigned patients to different plans in a controlled experiment to minimise potential selection bias (healthier patients joining managed care plans). HMO

## MANAGED CARE: STRUCTURE AND PROCESS

and fee-for-service (FFS) patients were compared in groups with different co-insurance rates. Total expenditures per person were \$439 for the experimental group and \$609 in the free care FFS group. The reduced spending was due largely to a much lower admission rate and around 40 per cent fewer hospital days per person. Again no adverse quality effects were detected, although there was some evidence that effective and ineffective therapies were affected by the model of care: members of HMOs received less interventions with demonstrable effectiveness as well as ineffective care.

More recent studies, reviewed by Miller and Luft,<sup>17</sup> showed that HMO plans continued to have lower admission rates, 1-20 per cent shorter hospital lengths of stay, the same or more physician office visits, less use of expensive procedures and tests, and greater use of preventive services. HMO and indemnity (fee for service) plans provided enrollees with comparable quality of care, according to process or outcome measures. 14 of 17 observations from 16 studies showed either better or equivalent quality of care for HMO enrollees compared with FFS enrollees for a wide range of conditions, diseases and interventions. There was no evidence to support the hypothesis that prepaid group practice or staff model HMOs are more effective than IPA or network model HMOs.<sup>17</sup> The development of HMOs and managed care has been evaluated in a relatively small number of well-conducted studies.

A systematic review of the performance of managed care organisations by UK researchers Robinson and Steiner<sup>18</sup> reaches conclusions similar to those of US reviews. Once again it can be seen that managed care organisations perform no worse and sometimes better than their fee for service (FFS) rivals. For example Table 2 illustrates the conclusion that managed care organisations appeared to show little or no difference in the levels of hospital admissions. Thus managed care has

**Table 2: Summary of US evidence on managed care**

Performance dimension	'Verdict'				No. of studies	No. of observations
	MCO* 'less'	No difference	MCO* 'more'	Not conclusive		
<b>Utilisation</b>					42	101
Hospital admission rate	◆	◆				
Hospital length of stay	◆	◆				
Hospital days per enrollee		◆				
Doctor visits per enrollee				◆		
Discretionary service	◆					
Prescription drug use				◆		
<b>Charges and expenditures</b>					14	47
Hospital charges per stay		◆				
Hospital expenditures per enrollee				◆		
Doctor charges per enrollee				◆		
Total expenditure per enrollee				◆		
<b>Preventive screening and health promotion</b>			◆		9	30
<b>Quality of care</b>					23	37
Structure		◆	◆			
Process				◆		
Outcome		◆				
<b>Enrollee satisfaction</b>	◆				4	37
<b>Equity of care</b>					20	147
Children		◆	◆			
Low income women	◆	◆				
Elderly				◆		

MCO = managed care organisation

Source: Robinson and Steiner 1998<sup>18</sup>

## MANAGED CARE: STRUCTURE AND PROCESS

had some successes: with fewer resource inputs, many expected the performance to be worse than traditional fee-for-service insurers. Whilst evidence was inconclusive in seven of the areas identified (35 per cent), some benefits are evident from this review of the limited but significant evaluation of managed care.

It is to be emphasised that these findings tend to be for very specific populations (employees and their families) who are relatively good risks. Furthermore the results have been achieved in a market place where, because of fee for service payment, there was excessive supply of care and extensive poor management of resources. Managed care converted funders from being passive 'price takers' feeding the appetites of providers, to active 'price makers' with an incentive to limit resource use and redistribute resources away from traditional providers.

The coverage of managed care since the early 1990s has increased rapidly as employers seeking cost control have chosen these plans rather than indemnity insurers. The shift from fee for service indemnity insurance to managed care plans has attracted purchasers interested in lower premiums and out of pocket costs.<sup>25</sup> Insurers negotiated price discounts from providers, and providers changed their patterns of service provision to contain costs.<sup>25</sup> Often it is the employer who selects the plan, and only around half of employees have a choice. The rise of managed care has been associated with the stabilisation of US health care expenditure as a share of the gross domestic product during the period 1992 to 1997, at around 13.6 per cent.<sup>25</sup> As GDP has increased over this period, absolute health care expenditure has continued to increase, but at a more moderate level. However there are signs that the impact of managed care in containing costs may be short term.

It seems that managed care in an expensive (if not bloated) US health care system has stabilised expenditure growth with apparently no adverse effects on quality. For example, implementation of managed care has encouraged generic prescribing and stabilised the cost of prescribing, but the relatively unregulated US pharmaceutical market still creates very high drug costs. Caveats around this conclusion will be discussed in the next section. However, the important question that remains is whether this effect is short term or continuous. There are signs that expenditure controls are being eroded. In California, the leader in managed care, premium inflation has re-emerged and a commission, chaired by Enthoven, has reported in January 1998 proposing increased regulatory control for the State. Premiums in Pittsburgh, Pennsylvania, are rising by a range from 2-3 per cent for large firms, to 20-30 per cent for small firms, and it has been suggested that many HMOs underpriced policies to obtain market share, and are now making substantial losses and increasing premiums considerably.<sup>38</sup>

## IMPLICATIONS OF MANAGED CARE TECHNIQUES FOR THE UK NATIONAL HEALTH SERVICE

### Background

Since the creation of the National Health Service, health care in the UK has been ‘managed’. The UK health care system, both public and private sectors, already contains many of the components of US-style managed care. Financing and delivery of health care are integrated in that the public sector funds and provides most health care. Hospital specialists are paid by the NHS on a salary basis, and this reduces the incentives to over-treat which were present in the US system of indemnity insurance and fee-for-service reimbursement. General Practitioners are paid largely by capitation, like HMO primary care physicians, although with some fee-for-service elements. There has always been an emphasis on primary care, and GPs treat 95 per cent of all contacts with the health care system, and act as gatekeepers to secondary care. Patients have restricted choice of hospital specialists and, realistically, of GPs – patients are limited by choice of GPs in their area, and in most practices patients see whichever doctor is taking a surgery, including at times locums and trainees. Patients can, by paying directly or taking out health insurance, expand their choice of providers. However, as in the traditional indemnity and fee for service US system, before 1991 the funders of health care (generally government in the UK) lacked management control: resource allocation decisions were concentrated in the hands of providers. Therefore the 1991 NHS reforms added to some of the parallels between the organisation of UK and US style managed care systems. In particular, whereas the internal market explicitly separates purchasing and provision rather than integrating the two, both internal markets and managed care attempt to create more aggressive, price making purchasers of health care, ‘managing’ the process of health care and encouraging provider competition by price as well as quality (all too often, in both countries, measured in terms of activity levels rather than patient outcomes).

The development of managed care in the United States has been part of a world-wide response both to cost inflation and extensive evidence of variations in medical practice and the unproven nature of most health care technologies. Reform elsewhere in the world, for example in The Netherlands, Sweden, New Zealand and the UK has been similar in intent. However, as the US has a very different starting point from other Western health care systems, the practice of reform has been opposite: US managed care organisations have integrated the finance and delivery of health care, whilst UK and other health care reforms have separated these two functions, creating more explicit markets. In both US managed care and UK and other health care reforms, the primary aim has been to create more aggressive, price making health care purchasers, who managed resources with more explicit contracting on behalf of patients. This challenges, in both countries, the dominance of providers (particularly doctors) in the resource allocation process.

The structure of US health care is becoming more comparable with what is under way in the rest of the world, and many policy issues are also similar. In particular, there is world-wide interest in US responses to various health care problems:

- ◆ the role of government
- ◆ equity (sometimes referred to in the US as ‘uncompensated care’)
- ◆ management costs
- ◆ utilisation review and outcome measurement
- ◆ clinical governance
- ◆ choice.

## IMPLICATIONS OF MANAGED CARE TECHNIQUES FOR THE UK NATIONAL HEALTH SERVICE

Each of these issues is explored below and it is emphasised that although language and terms may be different, some US health care innovations are very similar to those contemplated in the UK and elsewhere in the world, despite very different starting points.

### The role of government

Managed care has developed within a minimalist regulatory framework with most regulation being the product of private contracting rather than public legislation. This is a product of US suspicion of their government's intent and practices, and despite advocacy by Enthoven and others for 20 years, seen most significantly in the Jackson Hole Group proposals,<sup>3</sup> that managed care would fail without an appropriate and onerous regulatory framework.

One specific element of managed care requiring particular regulatory intervention is risk adjustment. The existing population endowment of health and income is uneven, and therefore distribution of risks is also uneven. The advocates of managed care recommend community rating of premiums to reduce the possibility of 'cream skimming', where good risk (healthy, young) patients are attracted into low cost schemes whilst poor risks can only use high cost schemes or remain uninsured. To avoid cream skimming, even with community rating, a mechanism to equalise funding across insurers to compensate for uneven risk burdens is required. This has been much discussed in the literature<sup>39</sup> but there has been no regulatory system to facilitate movement from principles to practice.

Another policy advocated by the Jackson Hole Group was the abolition of tax exemptions which subsidise employee purchase of managed care insurance. Rather than subsidise the relatively affluent and encourage them to over-insure (and hence over-consume), the Jackson Hole

Group authors wished to redirect this substantial resource to funding the uninsured so that they could purchase some basic package of health care. However, again well intentioned advocacy has had no impact on policy.

Indeed, middle class ‘horror’ at the effects of managed care have led to some surprising interventions by the Federal Government in response to some insurers’ innovations. Some managed care insurers have not only introduced ‘queues’ (time costs) as a method of reducing demand, but have also used utilisation review to reduce length of inpatient stay. This led in some areas of care, particularly maternity care, to complaints of too rapid discharge. As a consequence, Federal government legislated that all expectant mothers have the right to at least 48 hours in hospital after the birth.<sup>40</sup> The evidence base for this and other Federal government interventions is absent but it indicates the power of the consumer lobby in the USA to sway vote-anxious Congress representatives. There is clearly a need for Federal intervention, and willingness to intervene on some issues. Such interventions should be evidence based, with appropriate regulatory devices to ensure this. Similarly the States are intervening: nearly three dozen of them have now changed legislation to improve the regulatory environment in which managed care operates locally.

Government regulation is an essential element of managed care. Without it these devices are unlikely to achieve policy targets beyond the short term. This has been demonstrated in the US: without the prior development of a regulatory framework, industrial interests have opposed regulatory improvement and, in so doing, undermined the efficiency of innovative policies.

## IMPLICATIONS OF MANAGED CARE TECHNIQUES FOR THE UK NATIONAL HEALTH SERVICE

**Uncompensated care**

A tradition of the US health care system has been the existence of price discrimination by providers, whereby they generated profits from fee for service insurance claims and used these surpluses to subsidise care for the uninsured poor.<sup>41</sup> This cross-subsidisation between beneficiary groups has been eroded by the introduction of prospective payment by diagnostic related groups (DRGs), which controls prices. This erosion has been worsened by managed care, which has led to providers discounting prices, leaving little finance for providers to subsidise care of the uninsured poor. Some estimates show that the supply of this 'uncompensated care' has declined by as much as 36 per cent in the early 1990s, where there was vigorous price competition in provision of health care.<sup>42</sup>

Whilst the supply of uncompensated care has been declining, the demand for it has risen because, even in prosperous recent years, the number of insured individuals under age 65 has fallen, from 75 per cent in 1989 to 71 per cent in 1993 (with the fall in insurance coverage over this period being particularly marked, falling from 73 to 66 per cent). This problem has been worsened by reductions in the coverage of State Medicaid programmes.

This reduction in private insurance is not intuitive: if managed care was effective, control of costs and premiums should result in increased coverage, rather than the opposite which is observed. One explanation of this is that premium costs may have been stable, but deductibles and co-insurance rates may have increased for marginal groups, although this is not evident at the macro level.<sup>24,25</sup> Thus a failure of managed care appears to be reduced insurance coverage, adding to the estimated 40 million people who are already forced to use the often poor public health care facilities. This impact is predictable but has generally been

ignored by policy makers, resulting in reduced supply of uncompensated care while simultaneously increasing the need for such assistance. The need to address this equity problem is another reason for greater regulatory control.<sup>41</sup>

### **Management costs**

Politicians in the UK, both Conservative and Labour, find management costs a target for derision as they demand ‘grey suits’ to be replaced by ‘white coats’. Such rhetoric is potentially damaging. As Sir Roy Griffiths argued, the NHS needs good managers and good information, and radical reforms such as the internal market are no substitute for this.<sup>43</sup>

The paranoia in the UK about management costs contrasts starkly to the debate in the US about non-care costs. The development of managed care, with its more rigorous and data hungry control mechanisms, has led to major investments in information technology, some of this as poor as the waste in NHS investments in IT in the last decade. Competition also results in increased advertising, which is costly. In addition, increasingly insurers and providers have been transformed from not for profit to profit making organisations, where shareholders expect a return on their investments. The consequence of IT investments, advertising and profit taking is that at least 20 per cent and sometimes as much as 30 per cent of US health care expenditure is used not to provide patient care but on administrative and management costs. Thus, an effect of managed care has been to reduce the incomes of doctors, hospitals and pharmaceutical manufacturers, and transfer these resources into income for managers and investors. The latter can be very significant, for example in 1996 the founder of US Health Care (a managed care

#### IMPLICATIONS OF MANAGED CARE TECHNIQUES FOR THE UK NATIONAL HEALTH SERVICE

company in Pennsylvania) received over \$900 million when he sold his company to the insurer Aetna.

The drive for profits has led to significant take-overs as companies integrate to exploit, hopefully, economies of scale in management and provision. Often these economies are not well documented and British research suggests that they may be illusory, for example in the hospital sector where size exceeds 600 beds: there appear to be no cost, quality or access benefits.<sup>33</sup> However, without distractions from such considerations, the industry, both insurers and providers, are merging at rates which lead to predictions that the market will be dominated by 6-8 key players by the end of the century.<sup>25</sup> If this forecast is correct, there will be increased need for anti-trust regulation.

#### Utilisation review

Under systems of managed care, there is continuous pressure where competition survives to improve the use of resources. Managed care companies have invested heavily in the generation and application of practice guidelines in ways which have eroded clinical autonomy to a degree which would cause great distress to UK clinicians. Practice guidelines can be useful if determined by the evidence base. Unfortunately, evidence is often poor, and guidelines determined in the absence of cost-effectiveness information.

Managed care organisations have 'invented' general practitioners and nurse practitioners to act as gatekeepers to secondary care. They have invested in second and even third opinions for some non-emergency hospital care decisions. In so doing they have increased providers' transactions costs in part in the hope that rather than follow procedures and follow claims routines, they will decline to give treatment!

There has been aggressive management to reduce length of stay and the hospital bed stock. Enthoven<sup>44</sup> continues to argue for continued closures of beds and hospitals in California. Reinhardt<sup>45</sup> is less optimistic. Whilst such comparisons are difficult it seems that UK length of stay and stock of beds could be reduced moderately if the optimistic managed care exponents are to be believed. However, such a policy will require investment in social and health care in the community, sectors which have grown considerably with managed care for those Americans who can afford it.

Such management techniques in all health care systems are often driven by cost, and quality of care may be threatened. There seems to be a general recognition in the USA that managed care has relatively neglected quality and outcome considerations. Thus Brook<sup>46</sup> argues strongly that in the 21st century cost and quality must be equal partners, and it must be recognised that the link between the two is not direct but complex and variable. At present 'quality' in managed care focuses primarily on process and activity rather than outcome. An example of this is the Health Plan and Employer Data and Information Set (HEDIS).<sup>47</sup> HEDIS, like UK parallel performance measures such as the efficiency index and more recent NHS developments,<sup>48</sup> may be a start, but still of limited value in identifying quality and efficiency.

In both the US and UK, the reluctance of purchasers to demand and providers to supply mortality and quality of life data is remarkable. If patients are to make choices they should be informed about outcomes. There are validated instruments to measure changes in physical, social and psychological function over treatment episodes,<sup>49,50</sup> but they are used infrequently.

## IMPLICATIONS OF MANAGED CARE TECHNIQUES FOR THE UK NATIONAL HEALTH SERVICE

**Clinical governance**

Managed care has challenged the US medical profession and instead of pressing it to reform itself, as is (too!) gently suggested in Britain, sharp financial and managerial constraints have been used to control medical practice. US physicians who practice outside guidelines do not get paid. The pressure to 'corral' doctors has been driven in part by a desire to increase 'efficiency' (usually measured in terms of process and activity rather than outcome), and in part by a desire to reduce costs. During the 1990s increasing numbers of insurers and providers have changed from not for profit to profit making status, creating some ethical debates: if US doctors are also owners of profit making organisations, incentives may be introduced to generate unnecessary care to enhance their income.

The defensive posture of US and British medicine is a product of its leaders' failure to remedy the deficiencies of clinical practice which have been documented over decades. The lesson to be drawn from US experience is that if the British Medical Association and the Royal Colleges continue to be slow in 'healing themselves', they will inevitably be targets for aggressive, well intentioned but sometimes ill informed managers and legislators. Doctors are necessarily often uncertain in diagnosis and in treatment, and this uncertainty may need to be managed with some degree of clinical discretion, provided practitioners are accountable for their practices to their peers, to other managers and to the patients and taxpayers who fund care.

The new White Paper on the UK NHS<sup>51</sup> develops ideas of clinical governance, by the introduction of the National Institute on Clinical Excellence (NICE) and a Commission for Health Improvement (CHI). The roles of these institutes are not yet clear, but it is intended

for NICE to produce nationally agreed and implemented guidelines, and within CHI there may be 'hit squads' to investigate recalcitrant clinical teams.

## CONCLUSIONS

Managed care is not a panacea, and in the US may have palliated some aspects of the health care system whilst worsening others. It is marketed as novel and radical, whereas in fact much of its practice exists in other health care systems. Because of the gross inflation of health care expenditure in the US, managed care can have more immediate impact than the use of such techniques is likely to have in other more sensibly funded systems, such as the UK NHS.

The rhetoric of managed care can divert attention from equity issues which appear to be tolerated in the US, but which would be unacceptable in other developed country health care systems. Over 40 million uninsured US citizens, together with the 'victims' of welfare reform in the Medicare and Medicaid programmes, have been joined by many individuals losing coverage under managed care in the face of high user charges. This forms a group with very different access to health care than that faced by the employees of middle America and their families.

Market mechanisms and managed care are means to an end in health care, not ends in themselves. Whilst many US policy makers may find such systems ideologically unacceptable, evidence suggests that cash limited, tax financed health care systems facilitate better cost control and equity than market based systems. US health policy makers and those around the world share a common desire to improve the efficiency of resource allocation, but market mechanisms in health care 'work in mysterious ways' and should be used cautiously to pursue this social objective. When making choices about health care reform it is important to define clearly policy objectives and exploit thoroughly the limited, expanding and useful evidence base. It is a paradox that the increased use of market mechanisms in health care, far from facilitating deregulation, considerably increases the requirement for

regulatory activity. Marketing of managed care techniques outside the USA has not taken account of local social values and the independent development of improved management in health care. All health care markets require care to be 'managed', and this regulation should be based on evidence of effective or at least palliative policies, rather than rhetoric suggesting a panacea in health care.

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The new Labour Government has decided to discard the few market elements left in the Thatcher reforms of the NHS and move towards a command and control system of management. This new structure will use some of the methods of US managed care to enhance efficiency in resource allocation.

Managed care is concerned with the systematic control of providers and consumers by using purchasing power to determine prices, volumes and quality in the health care market. In the USA this has led to stabilisation of the share of GDP spent on health care (13.6 per cent) for five years and the extraction of resources from a generously funded system of patient care to finance advertising, information technology, administration and profits. The Americans have demonstrated that managing a health care system can consume 20 to 25 per cent of expenditure!

The American health care revolution has demonstrated also that clinical autonomy can be highly circumscribed in medical practice reduced by the harsh application of treatment protocols and significant changes in skill mix can be achieved. All these policies are inherent in the new Labour reforms but will require great political resolution if they are to be developed and applied usefully in a NHS which is funded parsimoniously.

One of the significant lessons of US managed care is that vigorous management, often not evidence based, can produce change. However, providers react and seek to weaken managerial control, requiring continuing reform of regulations. Thus purchasers have to indulge in continuous revolution to constrain the self interest of providers.

The US experience of managed care has similarities with the NHS, for instance the failure to measure and manage health status outcome performance, but also major differences, for instance managed care was provided, until recently, for largely healthy, employed populations, not for the whole population. Simplistic adoption of US management techniques may be dangerous and undermine performance in terms of efficiency, equity and cost control. Selective emulation may help Labour reform the NHS.