

# The impact of the fee-for-service reimbursement system on the utilisation of health services

## Part I. A review of the determinants of doctors' practice patterns

J. BROOMBERG, M. R. PRICE

### Summary

The impact of different methods of reimbursement on the practice patterns of doctors has received little attention in the local literature. This series of three papers attempts to address this gap.

Here the international evidence on this issue is reviewed. The 'information gap' between doctors and their patients allows doctors to induce demand for their services. This leads to the potential for doctors to increase the supply of services when they stand to gain financially from doing so, as is the case in the fee-for-service system.

There is extensive international evidence, at both national and micro levels, of the link between increased utilisation and the fee-for-service payment system. This is in contrast with the pattern noted in the salary system, used in some health maintenance organisations (HMOs) in the USA, or in the capitation system, used in the British National Health Service.

The 'practice setting' in which doctors operate also affects patterns of practice. In the local fee-for-service sector, 'third-party payment' means that both doctors and patients have little awareness of the direct costs of services. In other systems, such as HMOs, there is a strong cost consciousness on the part of practitioners. These differences in practice setting account in part for the different patterns of utilisation in these systems.

The fee-for-service system, as it is structured in South Africa, thus leads to extreme inefficiency, and the development of alternatives is becoming an urgent necessity. All systems of reimbursement have certain problems, and some combination may be the best solution.

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The majority of private health care providers in South Africa are paid a fee for each service delivered (the fee-for-service system). The effects of this method of reimbursement on doctors' behaviour have been extensively studied in other countries, and it is therefore surprising that so little attention has been paid to this issue in local publications. This series of papers attempts to address this gap. In this first paper we review the international evidence on this and related issues, and in the subsequent two<sup>1,2</sup> we describe the results of two studies that examine these issues in a local context.

### Supplier-induced demand

The critical role of health care providers in the generation and containment of health sector costs has long been recog-

nised, and has been the focus of extensive study in many countries.

This focus should come as no surprise. Doctors act as the gatekeepers to virtually the entire health care system. Their decisions determine when a patient should be admitted to hospital, what investigations and procedures should be undertaken, and what drugs should be prescribed. Aside from the direct costs of their services, doctors therefore have a major impact on expenditure throughout the remainder of the health sector. Some estimates put this share at 70 - 80% of total health expenditures.<sup>3</sup>

This extensive influence over health care expenditure results largely from the substantial asymmetry of information, often termed the 'information gap', that exists between doctors and their patients.

In most other economic sectors, consumers' likes and dislikes, as well as their ability to 'shop around', exert a crucial influence on the demand for particular goods or services. In the health sector, however, the 'information gap' hinders this ability. Professional regulations, which prevent competition among doctors, further inhibit the ability of would-be consumers to make informed price- and quality-related choices.

Unlike most other economic sectors, therefore, both the supply of and, to a large extent, the demand for health care services is in the hands of the providers of health care. This phenomenon of so-called 'supplier-induced demand' in the health sector has been the subject of rigorous debate and investigation for nearly 2 decades and there is broad consensus as to its relevance in understanding the health sector.<sup>4-6</sup> One powerful illustration of this is to be found in the evidence that the utilisation of specific services increases significantly with an increase in the density of providers in a particular area; for example, an increase in the number of surgeons in an area has been shown to produce increased rates of operations.<sup>7,8</sup>

### The effects of different methods of reimbursement on doctors' behaviour

The identification of the phenomenon of 'supplier-induced demand' has led to the recognition of the potential for conflict between the two roles that providers have to play. As agent of the patient, on the one hand, the doctor acts as impartial advisor on the nature and severity of illness, and on the type, quantity and urgency of services required. As a supplier of services to the patient, on the other hand, he or she often stands to gain financially from the services dispensed.

This potential conflict has in turn generated interest in the effects of different methods of paying providers on their professional behaviour. In the fee-for-service system, in which the provider is paid a fee for each item of service delivered, income is directly related to the volume and cost of services delivered. This generates an incentive to increase the supply of services. In a salary system, however, income is fixed, and there is no direct gain from an increased supply of services. In the capitation system, in which the provider is paid a fixed amount per patient on his or her books per year, there is an

Centre for the Study of Health Policy, Department of Community Health, University of the Witwatersrand, Johannesburg

J. BROOMBERG, M.B. B.CH., B.A. (OXON.)

M. R. PRICE, M.B. B.CH., B.A. (OXON.), M.SC. (LOND.)

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incentive to increase the number of patients registered in one's practice but not to increase the supply of services to these patients, since this will not affect income.

A particular focus of international publications has been on the fee-for-service system, since here the link between the volume of services delivered and income is most direct, and the potential for conflict between doctor as agent and doctor as supplier especially acute.

At a national level, there is strong and consistent evidence to demonstrate the link between increased utilisation of health services and the fee-for-service system. One of the classic studies is Bunker's 1970 paper,<sup>9</sup> which showed that in the UK, where surgeons are paid either a salary or some combination of salary and capitation, the rate of surgical operations per capita was about half that in the USA, where surgeons were and are still paid on a fee-for-service basis.

The link between utilisation rates and the effects of the fee-for-service system is further demonstrated by extensive evidence from the various health systems of Western Europe and Canada, as well as from the USA. In all these systems, doctors have frequently responded to the lowering of real earnings over time by increasing the amount of services delivered per capita.<sup>10-15</sup>

The evidence suggests that doctors have the ability to increase the level of services provided, and that under a fee-for-service system they appear to act in such a way as to maintain a 'target income' by increasing the number of services delivered when real earnings fall. Under a salary system, doctors would have no choice but to accept a cut in real earnings, while under a capitation system they may respond by taking on more patients, but providing more services would not be in their interest.

The relationship between fee-for-service reimbursement and utilisation has been studied on the micro-level as well. Here too, the evidence points strongly to overutilisation when doctors are paid on a fee-for-service basis.

Most of this work emerges from the USA, where the development of health maintenance organisation (HMOs), which variously pay doctors a salary, fee-for-service or a capitation fee, has provided a natural laboratory for testing the effects of these systems on utilisation patterns.

The most consistent pattern to emerge is that HMOs reduce expenditure by 10 - 40% compared with fee-for-service, independent providers, largely through a reduction in utilisation of hospital services. The differences in ambulatory care, such as office and clinic visits, are generally insignificant, although some studies have demonstrated that the HMOs in fact use more of these services per capita, since their doctors shift from inpatient to outpatient care to cut down hospitalisation costs.<sup>16-25</sup>

The consistent reduction in hospital utilisation is an interesting result. The fee-for-service system not only generates a 'perverse incentive' to overtreat, but in both the USA and South Africa its structure specifically encourages the use of inpatient rather than outpatient care. Technology-intensive procedures are far better rewarded than cognitive and consultative services, and most of the former are performed in a hospital setting. In addition, the use of hospital facilities is free to doctors, with no overhead costs involved. One American study estimates that overhead costs amount to approximately 60% of revenue for an office visit.<sup>8</sup> It is obviously cheaper for doctors to visit their patients in hospital. Finally, many hospitals directly encourage doctors using their premises to maintain a certain level of hospital utilisation.

In the case of pathological investigations, the evidence shows again that utilisation tends to increase with the introduction of a fee-for-service system, in which providers stand to gain financially from the use of more frequent and more expensive tests.<sup>26</sup>

There is thus strong evidence that when providers have the

financial incentive to increase the supply of services, as occurs in the fee-for-service system, they will tend to do so.

Salary and capitation systems also have important problems. In the capitation system there is a tendency for doctors to develop lists that are too large, as well as to refer to specialist care too frequently. Despite this, it is worth noting that British general practitioners, who are paid on a capitation system, treat over 80% of all patient episodes from start to finish.<sup>20</sup>

Both salary and capitation payment systems have also been accused of leading to inferior quality of care. The financial incentives to cut costs may lead to under-referral and cheaper, ineffective treatment. Practitioners may also be unmotivated and disinterested in their patients. There is some evidence that in certain health systems, salaried primary care providers tend to give poorer quality care.<sup>27</sup> This may occur, for example, through such providers working shorter hours, or being less responsive to their patients' needs and demands, since their payment is fixed, irrespective of the amount and quality of work done.

This is less of a problem in the capitation system, where income depends on the number of patients on the practice list; poor quality of care may reduce this number, and will thus affect income.

It is also important to note that the increased volume of services in the fee-for-service system is in itself no guarantee of increased quality of care. Multiple use of the same service, or multiple services, can give diminishing marginal returns, or may even have detrimental effects.<sup>28</sup> The first X-ray on admission to hospital is likely to be of great benefit. Daily X-rays thereafter will be of diminishing benefit, and may even be harmful. The implication is that reduced use of services need not compromise the level of care.

A further point to note is that appropriate practice settings may be designed to overcome the quality of care problems in different systems of reimbursement. That this is possible is shown by the numerous studies of HMO settings in the USA, which have not been able to demonstrate differences in quality of care between these and fee-for-service settings.<sup>29</sup> This is discussed in more detail in the next section.

### The effects of 'practice setting' on 'supplier-induced demand'

While the financial incentives inherent in these different methods of reimbursement are obvious, the extent to which they affect the actual behaviour of providers is not so clear. Non-financial incentives, such as professional and ethical considerations, and the setting in which providers practise, also exert significant influence on provider behaviour.

The 'practice setting' of doctors in the fee-for-service private sector in this country is a case in point. This setting is characterised by the lack of any constraints on spending for doctors. Firstly, neither the doctor nor the patient but rather a third party, the medical aid scheme, is responsible for payment. This means that both doctors and patients are not sufficiently aware of the costs of services. This ignorance about costs has again been well documented, as has the powerful impact that education about costs can make on the utilisation of services.<sup>30-32</sup>

Secondly, doctors practise independently, with no institutionalised mechanisms for developing treatment protocols, systems for reviewing clinical practice or utilisation profiles. This leads to inconsistent and irrational use of health care resources.

It is thus hard to isolate the fee-for-service payment mechanism from the setting in which it is applied, and in the South African context it is likely that both contribute to overservicing and irrational utilisation patterns. However, some

trials designed to test the effect of different methods of payment within the same practice setting have also been reported. In one US study of a group of registrars in a paediatric training programme, the introduction of fee-for-service payment was found to increase the use of outpatient services significantly.<sup>33</sup> Similar results have been reported for studies in other countries.

Many health systems in which staff are salaried are also characterised by practice settings that reduce utilisation of services. HMOs have an built in cost-containment incentive since a global budget for all services is fixed in advance, so that both managers and doctors are conscious of costs, and various cost-containing mechanisms are developed and implemented.<sup>1</sup> In addition, such systems often develop intensive methods of peer review and medical audit, as well as involving medical staff in the important aspects of management.<sup>24</sup>

## Conclusion

The design of an appropriate method of paying providers is clearly an important and complex issue. The fee-for-service system, particularly as it is usually structured, leads to extreme inefficiency in utilisation of scarce resources. The development of alternatives is thus becoming an urgent necessity in the South African context. In this search for alternatives, we can learn much from experience elsewhere. Among the important points raised here are firstly, that all systems of reimbursement have certain problems, and that some combination of systems may in fact be the best solution; and secondly, that the practice setting in which providers work interacts in critical ways with the method of reimbursement, and is as important in the attainment of efficiency goals.

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