

was similar to that found in the single previous randomised controlled trial comparing five statins.⁵

We are aware that there have been no direct comparisons of the clinical outcomes in patients taking different statins and, realistically, such studies are unlikely. Initial serum cholesterol concentrations were higher in our study than in the randomised controlled trials, therefore the absolute risk reductions in primary care patients (and hence the overall population benefits) may be greater than thought. Achieving target cholesterol values of $\leq 5\text{mmol/l}$ may, however, be unrealistic.

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Primary care in the United States

Primary care gatekeeping and referrals: effective filter or failed experiment?

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This is the second of four articles in a series edited by Andrew Bindman and Azeem Majeed

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The use of primary care physicians as gatekeepers to specialists and other medical resources—considered to be a managed care innovation in the United States—has proliferated during the past few decades. Its introduction has been accompanied by a government sponsored programme of research into referrals from primary care (box 1). Findings from these studies may offer insights into how the UK's NHS could shape the gatekeeping function of general practitioners. This article discusses the concept of gatekeeping, contrasts the processes of referral to specialists in the United States and the United Kingdom, examines the mechanisms by which gatekeeping influences resource allocation, and discusses the effects of linking gatekeeping with financial incentives and utilisation review.

Gatekeeping in the United States and the United Kingdom

Within modern societies, gatekeepers are positioned between organisations and individuals who wish to use resources within those organisations. Gatekeepers use discretion when determining who will be granted access to these resources. Physician gatekeepers collaborate with patients to identify their healthcare needs and choose services that effectively meet those needs. Public acceptance of gatekeeping is strengthened when there are too few resources to satisfy everyone's demands. In the United Kingdom, where long queues to see specialists are common because specialists are in short supply, the general practitioner

Summary points

Gatekeeping systems have emerged in countries with scarce medical resources

Gatekeepers ensure equity by judiciously matching healthcare services, including specialty referrals, to healthcare needs

Gatekeeping alters patients' behaviour, increasing levels of first contact care with primary care physicians, thereby reducing patients' self referrals

Patients in US health plans with gatekeeping arrangements are twice as likely to be referred to specialist care as their UK counterparts

There is little evidence that gatekeeping has had much effect on patients' referral rates in the United States, a healthcare environment rich in specialists

gatekeeper has enjoyed widespread support. In the United States, the public perceives the supply of specialised healthcare resources as limitless and accessible to all—hence its dissatisfaction with primary care gatekeepers.²

Gatekeeping intertwines the roles of physicians and healthcare organisations.³ This enmeshment benefits delivery systems because the population trusts healthcare organisations much less than it trusts doctors. Over time, the newly developed primary care trusts in the United Kingdom will align general practitioners more closely with healthcare organisations. Patients' satisfaction with and trust in their doctors will remain high only if the public believes the trusts are acting on their behalf, rather than making decisions in their own financial interests. In the United States, some of the harshest criticism of gatekeeping has resulted from the public's perception that medical decision making was unduly influenced by financial considerations.

Although physicians are gatekeepers to almost all medical resources, their role in managing referral to specialists has been the most controversial aspect of gatekeeping. The US federal government is considering a "patients' bill of rights," which among its many provisions requires healthcare organisations to give patients freer access to specialists. Some health maintenance organisations which use primary care physicians as gatekeepers to specialists are allowing patients to refer themselves if they are prepared to pay more out of pocket. In Britain, some analysts view the referral process as too loose, asserting that high referral rates have led to inappropriate demands on consultants. Referral guidelines are being considered for improving the appropriateness of general practitioners' referrals and for reducing demand at the interface between primary and specialist care.⁴ General practitioners' referral patterns will be examined more closely through the introduction of new monitoring systems and unified budgets for primary care trusts.⁵

The US healthcare system has a mixture of health plans (box 2). During the past 20 years, formal gatekeeping (physicians authorising referrals to specialists) proliferated in tandem with the growth of health maintenance organisations. Currently 38% of the US population has a primary care physician who acts as a formal gatekeeper.⁶ In response to the public's discontent with restricted access to specialists, health maintenance organisations have created new organisational models that weaken the physician gatekeeper function. For example, the point of service plan gives patients the option to use services approved by their gatekeeper or, at increased cost to themselves, to refer themselves to any physician within or outside the plan (but only 5% per year use this option).⁷ The self referral option gives patients the perception of less restricted access to specialist care, even though most are still referred to specialists by their primary care physician gatekeeper. Access to specialists in point of service plans is partly determined by ability to pay, which raises equity concerns. It seems unlikely that the NHS will consider similar mechanisms for managing demand, as this would require a radical change in the underlying principles of the NHS and the way it is funded.

Specialty referral rates

During an office visit, patients in either country have approximately equal chances of being referred to a specialist (table). Rates of keeping appointments with specialists are strikingly similar among referred

Box 1: Key research issues at the primary care-specialist care interface¹

- How do economic incentives and healthcare organisation structure affect the referral behaviour of primary care physicians and specialists?
- Do economic incentives to refer more or less often lead to changes in patients' outcomes?
- Is it desirable or even possible to standardise the content and language of the information transferred between referring clinician and specialist through use of communication protocols?
- How can new technology most effectively be used to improve the process and outcomes of communication at the interface of primary and specialist care?
- Which specific primary care physician competencies (in knowledge, skills, and attitude) have been proved to have an impact on patients' outcomes?
- Can the effect of physician competencies be separated from the effects of practice organisation and the healthcare system physicians work in?
- How do patients regard the referral process?
- What factors shape patient expectations, preferences, attitudes, and understanding about referrals to specialists, and how are these measured?

patients in the two countries. However, a third of referrals made from primary care physicians' offices in the United States do not involve a face to face encounter with the patient.⁹ Many are made during telephone conversations with patients and others are made by non-physician staff, which may be part of an integrated sequence of contacts between patients and physicians and can provide an efficient mechanism for reducing physicians' workload. Inappropriately made, however, such referrals can lead to unnecessary specialist care and increased costs.

Patients in the United States are twice as likely as patients in Britain to see a specialist during any 12 months. This large difference is partly because patients refer themselves more often in the United States, even when they have physician gatekeepers and then must pay for the full costs of care. In the United Kingdom,

Box 2: Types of US health plans and health maintenance organisations

Indemnity plans—No physician gatekeeper; unrestricted choice of practitioner; fee for service payment; may use some utilisation review (typically for hospital admissions)

Preferred provider organisations—No physician gatekeeper; generally use fee for service payments; patients have financial incentives to use practitioners within a defined network; costs are contained by discounted payments to providers and through some utilisation review

Health maintenance organisations—Use primary care physicians as gatekeepers; patients' access to specialists must be "authorised" by the gatekeeper; costs are contained by discounted payments, utilisation review of high cost procedures, and gatekeeping

Staff or group model—Physicians either are employed by the health maintenance organisation (staff model) or exclusively contract with a single health maintenance organisation (group model); most commonly they are paid by salary, with bonuses linked to productivity or quality assessments

Network model or independent practice association model—The health maintenance organisation contracts with physicians practising in their own offices (network model) or a physician organisation that in turns contracts with physicians (independent practice association model); physicians are free to contract with multiple health maintenance organisations; payment may be through capitation fees or fee for service

Point of service plan—Individuals choose a physician gatekeeper; patients have the option of obtaining care approved by the gatekeeper (lowest cost to patient) or referring themselves for care (higher cost to patient)

Referrals to specialists and supply of specialists in United Kingdom and United States

Measure	United Kingdom	United States
No of referrals to specialists per 100 consultations with UK general practitioners ⁸ or US family physicians ⁹	4.7	5.1
% of referred patients keeping appointments with specialists ⁸	83	84*
% of patients with ≥1 referral to a specialist per year by a general practitioner or primary care physician gatekeeper ¹⁰	13.9	31.6
No of specialists per 100 000 population ¹¹	60	125

* Unpublished data from the ASPN referral study.⁹

access to specialists has generally not been possible without a general practitioner's authorisation. General practitioners' exclusive control of the referral process may change as nurse practitioners, nurse specialists, nurse consultants, and staff of NHS walk-in centres gain authority to refer patients. The US experience suggests that this may lead to a substantial increase in rates of referrals to specialists. An important explanation for the differences in referral rates between the United States and the United Kingdom is the greater availability of specialists in the United States. The high referral rates in the United States are certainly one of the contributing causes of the country's exceptionally high healthcare expenditures.

Gatekeeping and resource allocation

In 1998, European countries with gatekeeping systems spent less on healthcare as a percentage of their gross national product than those that allowed direct access to specialists (7.8% v 8.6%).¹²⁻¹³ Among European nations and in the United States, more referrals are made by physicians who act as gatekeepers than those who do not.¹⁴⁻¹⁵ Although gatekeeping is associated with a greater range of conditions managed by general practitioners at the point of first contact, it has not been linked to other changes in the diagnostic or management styles of general practitioners or primary care physicians,¹³ or their coordination of referral care.¹⁵⁻¹⁶

In the United States, patients newly enrolling into gatekeeping health plans are less likely to see a specialist than are others in non-gatekeeping plans with unrestricted access to specialists.¹⁷⁻¹⁹ When patients switch out of a gatekeeping plan, there is little short term effect on their patterns of use of specialists.²⁰ In US multispecialty medical groups, gatekeeping systems are not associated with any cost savings.²¹

Gatekeeping systems have developed in countries with a limited supply of specialists. Studies have shown that countries without gatekeeping (n=5) had an average wait of 8.4 days for a specialist appointment, whereas those with gatekeeping (n=8) had an average wait of 23.2 days.⁸⁻¹³ Gatekeeping itself therefore does not seem to increase waiting time; rather, it is a logical organisational response to scarcity of specialist within a society.

Gatekeeping clearly alters the channels by which patients receive care: it is associated with more first contact with a general practitioner or a primary care physician and, consequently, less self-referral. Less certain is whether it changes practitioners' behaviour. There is no compelling evidence that gatekeeping modifies physicians' style of decision making or that primary care physicians apply resources any differently to patients for whom they are a gatekeeper. As regards referrals, this is not surprising, as 75% of the variation

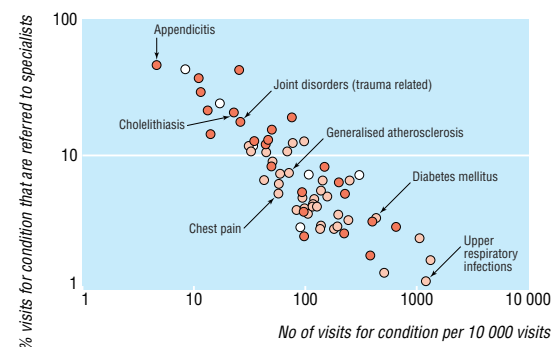
in referral rates for specific conditions is attributable to the characteristics of the presenting problem (figure).²²

Financial incentives and utilisation reviews

Healthcare organisations in the United States have used financial incentives, such as "specialty withholds" and capitation payments, to reduce referrals to specialists by gatekeepers. Withholds are a mechanism used by healthcare organisations to share financial risk for patients' use of certain types of services with the providers. Specialty withholds are proportions of payments to primary care physicians that are withheld prospectively to cover referral costs. Typically, they range from 10% to 20% of payments, and surpluses are split evenly between clinicians and insurers. In one study, a 10% withhold did not reduce rates of referral.²³ Physicians considered the potential loss of income to be a cost of doing business; moreover, the financial risk applied to only a small proportion of the physicians' total practice (most US physicians contract with multiple health plans).

Withhold payments would have stronger effects if all a general practitioner's or primary care physician's patients were covered by the financial risk. The recent fundholding experiments in Britain placed increased financial responsibility for health services on general practices. Although an evaluation found fundholding had no effect on overall rates of referral, fundholding practices did have a slower rate of rise in referral rates than non-fundholding practices.²⁴ An important conceptual problem with tying financial incentives to referral rates is that the number of referrals tells us nothing about their appropriateness, even if the results are adjusted for the health status of the population. Furthermore, incentives may provoke ethical conflicts when physicians weigh benefits to the patient against loss of income or the health services their organisation can offer.

There is little information on whether capitation fees influence the process of referral to specialists. In a national study of the referral practices of US physicians, our research group found that paying physicians by capitation fees did not influence rates of referral, although it was associated with more referrals made for discretionary indications.¹¹ Capitation payments may act at the margins of primary care



Visits to primary care physicians for common medical conditions (yellow), surgical conditions (red), and other conditions (white). Data are from US national ambulatory medical care surveys, 1989-94; axes are on the logarithmic scale. Reprinted with permission²²

physicians' scope of practice, increasing the likelihood that health problems which could be managed either in primary care or by a specialist are referred. In recognition of these incentives, some US medical groups have developed blended payment systems that combine capitation fees to primary care physicians with fee for service payments for procedures that straddle the boundaries between primary care physicians' and specialists' practice.

In the United States, referral guidelines have not been associated with any substantive impact on physicians' referral rates. On the other hand, primary care physicians and patients have ample experience with review of referral requests (utilisation review) by health plans and in some cases by medical groups. Utilisation review programmes generally apply guidelines retrospectively. In some cases, the review leads to denying a referral request, although this is uncommon. Utilisation reviews shift some gatekeeping authority from the doctor-patient relationship to the healthcare organisation. This two tiered gatekeeping arrangement is cumbersome; it has created substantial dissatisfaction with health care on the part of both patients and physicians; and, it is not clearly associated with any cost savings. One strategy that holds great promise for altering general practitioners' and primary care physicians' referral behaviour relies on decision support—using electronic medical records to integrate referral guidelines that specify timing of referral, the investigations that should be done before referral, and the expectations of the consultant.

Conclusions

A recent editorial in the *New York Times* expressed a sentiment common in the United States: that gatekeeping is a failed experiment by managed care organisations.² On the front line delivery of health care, the primary care gatekeeper has become the lightning rod for consumers' discontent with healthcare delivery. There is no question but that patients value the input of their primary care physicians into medical decisions. At issue is how to manage patients' demand for specialist care in a healthcare environment rich in specialists that promotes expectations for direct access and reliance on invasive technologies over less invasive primary care interventions.

Many UK analysts assert that gatekeeping is responsible for the country's low healthcare expenditures relative to other European nations. Although it is true that countries with gatekeeping systems spend less on health care than those without such management of referrals, gatekeeping is not directly responsible for the lower costs. Rather, gatekeeping systems have emerged in societies with scarcer healthcare resources. The lower costs are a function of supply side controls, rather than demand management at the primary care-specialty care interface. Cost arguments aside, primary care gatekeeping provides an important filter to specialist care. Patients who go directly to specialists are less likely to be ill, increasing the chances that diagnostic and therapeutic procedures will be applied inappropriately and outcomes will be threatened. Despite consumerist trends in most developed nations, patients will continue to need primary care practitioners to guide them through an increasingly complex

healthcare system and to assure an equitable distribution of resources by matching services to healthcare needs.

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Cover note

Bakker van Eeklo

Legend has it that people with heads they did not like went to Eeklo (Flanders), where the village bakery would rebake their heads in its "great and glowing oven." Once a doctor had established what was wrong, the baker's assistant would chop the head off, putting a cabbage on the neck to staunch the flow of blood. The head was then kneaded, sprinkled with flour, and rubbed with wondercream, before being purified by the heat of the oven and replaced.