

Organised Family Medicine: The Key Issue To Cost-Effective Healthcare

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The cost of health care is for most countries one of the most central issues in public budgeting. Rising health care costs, without a trade-off in better national health, are a reality. The cost controlling merits of national health systems, of private insurance and a mixture of the two are a matter of dispute. The organisation of health care - managed care, general practitioner gatekeeping, service fees and cost sharing, for instance has been recognised as a factor in cost-effectiveness ([1,2](#)).

Cost comparisons between well-developed countries show differences of almost 100 per cent. The high costs in the United States, 12.2 per cent of GDP in 1990, are attributed by Rassel not to high utilisation of in- or outpatient care but to extremely high costs per consultation. Among countries with a fairly similar, high western standard of living, a World Bank report([3](#)) shows that the estimated per capita cost of health care in 1990 was, in US dollars, 2763 for an American, 2520 for a Swiss, 2343 for a Swede, 1588 for a Dane, 1039 for an Englishman and 925 for a New Zealander.

In a joint conference in Ontario in 1994, the WHO and the World Organisation of Family Doctors (WONCA) stated that "The rising expenditures for medical care are driven by the growth of specialist physicians, the availability of new medical technology and expanding publicly subsidised private insurance which is reimbursed, on a fee-for-service basis"; furthermore, "the rising cost of hospital-based medical care leaves little essential clinical and public health services for the public at large"([4](#)).

These statements are supported by numerous reports and studies that also highlight the health care delivery system's organisational aspect. To cite Rosenblatt's editorial in JAMA ([8](#)), "Specialist or generalist, on whom should we base the American health care system? ... Do speciality organisational settings matter?" To him the answer is "Yes" and he points out that Canada, the United Kingdom, New Zealand and Australia - all English-speaking industrialised nations - manage to provide universal health care, accessible to their citizens, at dramatically less cost per capita than the United States. He also notes that these countries depend on general and family physicians for virtually all their primary health care; in each country approximately one physician in two is a generalist([8](#)).

Definitive similarities between countries with low total health costs have been reported by Groenwegen et al. in a multinational European study ([15](#)). The United Kingdom, Denmark, Norway, Italy and the Netherlands all have a relatively low cost health care system (5-8 per cent of GDP) based on strong and well-established general practice. Features in common are small general practices (1500 inhabitants); general practitioners who function as gatekeepers and work on a broad front, including child and maternal health care programmes; a private/ entrepreneurial arrangement of 24-hour general practices, with patients listed to the doctor; and reimbursement of GPs mainly by capitation. In 1985 the GDP share for health expenditures in those countries was 20-30 per cent lower than in Germany, France, Sweden and Austria.

The general country comparisons indicate that a structure with a comprehensive, recognised and strong general practice/family medicine goes hand in hand with relatively low national spending on health care.

Support for this perception is provided by studies of new developments in primary health care systems/organisations, showing a link to decreased costs for secondary and tertiary health care. (16-18)

These studies and experiences raise some fundamental issues. In what ways is the delivery of primary care related to low costs in the rest of the system? Are there some specific structures and processes with an impact that is particularly large or small?

This paper presents a review of the literature in a search for common characteristics of health care systems that are cost-effective, with particular reference to the role of the general practitioner.

General Practitioners/Family Physicians: Numbers and Training

Two general practice structures associated with low total health costs are the incidence of general practitioners and the level of their training. The population ratio is important - 1500 inhabitants per general practitioner/FD seems to be most appropriate (15, 17). The ratio between generalists and specialists should be 1:1. (4,5,8,15,19) Generalists, moreover, should be physicians with a sound training in primary care. This training should consist of 3-5 years of vocational training plus lifelong continuing medical training to maintain good quality and low costs. (4, 15)

Comprehensive Medical Practice

As shown in several reports, the cost effectiveness of comprehensive generalist work is achieved in the main through less use of costly technology and fewer referrals to specialised care.

In a study at King's College Hospital in London, UK, Dale et al (14) found that, without any difference in the outcome of given care, general practitioners working in the hospital's emergency department used almost 50 per cent less radiology, clinical chemistry and bacteriology, compared with the hospital specialist. In a Medical Outcomes Study report, Greenfield et al (7) came to similar conclusions in a comparison of family medicine specialists and general internists. The European experience is that low costs are achieved when the general practitioners have a comprehensive assignment, including child and maternal health care. (15) In Stockholm, Sweien, Smedby et al found that, compared with a more limited mandate for primary care, comprehensive general practice was associated with lower total health costs. (20)

Continuity in Family Practice

Studying the effect of continuity in out-patient care, given to elderly men, Wasson et al (11) found that an increase in continuity, on an annual basis, from 50 to 71 per cent reduced the number of hospital admissions by 19 per cent and the number of hospital bed-days by 10 days.

Continuity, in the sense that patient and doctor are well acquainted prior to a consultation, was found by Bass (25) to be associated with a threefold improvement in outcomes. Similarly, higher continuity with the general practitioner is reported by Dietrich et al (26) to be positively related to better patient satisfaction and thereby reduces the incidence of second-opinion consultations.

In separate studies in Sweden and the United States, Hakansson and Shear found that continuity in maternal health care provided by general practitioners tended to result in a below-average frequency of technically-performed deliveries.

Gatekeeping

Gatekeeping is a time-honoured arrangement, at least in the United States. In 1932 a committee on the cost of medical care proposed that the family doctor (a well-trained generalist) should be the responsible doctor in the system, with the power of referral to specialist hospital care. The notion that gatekeeping reduces the number of out-patient specialist consultations has been confirmed in several

more recent studies. Support has likewise come from studies on gatekeeping's effect on the utilisation of inpatient care/bed days. ([7.12.18.32-35](#))

Strong evidence for the gatekeeping reduction theory is provided by the "Hundenon case". In a district in New Jersey, USA, gatekeeping by family doctors had been used from the fifties to the seventies; lobbying by specialists led to the termination of this system in 1978 and from 1979 onwards the specialists established outpatient clinics and took over much of the family doctor's work. As a result, health care costs for the population served rose 30 per cent. An HMO system with a gatekeeping concept was then introduced in 1983, reinstating the family physician in Hunderton and returning costs, in relative terms, to the previous lower level, 30 per cent below the non-gatekeeping, specialist system.

Capitation

The utilisation of hospital in-patient care is low in countries and HMO systems where the remuneration of general practitioners is based on capitation. In the United Kingdom, for instance, where general practitioners are paid mainly by capitation, the annual number of bed days per inhabitant is 0.9 as against 2.3 in Germany, where pay is by service fees.

In studies on effects of capitation payment in primary care, many researchers report a reduction in the utilisation of hospital in-patient care. A link between capitation payment and decreased psychiatric care was found by Hustead et al. Furthermore, a number of authors have found that the capitation system is associated with good medical quality.

Quality of Care Based on General Practice

It has been argued that the broad mandate - comprehensive care provided by generalists - might jeopardise the quality of care. Support for this hypothesis was in fact provided by Hayes ([21](#)), who found that the quality of care decreased for type II diabetics when they were referred from hospital diabetes clinics to general practitioners. The opposite was found by Singh et al in a study of the same change in diabetes care in another part of the United Kingdom; they concluded that, without training and follow-up, such referrals could indeed put the patient at risk of receiving care of inferior quality; however, if general practitioners were offered training programmes as a part of the referral arrangement, a great deal of specialist-based diabetes care at hospitals could be referred to general practice without jeopardising its quality. The conclusion from these two studies was that CME programmes are needed to maintain the quality of general practice.

Other aspects of quality in general practice have also been investigated. In a Californian study of maternal health care provided in general practice and by gynaecologists, Shear et al concluded that the quality performance of the general practitioners was as good as or even better than that of the obstetricians. A Swedish study comparing general practitioners and paediatricians in the care of upper respiratory tract infections in children showed that performance, in relation to standards and guidelines, was better in general practice. ([24](#))

The potential risk of undertreatment as a result of gatekeeping has been studied by Siu et al, who found that the 40 per cent reduction in hospital care due to gatekeeping came from a lower incidence of inappropriate surgery; all necessary and relevant surgery was performed. In a review of HMOs, moreover, Hornbook concluded that quality in the HMOs (many of which incorporated gatekeeping) was high and comparable with the traditional fee-for-service system.

The issue of whether capitation payment tends to "encourage" undertreatment and underdiagnosing is addressed by Murray, who evaluated individual doctors in group practices who had patients both on capitation and on fee-for-service contracts. The aim of the study was to determine whether the doctors treated patients differently, depending on the payment system. No significant differences were observed in terms of the type and number of laboratory tests, the number of visits or the outcome of blood-pressure levels.

Discussion

It seems probable that the organisation of primary health care has a bearing on total health care costs. Comparisons between countries as well as between insurance systems indicate that strong, front-line primary care is associated with low total costs. In this context, however, the organisation of the entire health care system is of major importance. Countries such as Belgium, France, Germany, Switzerland and the United States have a fairly high proportion of general practitioners but total costs are still high.⁽³⁾

The organisation of general practice is evidently important, at least to judge from this review. Briefly, if general practitioners have around 1500 persons on their lists, a comprehensive mission, high continuity of care, a gatekeeping function and capitation payment, there is a good likelihood of total health care costs being relatively low.

Moreover, the introduction of these primary care characteristics can be expected to reduce total health care costs. The recent report by Dale et al, from the emergency department at King's College Hospital, supports the view that in their approach to treatment, general practitioners are low on technology.

Studies on the effectiveness of family physician's consultations indicate that the patient centred approach yields the best outcome for care and patient satisfaction ([25, 48-50](#)). Perhaps it is this quality aspect of daily practice- the holistic approach to the patient - that underlies the cost effectiveness of health care provided by well-trained general practitioners.

CONCLUSION

The qualitative aspects of general practice need to be studied in future research to determine the factors whereby this form of health care, organised for comprehensive and continuous provision, with a gatekeeping function and remuneration based on capitation, is associated with low total health care costs.

Randomised and controlled studies to compare outcomes with different health care organisations are obviously highly important in the face of growing constraints on health budgets world-wide.

REFERENCES