may be resolved by a trial that reflects the common clinical practice of using these fluids in combination. Smith and Norman reported that a mixture of colloid and crystalloid produced significantly better results than either colloid or crystalloid alone—in a trial that included assessment of oxygen delivery and consumption.¹⁴ My practice is to give colloid for the first 1500 ml of fluid replacement (to achieve rapid restoration of intravascular volume) and thereafter to use a combination of crystalloid and colloid (in a ratio of roughly two to one) supplemented by red cell transfusion to maintain a packed cell volume of about 30%. The colloid I use is gelatin since it is inexpensive, has a shortish half life, produces an osmotic diuresis, and is free from adverse effects on haemostasis and crossmatching.

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Regular Review

Financing health care: lessons from abroad

ROBERT J MAXWELL

Rudolf Klein has recently examined three options for raising more money for health care in Britain: user charges, hypothecated tax, and private insurance.¹ He suggests that all are irrelevant if the root problem is that the Chancellor does not *want* to spend more money on the NHS rather than that the general tax yield is insufficient to allow him to do so. And he concludes that what we need is not a quest for a new funding formula so much as ways of changing the flows of funds within the NHS—for example, by linking income to service activity.

In looking at how other countries finance health care we should consider not only the sources of funds and levels of expenditure but also how services are provided and the methods of financial allocation and reimbursement.

Sources of funds

While there are almost endless variations in the patterns of national financing, they fall into families which can in turn be related to one relatively simple basic model (fig 1).

Among the major Western countries only the United States has a public share for the financing of health services below 50%—41% in 1985. The average figure in the Organisation for Economic Cooperation and Development (OECD) is just below 80%, having risen sharply from around 60% in 1960 to 78% in 1980 and then levelled off.² This trend reflects a substantial extension of public coverage, especially for hospital care, in the 1960s and 1970s. The current British

FIG 1—Who pays? (Reproduced by permission of the Royal Society of Medicine.¹⁰)

figure of 90% is similar to that of Sweden and Norway and a good deal higher than, for example, that of West Germany at 78% or France at 71%. While the trend since 1960 throughout the OECD has been one of extending coverage that is not necessarily immutable.

Since 1980 there has been almost no increase in the proportion of health care expenditure borne publicly in OECD countries, and the levelling off might be followed by some reduction of the public share. This is obviously being considered in the Prime Minister's internal review of the NHS, but the government should beware of too simplistic a

comparison with other countries—namely, that all Britain needs to do is to boost private health care spending as distinct from public spending. Whatever the arguments may be for more private spending, they do not rest easily on international comparisons because the private portion is not the same thing in one country as in another. It may, for example, comprise services that are excluded from the public package, such as dentistry in many countries; or an element of patient charges, as in France for many items; or the deliberate exclusion from cover by the public system of people with high incomes. All these exclusions have different effects. The risks in boosting private spending are whether the extra expenditure will represent poor value for money, distort patterns of provision, or widen the differences in service between rich and poor.

Within public finance the main choice of method is between general taxation and compulsory insurance. Sweden, Canada, and the United Kingdom all rely mainly on general taxation, though the United Kingdom differs from the other two in its overwhelming reliance on central government funding, compared with a mix of federal and provincial funding in Canada and taxation at the county level in Sweden. The commonest pattern in western Europe, however, is compulsory insurance through sickness funds rather than taxation. Bismarck was the architect of the national health insurance law in Germany more than a century ago, and, with variants, his model has been widely imitated. In the scheme employers and employees bear the costs of health insurance in agreed proportions, and the government may top up the schemes as well as regulate them. Typically the government also contributes to cover for groups like the poor and the chronic sick, who are difficult to insure.

With private finance the split between direct payment and insurance is largely one that rests with individuals and insurers rather than with the government. If people want to take out insurance rather than face unforeseen expenditure and if insurers are willing to sell policies to them the government may need to regulate the transaction but it is unlikely to prevent it. The government may, however, as in Canada, insist that no extra charges can be made for services insured under the public system. Switzerland is highly unusual in relying primarily on publicly regulated voluntary insurance, with substantial public subsidy, rather than on compulsory insurance.

More fiscal than health policy

In a sense, as Rudolf Klein argues, the source of health care finance is more a matter of fiscal than of health policy. In particular, funding health care through general taxation avoids the expense of a separate system for collecting contributions. It is also the simplest method of relating contributions to income, rather than adopting a flat rate or one related to health status. So it has much to commend it, and reformists should take seriously Viscount Falkland's maxim, "When it is not necessary to change, it is necessary not to change." Nevertheless, the case for change is stronger than Rudolf Klein allows. If the NHS needs more generous funding—and I believe that it does—then the big disadvantage of general taxation as the funding base is that most voters dislike paying it and see little connection between the tax that they pay and the health care that they want to be available when they need it. It is not a Conservative myth that tax is unpopular. Insurance funding does make it easier—as

West Germany shows—to have an intelligent public discussion about the package of benefits that can be purchased at different funding levels. By that I mean that German insurers, and the employer and employee organisations concerned in agreeing the contribution rates, can specify quite clearly whether any item of service is to be funded or excluded.

It is also worth examining the idea of a hypothecated tax, if only as a subsidiary method, though there are few examples of its use. For a while New Zealand introduced an additional tobacco tax to finance innovative community health services. The idea was that it influenced both demand and supply by discouraging smoking at the same time as raising money specifically for health care.

France also is unusual in having long had a fairly consistent policy about user charges through the ticket modérateur. Apart from the poor and people suffering from specified diseases, users are expected to pay for services at the time of use and can then reclaim about 70% of the cost from public insurance. (They can, however, take out voluntary cover for the balance through the *mutuelles*.) Despite Nye Bevan's opposition to charges, some were introduced early in the history of the NHS and there is little probability of their total withdrawal. They certainly moderate demand if levied at more than a nominal level.³ They can be quite expensive to collect and are almost bound to have a differential impact on the rich and the poor.

Another whole subject of inquiry is the funding of capital expenditure, which may, as in the NHS, be financed outright or may be amortised over a period. When financed from commercial sources, which NHS hospitals are not permitted to use, the costs of servicing and repaying loans are taken into account in setting the levels of operating expense.

Expenditure levels

The latest reliable international comparisons of health care spending are for 1985 (table I⁴).

TABLE I—Total health care expenditure per head, 1985, at gross domestic product purchasing power parities

	US\$
United States	1776
Canada	1282
Sweden	1172
Switzerland	1144
France	1072
Germany	983
The Netherlands	938
Australia	904
Belgium	792
Japan	783
Denmark	755
Italy	678
United Kingdom	627
Spain	456
Greece	252
OECD average	848

There is strong evidence that much of the explanation for national differences in health spending lies in differences in national wealth.⁵ In other words, what countries spend is strongly influenced by what they can afford. An important comparison therefore is spending as a proportion of gross national product or gross domestic product. As table II

shows, Britain's health care spending is relatively low in these terms. Not surprisingly, the rate of increase in health care spending has been substantially lower throughout the OECD since 1975 (when the oil crisis made its impact on economic growth) than in the previous 15 years, during the period of sharply increasing public coverage of health care.

TABLE II—Total health expenditure as percentage of gross domestic product, 1960-85

Country	1960	1970	1980	1985
Australia	5.1	5.6	7.3	7.6
Austria	4.4	5.3	7.9	7.9
Belgium	3.4	4.0	6.6	7.3
Canada	5.5	7.2	7.5	8.6
Denmark	3.6	6.1	6.8	6.2
Finland	4.2	5.6	6.3	7.3
France	4.3	6.1	8.5	9.4
Germany	4.7	5.5	7.9	8.1
Greece	2.9	4.0	4.2	4.2
Iceland	5.9	8.7	6.9	8.4
Ireland	4.0	5.6	8.5	8.0
Italy	3.9	5.5	6.8	7.4
Japan	3.0	4.6	6.6	6.6
The Netherlands	3.9	6.0	8.3	8.3
New Zealand	4.4	5.1	7.2	5.6
Norway	3.3	5.0	6.6	6.6
Portugal			5.9	5.7
Spain	2.3	4.1	5.9	6.0
Sweden	4.7	7.2	9.5	9.3
Switzerland	3.3	5.2	7.2	7.9
United Kingdom	3.9	4.5	5.7	5.7
United States	5.2	7.4	9.2	10.8
Mean	4.1	5.6	7.2	7.4

Source: OECD.

After adjustment has been made for differences in national income Britain's spending is lower than would be predicted on the basis of international comparisons, by a margin of around 1% of gross domestic product. Taking public expenditure alone, Britain's figure is still low. Among the explanations advanced are relatively low doctors' incomes as a multiple of national average earnings; low wage rates for nurses; low pharmaceutical prices and low use of certain types of pharmaceuticals by international standards; caution in the spread of new technologies; an effective balance between primary and hospital care; and a single point of control (the Treasury) for public expenditure on health care. All these points have weight in explaining the differences but they do not necessarily justify them.

Public-private mix in provision

The main point to grasp is that public financing should not necessarily mean public provision. Conceptually there is a matrix of sources of finance, intermediaries such as organisations that manage hospitals, and the clinicians who provide care (table III).

Perhaps not surprisingly, international evidence suggests

TABLE III—The public and private mix

A Sources of funds	B Intermediaries	C Clinicians
1 Public (government, compulsory insurance, etc)	1 Public	1 Direct employees
2 Private (individuals, employers, etc)	2 Private for profit	2 Private contractors
3 Charitable	3 Private non-profit	3 Other

No doubt this table is oversimplified, but it helps to illustrate the point that public funding (A1) can finance services through private organisations (B2, B3), which may have a variety of arrangements with the professional staff who actually deliver the care (C1, C2, C3).

that the higher the proportion of public funding the higher tends to be the degree of public ownership of delivery organisations.⁶ Logically, however, this does not have to be so, as the recent private sector expansion of residential care in Britain illustrates, relying heavily on public social security payments. In any case, private sector provision is not necessarily preferable to public provision. On the other hand, the private sector tends to respond faster to market stimuli, such as money or consumer demand; it is less likely to constitute a monopoly than public sector provision; and on occasions it offers exceptional value for money.⁷

Financial allocation and reimbursement

We are accustomed, for better and for worse, to systems of financial allocation and control—at least in the hospital and community health services—that are extremely effective at restricting expenditure within a predetermined sum but offer virtually no incentive to high performance. The easiest way for any NHS hospital to balance its books is to do less clinical work or to reduce standards. Similarly, the NHS clinician who wants a quiet life can readily find one.

Familiar as we are with these circumstances, a moment's reflection will show how far removed they are from most markets. In fact medical markets, like others, have generally developed from a position where doctors were paid retrospectively for services delivered and billed (fig 2).

FIG 2—Controlling expenditure on doctors' services.

Similarly, the reimbursement of hospitals has tended to move from retrospective reimbursement at actual costs, through devices to secure more control of total expenditure by third party payers (fig 3). The ultimate in tight control from the latter's point of view is the predetermined global budget, as in the NHS. Whatever may happen, and whatever services are delivered, the third party payer knows in advance what his total bill will be.

The point is, however, that financial control is not everything. While we are by no means alone in using fixed global hospital budgets (Sweden and Canada do roughly the same), with staff on fixed salaries, there are good arguments for reimbursement systems that offer some reward for increased volumes. Hence the popularity of diagnosis related

groups in the United States and elsewhere, which offer a way of setting and adjusting budgets in light of work done.⁸ Hence also, at the level of the individual, the arguments for incentives beyond basic salary.

FIG 3—Controlling hospital expenditure. (Reproduced by permission of the Royal Society of Medicine.¹⁰)

On the other hand, higher volumes are not necessarily in the public interest. The market, in a perfect sense, simply does not apply in health care because consumers can only partly judge their needs, an appropriate course of treatment, and its success; moreover, doctors as the main suppliers of care are also the patient's principal advisers and advocates and hence supply influences demand.

For many treatments, such as surgical intervention, British rates are relatively low and the introduction of new technologies cautious.⁹ Neither of these characteristics is wholly bad. They often operate to the advantage of patients and even more frequently represent value for money within tight resource constraints.

What then?

Four points stand out. Firstly, United Kingdom health care spending at about £400 a head each year is quite low compared with that in other countries, and there are many pointers to suggest a need to increase it (waiting lists, low pay for nurses, the poor state of buildings and equipment). Simply to increase private spending outside the NHS is unlikely to solve the problem and would hasten the development of a two tier system.

Secondly, there is a dearth of financial incentives to high performance in the NHS. Indeed, the incentives are perverse: the less work hospitals or doctors do in the NHS the more comfortable their financial position. On the other hand, the financial control systems are powerful and effective. To develop incentives that work benignly, without forfeiting financial control, would require radically better information and analysis than we now have. There are lessons for us here from Canada (so far as physician reimbursement goes) and from the best of the American managed systems of care—for example, some of the health maintenance organisations. Essential components include systematic clinical audit via peer review; randomised controlled trials and other

statistically sound studies of effectiveness; epidemiological reviews of need and effectiveness; and accurate feedback data on activities, costs, and outcomes. This is a plea not simply for better information but also for performance incentives and sanctions, and much greater flexibility, within the framework of the NHS.

Thirdly, whatever changes are made in NHS financing to raise more revenue or to diversify provision and encourage internal markets we should recognise that no country seems to have all the answers. Not only does this suggest that copying any one country is foolish but it may imply that there is no perfect or permanent solution to a problem that means finding and maintaining a balance between competing goods—between comprehensiveness and economy, for example, or between liberty and equity. So this is not something that can be “fixed” once and for all. What matters is encouraging a process of experimental, evolutionary change and adjustment.

Fourthly, health care is not health. Some of the most exciting recent advances in health as in Finland and Japan have been made partly through changes in behaviour rather than simply improvements in health services. In the end health outcomes and health status are the touchstones against which any country's health policies and systems must be judged, and we have no cause for complacency.

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Corrections

Services for sickle cell disease: unified approach needed

A printing error occurred in the leading article on services for sickle cell disease by Dr Ian M Franklin (27 February, p 592). The first sentence should have read: “Sickle cell disease is an autosomal recessive disorder affecting one in 300 blacks of Afro-Caribbean origin.” The proportion was wrongly given as one in 30.

Psychiatric illness among British Afro-Caribbeans

Because of a printer's error a reference was excluded from the leading article on psychiatric illness among British Afro-Caribbeans by Dr Roland Littlewood and Dr Maurice Lipsedge (2 April, p 950). Reference 7 was: Littlewood R, Lipsedge M. *Aliens and alienists: ethnic minorities and psychiatry*. Harmondsworth: Penguin, 1982.