Making generalisations about a potentially dangerous treatment on the basis of a single trial is controversial. Moreover, although the National Institute of Neurological Disorder and Stroke trial was well designed and conducted, it has several problems. Firstly, the risk to benefit ratio is narrow—the 12% absolute increase in the favourable outcome was associated with a 6% absolute increased risk of symptomatic brain haemorrhages, almost half of which were fatal. In fact, the risk of haemorrhagic transformation was particularly high in this trial—it was increased by a factor of 10 in the group treated with alteplase, compared with the threefold to fourfold increase found in the other trials. Another problem relates to the excessive number of patients with presumed lacunar stroke who were allocated to receive alteplase (16% *v* 10% of controls, $P<0.03$). Patients with lacunar stroke represent a subgroup in which the potential benefit of thrombolysis is suspect, and those who were given placebo had a much worse evolution than expected from the literature on the natural course of this condition.[11] In contrast, alteplase was less effective in the patients with large artery disease or thromboembolism than in those with lacunar stroke. This is puzzling since stroke due to arterial or cardiac embolism is the primary target of thrombolytic treatments.

Given these uncertainties, together with the clear dangers associated with thrombolysis, there seems to be a more cautious attitude among many European experts, in clear contrast to the more enthusiastic approach of many American experts at the recent international conference on thrombolysis in stroke (Copenhagen, May 1996). However, an important consensus was achieved on the need to consider acute stroke as an emergency (needing medical attention within six hours, preferably in less than three) and the need to ensure specialist management of patients with stroke, especially if thrombolysis is considered.

Many problems remain unsolved. Intra-arterial thrombolysis is attractive because it allows direct evaluation of occlusion and recanalisation. However, its availability is, and will remain, limited, and it has not so far been submitted to an appropriate randomised trial. With both intravenous and intra-arterial thrombolysis, there may be substantially different responses to treatment in relation to the site of occlusion, nature of embolic material, availability of collateral circulation, and subtype of stroke. Indeed, stroke is not a single disease, although early differentiation of subtypes remains difficult. In this setting there may be a room for new imaging techniques to show what proportion of ischaemic tissue may still be saved, such as diffusion and perfusion magnetic resonance imaging.[2] The idea would be to select within the first few hours of the start of stroke the patients with potential for recovery or improvement. Time is probably the most important factor for defining the therapeutic window in acute stroke, but it is modulated by individual factors that may be critical. It may be that we must improve our skills in selecting the right patients for the right treatments.

Putting all the available data in perspective, it is difficult or impossible to define clearly a specific risk to benefit ratio in individual patients with acute stroke. Even for patients who fall within the inclusion criteria of the National Institute of Neurological Disorder and Stroke trial, many are probably not suitable for thrombolysis. Further trials of thrombolysis are needed, but the aim of this research should be to define better which patients should be randomised rather than to generalise treatment prematurely to all patients admitted within three hours of the start of stroke.

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Deprivation payments revisited (again)

Equity remains a problem with current method of allocation

See p 669

With the rising workload in general practice and an emerging manpower crisis, destabilising influences such as unpredictable shifts in income are to be avoided. Unfortunately, continuing to allocate deprivation payments to practices on the basis of geographical wards has resulted in large shifts in resources. This is because data from the 1991 census have now replaced the 1981 data, which had been used to calculate deprivation payments since the introduction of the new general practitioner contract in 1990.[1] The short report in this week's *BMJ* by Majeed *et al* (p 669) models the effects of applying census data to the existing rigid formula for allocating deprivation awards. Small shifts in the Jarman deprivation score around the payment bands can translate to practices gaining or losing tens of thousands of pounds, with no discernible change in their clinical workloads: one practice reported a 15% shift in income after a change in a ward boundary.[2] Such a lottery of winners and losers has been predicted since the introduction of deprivation payments,[3,4,5] and it is depressing that nothing has been done to try to limit the deficiencies in the current system.

The most obvious change would be to base deprivation payments on the Jarman score at the level of enumeration district (about 500 people) rather than ward (about 25 000 people). Now that all patients' addresses are computerised and postcoded at local authority level, it is difficult to see why this change has not been implemented. It would considerably improve the sensitivity of Jarman scores based on census data (and was advocated by Jarman from the start[6]). Allocation by enumeration district would also reduce the risk of wide swings in payments to individual practices at the time of changing censuses.

A second fundamental change would be to alter the current banding system for paying general practitioners.[4] At present there are only three payment bands, which come into force at Jarman scores of 30, 40, and 50. Additional payment bands, starting at lower scores, have been advocated,[6] but a continuous payment schedule could be even better.

Currently, the band payments are £6.20 per patient for all patients in wards with a Jarman score above 30, £8.05 for a score above 40, and £10.75 for a score above 50, so there is a much bigger jump at the threshold of 30 than at the two higher band boundaries. A simple alternative would be to define the payment rate as two sliding scales, each with a threshold and a payment per unit of Jarman score above the threshold. Two scales would ensure payments that were broadly comparable to the current three band system but still avoid the wide change in payments at the cut off points. In a computerised age, such a system should be both flexible and easy to operate.

In 1994-5 the total sums paid out in deprivation payments in England were £16.1m, £10.0m, and £8.8m in the three bands, a total of £34.9m (NHS Executive, personal communication). The following alternative payment system would cost broadly the same, both overall and within in each band, while avoiding the problems described by Majeed *et al*: 56p for each Jarman score unit above 25, up to a maximum of £6.16 at a Jarman score of 36, then a further 19p for each unit above 36. Changing to a continuous payment schedule could repeat the problems of the current system, with a minority of practices suffering large losses in income. To avoid this there could be a transition period when the payments are calculated half on the old system and half on the new.

Further recommendations have been for a proportion of the money allocated to deprivation payments to be held by the health authority for discretionary allocation to practices with demonstrable problems with deprivation that would not otherwise receive payments. Even adopting enumeration districts would not completely avoid inequities, and some local judgment against predetermined criteria would reduce errors.

The Secretary of State for Health, the NHS Executive, and the Department of Health have all repeated their commitments to an NHS led by primary care,[7] with general practice taking the lead on primary care. Concerns over failing recruitment into general practice have stimulated refinements, some substantial, to the 1990 general practitioner contract. The most notable of these is the new out of hours arrangement that came into effect in April 1996. Furthermore, by September 1996 the widely criticised health promotion payments will be completely overhauled to reduce the administrative and clinical time spent on activities with little evidence of effectiveness.

It is unfortunate that the basis for deprivation payments was not revisited alongside these other changes. Indeed, it is a symptom of the general lack of influence of general practitioners in deprived urban areas that arguments for changes to deprivation payments have not been more successful. Only about 9% of patients attract deprivation payments; therefore only a minority of general practitioners receive them. However, deprivation payments have made an important contribution towards lower, and therefore sustainable, list sizes in inner city practices since the new contract. Failing to allocate payments to practices that deserve them risks continuing erosion of financial viability and a net exodus of doctors. The loss of primary care cover for our most disadvantaged populations would be a disaster for the NHS. Let us hope that editorials on the inequities of deprivation payments don't become a mini-series.

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