

scheme funded through the private finance initiative is yet fully up and running we must wait to see how much staffing will be reduced to meet the extra costs. What's more, the NHS as a whole is having to underwrite these extra costs, meaning that resources shift from providers who remain in public ownership to those privately owned,¹ undermining still further the goal of greater equity in the NHS.

One way that trusts can fill the affordability gap is through increasing "income generation," which mainly means increasing the number of private beds. In areas with private finance initiative schemes both the number of private beds and the proportion of all beds that they represent is increasing.³ Private finance initiatives may inevitably lead to an increase in the private sector and user charges, providing one way for the NHS to shrink to a rump service for the poor. This is almost certainly not the intention of the government, but it may be starting a process that will lead inevitably to that end.

The extra cost in a cash limited system is the biggest problem with the private finance initiative, but there are others. One is the closed nature of the planning process.^{6,7} An important part of NHS planning is in effect being done by private companies without adequate accountability. Bed numbers are reduced to make plans affordable without any thought of what the knock on will be for other parts of the NHS. A second factor that infuriates many of those working within the NHS is the complete absence of evidence for the private finance initiative.^{5,8} In fact all the evidence we have suggests that it's a very bad idea. A third problem lies with the generous scope for corruption. The ingredients are all there: big sums of public money; closed decision making and inadequate accountability; and "consultants" jumping backwards and forwards from the private to the public sector. Sooner or later we will have a scandal.

All these arguments against the private finance initiative are becoming familiar. Why, then, does the government persist? Partly, as always, it's the problem of saving face, but more important may be the lack of sufficient imagination (and commitment) to think of an alternative. Direct public support for capital projects would be much better than the private finance initiative, but there are other alternatives—like a health development bank, proposed by the King's Fund.¹³ The great minds of the Treasury should abandon the private finance initiative and come up with an alternative that will allow the modernisation of the NHS, not oblige it to shrink to a rump service. The electorate wants modernisation not destruction.

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Magnesium sulphate and pre-eclampsia

Trial needed to see whether it's as valuable in pre-eclampsia as in eclampsia

Magnesium sulphate has been used for treating eclampsia in the United States for much of the 20th century.¹ The international collaborative eclampsia trial confirmed that this anticonvulsant is indeed more effective, and safer, than alternative drugs.² British obstetric practice has changed rapidly in response to these findings,³ and standard treatment of eclampsia in the United Kingdom now much more closely corresponds to that of the United States, although some controversies remain about optimal dosage.

Is treatment of pre-eclampsia also better in the United States? As many as 5% of all pregnant women in some US centres receive magnesium sulphate in the belief that this prevents eclampsia and thus improves the outcome of pregnancy.⁴ In contrast, some UK experts advocate never using anticonvulsants for pre-eclampsia⁵; many clinicians would use anticonvulsants only in women with severe pre-eclampsia.³ Such

enormous differences in attitude are mirrored by practice in other countries⁶ and reflect uncertainty about the best treatment of "the disease of theories."⁷

The central issues are:

- Even for women with severe pre-eclampsia, the risk of eclampsia is low—around 1%.³
- The risk of eclampsia is probably reduced by magnesium sulphate, but, even if this reduction is by as much as 50%, very large numbers of women will need to be treated to prevent a single fit.
- Therefore, if prophylaxis with magnesium sulphate is to do more good than harm it must be very safe for both the woman and her child and should have few side effects.

Pre-eclampsia is a complex, multisystem disorder and how magnesium sulphate may prevent eclamptic convulsions is unclear. Magnesium may have localised effects, producing cerebral vasodilatation with subsequent reduction of cerebral ischaemia,⁸ or blocking of

neuronal damage associated with ischaemia.⁹ However, magnesium sulphate also affects many other organs,¹⁰ and it would be implausibly fortuitous if these effects were exclusively beneficial.

For example, magnesium sulphate is known to relax smooth muscle and in many parts of the world is widely used as a tocolytic agent for preterm labour (despite little evidence from randomised trials to support this use¹¹). However, if the tocolytic effect is significant at doses used for pre-eclampsia, magnesium sulphate administration could increase the length of labour—and the risks of caesarean section and of post-partum haemorrhage. These effects, if they exist, would be especially important in resource poor settings, where pre-eclampsia may be particularly common.¹²

The fetus is also not immune to potential effects, beneficial or harmful, because magnesium readily crosses the placenta. Hypermagnesaemia in the neonate is associated with flaccidity, hyporeflexia, and respiratory depression.¹³ It has been suggested that prenatal magnesium administration may reduce the risk of cerebral palsy for very low birthweight babies.¹⁴ This observation comes from several high quality case-control studies; but a small randomised trial evaluating magnesium sulphate as a tocolytic agent reported an increased paediatric mortality in the magnesium arm.¹⁵ Whatever the true effects for these low birthweight preterm babies, reassurance is also required about the short and long term effects of in utero exposure to magnesium sulphate on term babies.

Determining the best care for women with pre-eclampsia is an important common problem in obstetrics. In a recent survey of obstetricians in Britain and Ireland over half the respondents expressed interest in collaborating in a trial to evaluate magnesium sulphate for women with pre-eclampsia.³ To be clinically worthwhile, treatment with magnesium sulphate would probably need to reduce the risk of eclampsia by at least 50%, and this seems a realistic expectation based on currently available evidence.⁶ To show such a halving in risk with reasonable certainty requires a trial of 14 000 women ($\alpha=0.05$, $\beta=0.1$). This is the challenge taken up by the Magpie Trial Col-

laborative Group. The magpie trial aims, for the reasons discussed above, to evaluate other possible and important effects on women and their children of magnesium sulphate for pre-eclampsia. The trial is now recruiting, and new collaborators are very welcome.*

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A little bit of measles does you good

Even if measles is eradicated, immunisation may still be desirable in developing countries

Measles still kills 800 000 children in developing countries every year,¹ although immunisation has substantially reduced the number of deaths. Immunisation lowers mortality primarily by reducing the incidence of measles, but it may also lower mortality by increasing the age at which children are infected and by reducing the severity of infection in immunised children and their contacts.² Moreover, the vaccine itself may reduce mortality from conditions other than measles.

Epidemiological research has shown two important characteristics of measles: the severity of clinical illness is largely determined by the infecting dose, and,

surprisingly, mild infection and standard doses of Schwarz vaccine substantially reduce mortality from conditions other than measles.³ Children infected with a large dose of measles virus have a shorter incubation period, more severe disease, and a higher mortality. Children who are infected outside the home (primary cases) have milder disease than secondary cases (who are infected in the household with, on average, a larger dose of virus).² This can result in an amplification effect, where each generation of cases becomes progressively more severe; conversely, if index cases are mild or there are only a few generations of cases, perhaps because of immunisation, mortality will be low.^{2 3}

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