

were heard in state courts and one in the US Supreme Court.<sup>9</sup> By 1990, however, several judges had declared that it was no longer necessary—indeed it was undesirable—for such cases to come to court unless there was some dispute.<sup>10</sup> If one of the alternatives to court review proposed for Britain were to be adopted it would still impose more formality than is required in any other country. This would require the decision making process for withdrawal of artificial nutrition and hydration to be similarly formal to the declaration of brain death—which requires two doctors to certify that the UK colleges' diagnostic criteria have been met.

Since the BMA guidance was published some media commentators have expressed concern that doctors alone should be left to make these difficult decisions.<sup>11</sup> However, it has been the Bland judges and the law commissions, not doctors, who have led the arguments for dispensing with court review of cases of permanent vegetative state. Only years later has the medical profession come up with a proposal that not only addresses the problem of permanent vegetative state but also requires extra safeguards for all cases where withdrawal of artificial nutrition and hydration is contemplated. It is to be hoped that this will provoke

debate among doctors, lawyers, and the public that will lead to safe and more compassionate practice, while reducing legal uncertainties for doctors.

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BJ has received fees for medical reports and court appearances in connection with cases of permanent vegetative state.

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## Reconfiguring acute hospital services

*No easy answers, but there are principles we should follow*

Education and debate  
p 845

Acute hospital services throughout the NHS need to be reconfigured, but it's unclear how best to do so. We can, however, probably agree on some principles. That was perhaps the main message from a meeting in held in Cambridge last year by the Anglia and Oxford region of the NHS Executive. The meeting, and also a series that starts today in the *BMJ* (p 845), make it clear that a national master plan, like the one that set up district general hospitals, is neither wanted nor probably possible.

Those at the conference took a show of hands on what was driving the need for reconfiguring acute services. Almost everybody thought that what should be driving it was the need to improve quality but that what actually was driving it was the need to reduce costs and cope with staffing problems, new technology, and public expectations. The medical profession—represented by the BMA, the Royal College of Physicians of London, and Royal College of Surgeons of England—is convinced that “Comprehensive medical and surgical care of the highest quality requires the concentration of resources and skills into larger organisational units.”<sup>1</sup> It thinks too that the public and politicians need to recognise that not every hospital can do every thing. “Patients must understand that” quality of care must sometimes take precedence over ease of access. The tone is perhaps more command and control than is fashionable, and many members of the public don't understand why their local hospital or casualty department is being closed. Those closing a local hospital seem “mad and heartless,” said one member of the public on a video shown at the conference.

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Politicians are therefore understandably nervous about closing hospitals and casualty departments. Yet probably about 50 district general hospitals in Britain are of a size where closure might be most “rational.” Unfortunately the “rationalists” are not as rational as they seem. Distressingly little evidence is available on the best way to configure services. Much of that evidence is reviewed in the articles in our series on reconfiguring hospitals; together with reviews from the NHS Centre for Reviews and Dissemination,<sup>2,3</sup> they provide a complicated picture. Quantity and quality do seem to go together for some surgical operations, but not all—and evidence is much thinner on medical care. There is virtually no evidence on costs, but nobody should assume that hospital mergers mean reduced costs. Indeed, bigger hospitals may mean higher costs for medical patients.

The problem with medical patients, the conference heard, is still that of getting them out of hospital. Half of medical patients in acute hospitals (and 68% in one unnamed London hospital) are on day eight or more of their stay, and most probably don't need to be there. Unfortunately, the further they are away from home the longer it takes to discharge them. This debate led to the idea that acute surgical and medical care did not necessarily need to go together. This is heresy to the colleges but surely an option that has to be considered when solutions are far from obvious.

Although there are no solutions, there are principles that can be agreed. Firstly, the whole exercise is about trading access, quality, and cost. Each area will have its own geography, existing services, problems, trade offs, and values, making a universal solution impossible.

Local decision makers must be free to create their own solutions. Secondly, services should be delivered as close to home as is compatible with not compromising quality or generating unreasonable costs.

Thirdly, those planning services should think about the entire system not just one part of it—and the system ranges from services delivered to people in their homes (particularly NHS Direct, the telephone advice line) through community, primary, secondary, and tertiary care. If a locality has many small practices with lists under 10 000 then having only one large hospital designed to cope for 450 000 may create gross inefficiencies. In contrast, a locality that has practices with list sizes of 50 000 doesn't need a hospital designed to cope with 150 000.

Fourthly, no consultant should be singlehanded, which relates to the fifth principle—that it doesn't make sense for hospitals serving only 150 000 to try to provide all acute services. The surgeons are keen on hospitals that serve 500 000 because it allows the “dream set up” of 15 consultant surgeons, 15 consultant orthopaedic surgeons, 30 anaesthetists, 24 hour operating, an intensive care unit, and 24 hour pathology and imaging services. But such hospitals cannot make sense everywhere, and the sixth principle must be to think differently.

NHS Direct will become NHS Direct Gold when it will be available in multimedia and linked to individual patient records. “Hub and spoke” hospital systems might

be the answer in some places, while telemedicine might remove the need for radiology departments in others. Pathology services and casualty departments might be concentrated enormously, reducing their number dramatically. All of these ideas raise hackles because they go against the way things have been done traditionally, and they threaten jobs. But the aim of the NHS cannot be simply to employ staff in the usual way: it has to be to provide optimum services to the population.

The seventh principle must be to encourage research and evaluation. If a knowledge based health service is to mean anything then we need much better data and evidence on the best way to deliver acute services. No change should be made without being evaluated. The eighth principle must be to consult the public on the unavoidable trade offs. As the going gets tougher in the NHS we need much more innovative ways of consulting the public (see this week's *Career focus*: Classified supplement (classified.bmj.com/careerfocus)).

Richard Smith *editor, BMJ*

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## Screening for gestational diabetes mellitus

*A simple test may make it easier to study whether screening is worthwhile*

Gestational diabetes mellitus is a concept that arouses considerable controversy. It is defined as “carbohydrate intolerance of varying degrees of severity with onset or first recognition during pregnancy.”<sup>1</sup> Rather than predicting the development of diabetes later in life, as proposed originally,<sup>2</sup> the main purpose of identifying gestational diabetes is to detect women at risk of adverse perinatal outcomes, such as macrosomia, neonatal metabolic abnormalities, birth trauma, and caesarean section.<sup>1 3 4</sup> Evidence of the effectiveness of universal screening for gestational diabetes on these outcomes is still lacking.<sup>5</sup> However, recent randomised studies indicate that women who are intensively managed can achieve near normal rates of macrosomia and neonatal hypoglycaemia.<sup>5-7</sup>

Those who do not favour screening for gestational diabetes claim, among other things, that the current screening and diagnostic strategies are cumbersome. In this issue of the *BMJ* Perucchini et al propose a protocol which could counter this argument: they suggest using a fasting glucose value as a screen for gestational diabetes (p 812).<sup>8</sup> This protocol differs from the two currently recommended procedures. The first, mostly used in North America, is a two step scheme: a screening test consisting of a one hour 50 g glucose challenge test at 24-28 weeks of pregnancy followed, if positive, by a diagnostic three hour 100 g or two hour 75 g oral glucose tolerance test.<sup>1 3</sup> Recent guidelines do not recommend the screening test in women under 25 years,

with normal weight, with no personal or family history of diabetes, with no history of poor obstetric outcomes, and who do not belong to an ethnic group predisposed to diabetes.<sup>1 3</sup> The second strategy, a one step procedure using a two hour 75 g tolerance test as proposed by the World Health Organisation,<sup>9</sup> is mostly used in Europe.<sup>1</sup>

Perucchini et al performed a one hour 50 g glucose challenge test followed, whatever the result, by a tolerance test.<sup>8</sup> The challenge test result and the tolerance test fasting glucose value were analysed for their ability to predict gestational diabetes, which was diagnosed on a three hour 100 g glucose tolerance test using Carpenter and Coustan criteria. The authors calculated the sensitivity and specificity of the two tests and determined the thresholds with the best sensitivity-specificity association by the receiver operating characteristic (ROC) curves. For the challenge test this cut off was determined to be 7.0 mmol/l, with a sensitivity of 68% and a specificity of 82%. For the fasting glucose value the best threshold was 4.8 mmol/l (sensitivity 81%, specificity of 76%). Sensitivity is the probability of a positive test result if gestational diabetes is present and specificity the probability of screening negative if it is absent. A high sensitivity decreases the number of women with gestational diabetes who are missed by the screening test. As specificity increases the number of women without gestational diabetes who are incorrectly classified as positive decreases.

*Papers p 812*

*BMJ* 1999;319:798-9