is full rather than to access a specialised service, it is legitimate to ask whether such moves have an actual impact on outcome. There has been much debate about this issue, but the most recent information from the United Kingdom, with data from transfers in which good practice rules had generally not been broken, suggests that survival is not jeopardised,[11] but the effects on long term outcome have not been assessed. The psychological and financial burdens placed on families involved in any type of transfer are without doubt considerable.[12]

Is the situation changing, or has this study simply documented a longstanding problem? There are no national data to answer this question directly, but anecdotally the number of long distance transfers and reports of newborn siblings sent to different hospitals are increasing. Regional surveys support this view, with data showing steadily increasing demand in the face of static provision.[13]

Possibilities for change

The study raises several questions. Is the current situation acceptable? At present the neonatal services of the United Kingdom cope with demand by running at high levels of occupancy and, when necessary, transferring mothers and infants to wherever a cot exists, often at short notice and often a long distance from home. Such transfers are common. We measured this effect in large perinatal centres, but every delivery unit in the United Kingdom has similar difficulty from time to time. It is for the public and those responsible for health service strategy to decide whether this approach should continue given that we have no evidence that survival is affected. It is our view that the distress to families and staff caused by the present, uncontrolled, situation means that we should attempt to establish a greater degree of order.

How might change be achieved? Some aspects of the problem reflect those of the wider NHS (such as poor nurse recruitment and retention resulting in cot closures), but there are specific measures that could be put in place. Currently there are no national standards or targets set by the NHS that relate to this aspect of the health service, and across most of the United Kingdom there is no strategy for the provision of high risk perinatal care. Dealing with these two issues would lay the foundations for major change. Those purchasing services would then begin to look seriously at supply and demand for perinatal care in relation to the population they represent. This has not happened in a coordinated fashion for at least 10 years. In most cases this will mean maximising the potential of the local unit (district general hospital or teaching hospital) and then making provision with another hospital(s) convenient for the population to help with peaks of demand and the most complex cases. The frequency with which these arrangements break down could then be monitored at a local level and compared with national norms. Because of the nature of the service, transfers will always be part of obstetrics and neonatal intensive care, but the current, at times chaotic, situation can be avoided.

The authors and the BAPM thank the following hospitals who contributed data to this study: South Cleveland Hospital, Middlesbrough; Royal Victoria Infirmary, Newcastle upon Tyne; St James University Hospital, Leeds; Leeds General Infirmary; Jessop Hospital for Women, Sheffield; Leicester Royal Infirmary; Nottingham City Hospital; Queen's Medical Centre, Nottingham; Rosie Maternity Hospital, Cambridge; John Radcliffe Hospital, Oxford; Chelsea Westminster Hospital, London; Hammersmith Hospital, London; Queen Charlotte's Hospital, London; Homerton Hospital, London; The Royal London Hospital, London; St Mary's Hospital, London; University College Hospital, London; St George's Hospital, London; King's College Hospital, London; St Thomas' Hospital, London; Guys Hospital, London; Derriford Hospital, Plymouth; Southmead Hospital, Bristol; St Michael's Hospital, Bristol; Southampton General Hospital; Birmingham Women's Hospital; Birmingham Heartlands Hospital; City General Hospital, Stoke on Trent; St Mary's Hospital, Manchester; Liverpool Women's Hospital; University Hospital of Wales, Cardiff; Aberdeen Maternity Hospital; Ninewells Hospital and Medical School, Dundee; Simpson Maternity Memorial Pavilion, Edinburgh; The Queen Mother's Hospital, Glasgow; Glasgow Royal Maternity Hospital; Royal Maternity Hospital, Belfast.

Contributors: JP, DF, JR, and PS were all involved in the design of the project. JP and DF analysed the data. DF, JR, and PS formed the writing committee and act as guarantors for the paper.

Funding: Trent Regional Research and Development (policy).

Competing interests: All of the authors and the sponsoring organisation are actively involved in perinatal medicine.

What is already known on this topic

Anecdotal reports suggest that there are major difficulties in finding neonatal intensive care beds

What this study adds

Many of the major perinatal centres in the United Kingdom are not coping with in-house demand

The problem showed distinct geographical variation

These findings are probably part of a wider problem affecting all delivery units

1 Clinical Standards Advisory Group (CSAG) *Access and availability of neonatal intensive care*. London: HMSO, 1993.
2 National Association of Health Authorities and Trusts. *Reinventing health care—towards a new model*. London: NAHAT, 1993.
3 Simpson H, Walker G. Estimating the cots required for neonatal intensive care. *Arch Dis Child* 1981;56:90-3.
4 Morris D, Cottrell AJ, Hey EN. Requirements for neonatal cots. A Northern Neonatal Network study. *Arch Dis Child* 1993;68:544-9.
5 Field D, Hodges S, Mason E, Burton P. The demand for neonatal intensive care. *BMJ* 1989;299:1305-8.
6 Burton P, Draper E, Fenton A, Field D. Neonatal intensive care cots: estimating the requirements in Trent, UK. *J Epidemiol Public Health* 1995;48:617-28.
7 Royal College of Physicians. *Medical care of the newborn in England and Wales*. London: Royal College of Physicians, 1988.
8 Third world care that puts mothers and babies at risk. *Times* 1999 Aug 3. (www.the-times.co.uk)
9 Milligan DW. Neonatal intensive care provision in the United Kingdom 1992-3. British Association of Perinatal Medicine. *Arch Dis Child* 1997;76:F197-200.
10 Referrals for neonatal medical care in the United Kingdom over a one year period. *BMJ* 1989;298:169-72.
11 Field D, Draper ES. Survival and place of delivery 1994-96. *Arch Dis Child* 1999;80:F111-4.
12 McLoughlin A. Parental costs of neonatal visiting. *Arch Dis Child* 1993;68:597-9.
13 *Trent neonatal survey 1998. Trent infant mortality and morbidity studies*. Leicester: Department of Epidemiology and Public Health, University of Leicester, 1999.

(Accepted 8 June 2000)

Endpiece

Omens

The time's come: there's a terrific thundercloud upon us, a mighty storm is coming to freshen us up.

Chekhov