

antibody (>40%) in November 1989, thus giving additional evidence that infection had occurred at least some months before conception.<sup>4</sup> It might be considered that the risk of fetal infection was therefore minimal in this case and would be outweighed by the risk to the fetus of the invasive investigation.

The case described underlines the importance of reference laboratories investigating cases of suspected toxoplasma infection in pregnancy, not only because of the additional technical skill and the range of investigations that they offer but also to allow discussion between the obstetrician, the microbiologist and the patient at the referring hospital, and the microbiologist at the reference laboratory. This permits a coordinated approach to investigation and a management plan tailor made to the circumstances of the patient,<sup>6</sup> including the use of invasive investigations if indicated. Four cases of toxoplasmosis acquired during or shortly before pregnancy were identified and managed in this way, with satisfactory outcomes, in the Southampton district during 1989-90.

SUSAN O'CONNELL

Microbiology Department,  
Southampton General Hospital,  
Southampton SO9 4XY

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## Epidural analgesia and maternal satisfaction

SIR,—Dr J D Murphy and colleagues doubled the rate of spontaneous delivery in their group of primiparous women given epidural analgesia in labour by using epidural fentanyl with a lower dose of bupivacaine rather than epidural bupivacaine alone.<sup>1</sup> Mr D P Keane suggests that their rate of spontaneous delivery of 35% is unacceptable and quotes the overall rates of non-elective caesarean section and forceps deliveries in primiparous women at the National Maternity Hospital in Dublin, but he fails to relate these to the use of epidural analgesia.<sup>2</sup>

In North West Thames each of the 15 maternity units has collected standardised data on all pregnancies since 1988, using the St Mary's maternity information system. The database for 1988-9 includes data on 29 688 primiparous mothers with a vertex presentation at term (table). The spontaneous delivery rate was 48% in women who received epidural analgesia during labour compared with 82% in those who did not. Thus most primiparous women in North West Thames who receive epidural analgesia have an operative

*Method of delivery for 29 688 primiparous women with vertex presentation at term, North West Thames, 1988-9*

	No (%) not given epidural analgesia	No (%) given epidural analgesia	% Overall
Caesarean section	992 (4.8)	1 438 (15.8)	8.2
Forceps	2 771 (13.5)	3 302 (36.2)	20.5
Spontaneous	16 803 (81.7)	4 382 (48.0)	71.4
Total	20 566 (69.3)	9 122 (30.7)	

delivery. Figures nearer to those in Dublin are found when all primiparous women are considered, suggesting that Mr Keane's criticism is unsupported. Any measure that tends to improve the spontaneous delivery rate is to be welcomed.

CATHERINE PATERSON  
PHILIP BANFIELD

Academic Department of Obstetrics,  
St Mary's Hospital Medical School,  
London W2 1PG

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## Support for mothers of twins

SIR,—The finding of Dr Karen Thorpe and colleagues of a higher prevalence of depression in mothers of twins is no surprise.<sup>1</sup> Many people fail to appreciate that these families need not only practical help but emotional support.

Introductions to other families through local twins clubs can be invaluable. Professionals wanting more information about the needs of these families should contact the Multiple Births Foundation, which runs regular prenatal meetings for parents and grandparents as well as twins clinics.

ELIZABETH BRYAN

Multiple Births Foundation,  
Queen Charlotte's and Chelsea Hospital,  
London W6 0XG

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## Multiple pregnancies resulting from assisted conception: burden on neonatal units

SIR,—Dr Alison Walker has reported on the proposed new code of practice drawn up by the Human Fertilisation and Embryology Authority.<sup>1</sup> Attention has recently been drawn to the effect of assisted conception techniques that result in multiple pregnancies on the workload of neonatal intensive care units.<sup>2</sup>

In our unit during 1990, 10 infants were admitted as a consequence of four such pregnancies (two triplet and two twin pregnancies). Two of the pregnancies had resulted from in vitro fertilisation and two from administration of gonadotrophin. All these infants were below 28 weeks' gestation, and their mean birth weight was 798 g; they represented 23% of all infants admitted before 28 weeks. Seven died, representing 35% of all deaths of infants of less than 28 weeks' gestation. All required ventilation, and their collective ventilatory requirements was 220 "ventilator days," representing 17% of the total number of ventilator days for all infants in the unit for the year.

Our experience supports the view that assisted conception results in a disproportionately heavy burden on overstretched neonatal units. Levene concentrated on the problems created by increasing numbers of triplet and higher order births.<sup>3</sup> We believe that the effect of all multiple births resulting from assisted conception must be monitored carefully if neonatal services are not to become saturated.

R SCOTT-JUPP  
D FIELD  
U MacFADYEN

Department of Child Health,  
University of Leicester Medical School,  
PO Box 65,  
Leicester LE2 7LX

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## Preventing needlestick injuries

SIR,—Professor D C Anderson and colleagues argue the case for resheathing needles but in so doing advocate a procedure that, far from preventing injury, puts the operator at unnecessary risk for unproved gains.<sup>1</sup> The only way to eliminate needlestick injuries is safe and efficient disposal of sharps and their subsequent incineration. The container should be sufficient for its purpose and conform to British safety standards BS 7320. The practice of resheathing needles serves merely to delay their appropriate disposal while putting the operator at risk of self injury.

Intuitively, many people believe that a resheathed needle is safer, but when they are faced with a sharps box, a needle, and a sheath they cannot explain satisfactorily why it is safer to resheath the needle before putting it in the sharps box. This is elementary safety at work practice, and all medical and nursing practitioners owe it to themselves and their colleagues to take appropriate precautions to minimise hazards. Instruction at the beginning of clinical training to dispose of used needles promptly and efficiently will do most to minimise the hazard of needlestick injuries.

We can see no benefit in resheathing needles and view recommendations that are claimed to make this practice safer as a retrograde step.

CHRISTOPHER VALENTINE  
PHILIPPA BRIGHT

MRC HIV Clinical Trials Centre,  
Department of Clinical Epidemiology,  
Royal Brompton and National Heart Hospital,  
London SW3 6NP

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## Jarman index

SIR,—The recent correspondence on the place of the Jarman score in determining the distribution of NHS support for the care of patients in deprived areas raised two important issues.<sup>1,2</sup> Firstly, Dr Roy Carr-Hill and Mr Trevor Sheldon hinted at the conceptual problems of using indices comprising multiple measures based on limited census data<sup>3</sup>; and Drs Joy A Main and Paul G N Main pointed to the practical problems of using aggregated data, which can lead to areas of particular deprivation within electoral wards being overlooked.<sup>2</sup> Secondly, Dr Carr-Hill and Mr Sheldon questioned the need to use complex indices when simpler measures that correlate with health service utilisation are known.

The preferred way to develop the policy for allocating any "deprivation allowance" must surely be through using simple measures of disadvantage easily accessible within general practices. With the recent evolution of information systems for general practices it is now feasible for proxy information on social deprivation to be held alongside an age-sex register.

Analysis of data collected in a recent survey of people attending general practice enabled us to compare the ability of several measures of disadvantage to predict scores on the Nottingham health profile,<sup>4</sup> a standardised measure of perceived distress which comprises six subscales of distress. Scores on the profile have been shown to predict use of the health service.<sup>5</sup> We used eight measures of disadvantage in our analysis: home ownership; recent unemployment; having had further education; car ownership; registrar general's social class; Jarman score of patient's area of residence; age; and presence of a long term physical health problem.

Not owning a home, not having had further education, and having been unemployed recently all significantly predicted distress on one of the dimensions of the Nottingham health profile after age and presence of a known long term physical health problem had been controlled for. There were differences in the ability of these measures to predict distress on the different subscales—for example, not having a home was the best predictor of distress across all the dimensions whereas recent unemployment was the best predictor of emotional distress. All three measures predicted scores on the Nottingham health profile better than did the Jarman scores.

Our findings seem to show that different aspects of disadvantage indicate different health needs and consequently different priorities for health and social policy. If information was to be practice based it would give new flexibility to select the most powerful and relevant measures of deprivation and provide a better basis than at present for allocating resources to and within practices. This would be a step forward from what Drs Main and Main refer to as "hanging in there" towards actively improving quality of care and would obviate the need to rely on limited and often inappropriately aggregated data for making allocations between practices.

JANE L HOPTON  
J G R HOWIE  
A M D PORTER

Department of General Practice,  
University of Edinburgh,  
Edinburgh EH8 9DX

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## Beclomethasone and osteocalcin

SIR,—The report by Dr Ellen M Pouw and colleagues highlights the recent interest of respiratory physicians in the systemic effects of high dose inhaled corticosteroids and in particular their effects on bone metabolism.<sup>1</sup> That inhaled corticosteroids may lead to loss of bone tissue was first suggested by Reid *et al*, who found an 8% reduction in the bone mass of asthmatic patients taking moderate doses of beclomethasone and betamethasone.<sup>2</sup> Most of their patients had received courses of prednisolone in addition to their inhaled corticosteroid, and as bone mass is lost rapidly in the first few weeks of prednisolone treatment<sup>3</sup> and may not completely recover, their data are difficult to interpret.

We studied the effects of 2 mg/day of inhaled beclomethasone in normal subjects and found a significant fall in serum alkaline phosphatase activity at two weeks (suggesting that bone formation had slowed); it had become more marked after four weeks' treatment and, like the changes in osteocalcin reported by Dr Pouw and colleagues, returned to baseline values one week after the drug was stopped. Had Dr Pouw and colleagues continued for longer they might have observed further decrements in osteocalcin concentration.

Under normal circumstances bone formation and resorption mirror each other such that an increase in resorption is followed by an increase in bone formation, and thus skeletal mass is maintained. If this relation were continued during beclomethasone treatment then there may not be any net effect on bone. In our study we therefore also estimated bone resorption by measuring the urinary hydroxyproline-creatinine ratio, which increased by 33% after four weeks.<sup>4</sup> Thus bone metabolism seemed to have been uncoupled such that resorption had increased and formation

slowed; if maintained this would lead to progressive bone loss. The increase in the urinary hydroxyproline-creatinine ratio was approximately half the magnitude of that observed during treatment with prednisolone 20 mg/day,<sup>5</sup> suggesting that the effects that we and Dr Pouw and colleagues have reported are biologically as well as statistically significant.

It is a pity that Dr Pouw and colleagues did not also study the other widely available inhaled corticosteroid, budesonide, as there are differences in metabolism that may be important in the development of systemic effects. In particular, budesonide is degraded to inactive metabolites four times faster than beclomethasone.<sup>6</sup> We found no perturbation of bone metabolism during one month's treatment with 1.8 mg budesonide<sup>7</sup> in normal subjects, in contrast to the results obtained with beclomethasone.

Finally, we agree that prospective studies of bone mass or density in asthmatic patients taking inhaled corticosteroids are required to establish whether these acute metabolic effects translate into progressive bone loss. Several centres in the United Kingdom are undertaking such prospective studies.

NABEEL ALI

Osler Chest Unit,  
Churchill Hospital,  
Oxford OX3 7LJ

DOUGLAS MORRISON

City Hospital, Edinburgh

SIMON CAPEWELL

Scottish Office, Edinburgh

MICHAEL WARD

Mansfield District Hospital,  
Mansfield,  
Nottinghamshire

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## Staphylococcus aureus resistant to methicillin

SIR,—With the popularity of resorts in southern Spain and the Balearic islands for holidays throughout the year, we believe that hospitals in Britain should be aware of the possible importation of strains of *Staphylococcus aureus* resistant to methicillin.

Strains of methicillin resistant *S aureus* (MRSA) have been found in several countries.<sup>1</sup> Some strains, for example EMRSA-1, have epidemic potential and can cause considerable morbidity and mortality.<sup>2,3</sup> The provenance of EMRSA-1 is uncertain, but it is undoubtedly related to a recent Australian methicillin resistant *S aureus*<sup>4</sup> and has colonised or infected numerous patients and hospital staff in both Britain and Australia. The inadvertent importation of such a strain may lead to dissemination throughout the receiving hospital.<sup>5,7</sup>

From comments accompanying isolates of the bacterium referred to the Staphylococcus Reference Laboratory last year we were able to identify 27 importations from outside Britain. Twenty were from Europe or the Middle East. Four of these strains (three from Europe or the Middle East) spread in the receiving hospital.

Distinct strains of epidemic methicillin resistant *S aureus* have been reported from France<sup>2</sup> and Germany,<sup>8</sup> but until 1989 there were few isolations of the bacterium in Spain. Only three were recorded in a one day survey of 74 Spanish hospitals in 1986.<sup>9</sup> Late in 1989 we defined two related strains of methicillin resistant *S aureus*, one detected in Madrid, the other in Seville. During 1990 these strains spread into a further five hospitals in Madrid. Both have been isolated in Barcelona; one has persisted in Seville. Clinically important infections have resulted.

These strains have the phage type 29/77/84/932 at 100 times the routine test dilution with the international phages but are separable by the supplementary phages<sup>1</sup> and by the host range of the carried phage. Both are resistant to penicillin, tetracyclines, aminoglycosides, macrolides, and lincosamines. All isolates so far examined show reduced susceptibility to rifampicin and are resistant to ciprofloxacin. Both are very poor producers of protein A; both elaborate enterotoxin A. The spread of these strains is analogous to that shown by EMRSA-1 in the early 1980s.

If methicillin resistant *S aureus* does spread to Britain, the revised guidelines should be followed.<sup>10</sup>

PILAR APARICIO  
ANA VINDEL

Laboratorio de Referencia de Staph,  
Centro Nacional de Microbiologia,  
Majadahonda,  
Madrid,  
Spain

TERESA ALARCON

Hospital de la Princesa,  
Madrid,  
Spain

JUDITH F RICHARDSON  
R R MARPLES  
B D COOKSON

Staphylococcus Reference Laboratory,  
Central Public Health Laboratory,  
London NW9 5HT

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## Computerised general practice data

SIR,—The importance of practice based research has been recognised widely, and investigations focused on the nature of the data from networks of practices are urgently needed. Thus the reports by Dr H Jick and colleagues and Dr Neil Johnson and colleagues comparing data from computerised networks with data from alternative sources<sup>1,2</sup> should be seen as important contributions to the continuing development of rigorous practice based investigation. Further work of this type is necessary to determine the strengths and weaknesses of