gesia has not been shown to be associated with increased perinatal mortality or morbidity, but the consequences of forceps delivery should not be dismissed too readily, as O'Driscoll and his colleagues have shown.⁵ Safe management of labour with increased availability and use of epidurals calls for a very high standard of obstetric and midwifery care, not just an increased number of consultant sessions in obstetric anaesthesia.

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SIR,—We are bound to question Dr Felicity Reynolds's concluding remarks (16 August, p 404) on obstetric delivery in small units. As she must realise, women in the UK have an—apparently inalienable—right to decide their own place of delivery. Some will choose the “small friendly maternity unit,” of which the smallest and friendliest is their own home. Recently published evidence suggests that when selection is correct results in small units and at home approach the irreducible minimum perinatal mortality.¹⁻⁷

Should small units be abolished? The number of home deliveries will almost certainly rise. We know of no published evidence to confirm that “the baby in trouble is commonly transferred before death, either before or after delivery.” Of course, indications for transfer in labour need constant review, but we doubt whether innuendo from centres of excellence is the way to achieve this. The world league is led by Sweden, which centralises obstetrics, but second in the table is Holland, where half of all deliveries occur at home.

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SIR,—We write in support of Dr Felicity Reynold's request for improved obstetric anaesthetic services (16 August, p 403). In addition to the appointment of consultant anaesthetists trained in obstetric anaesthesia, we would argue that there is a need for an increased number of obstetrically trained anaesthetists in order to provide the service she describes.

We would take issue with the idea that H₂ antagonists and non-particulate antacids need not be given prophylactically. In our unit much thought was given to our antacid policy. Because of the delayed and erratic gastric emptying in late pregnancy and in labour we give an H₂ antagonist (ranitidine) and an intestinal motility stimulator (metoclopramide) when labour is established or an elective procedure planned.

Although sodium citrate has been used as an antacid before obstetric anaesthesia, sodium bicarbonate is an effective oral antacid for this purpose¹ and may well be more suitable because of its rapid onset of action and greater effectiveness.² Our pharmacy has succeeded in preparing a palatable formulation of sodium bicarbonate, but it is given prophylactically.

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- 1 Lim HS, Tan PL. Sodium bicarbonate, injection, USP as an oral antacid for emergency caesarean section patients. *Anesthesiology* 1981;55:A339.
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Confidence intervals, medical housing need, and inappropriate statistics

SIR,—From July you have required authors to “calculate confidence intervals whenever the data warrant this approach” (15 March, p 716). This is an improvement on the unthinking presentation of p values. However, as Martin Keefe pointed out (26 April, p 1138), this might exacerbate the tendency to quote parametric statistics when the data do not have the necessary distribution. Sometimes the data do not warrant this approach.

In his fascinating paper on medical priority for rehousing Dr Harpreet Kohli has shown this problem. He compared the allocation of priority points by GPs with the official allocation by a specialist in community medicine. Both used an arbitrary scale, essentially from 0 to 25. Kohli noted a mean difference of 4 (SD 6.06) and a 95% confidence interval of 1.16-6.84. As this was quite large and did not embrace 0 he suggested that the system might be improved. One suspects that this is true but the statistics are almost entirely irrelevant.

Reallocation will be constrained by political and practical factors. An arbitrary points system cannot provide a direct reflection of “need” but should place applicants in order of priority. Had the GPs and specialist in community medicine agreed perfectly in allocating, say, 15 to all cases the mean difference would have been zero and the confidence interval 0.00-0.00. The system would be a complete failure. However, if there is a large mean difference but agreement in ranking of cases then the system has inter-rater reliability. The appropriate test is of rank correlation. Spearman's rank correlation coefficient for the data is +0.70 (p=0.001). Lambda shows that the prediction of the GP's allocation from the specialist's allocation would lead to a 43% reduction in error against guessing the mode allocation (20). The data show quite respectable inter-rater reliability.

The confidence interval reported by Dr Kohli not only tests the wrong hypothesis but even for this hypothesis a non-parametric test would have been more appropriate. The data show a grossly discontinuous distribution of differences. To quote a standard deviation and derive a confidence interval is dubious. The Wilcoxon test of dif-

ferences is powerful and independent of distribution and confirms the statistically significant difference (z=-2.5, p=0.012).

The presentation of mean difference is useful, the presentation of confidence intervals generally a great improvement on unthinking t tests. However, in this case the tests were inappropriate as correlation was more important than difference and as the data were unsuited to meaningful confidence intervals. Fortunately you presented the data. A frequency histogram would have shown the distribution, a scattergram or contingency table would have said almost all that needs to be said about the data.

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Why patients still die after paracetamol poisoning

SIR,—Dr T J Meredith and colleagues (9 August, p 345) may have underestimated the contribution that a late initial presentation to hospital makes to continuing mortality after paracetamol overdose. Late presentation, either deliberate or unintentional, was a major determinant of an adverse outcome in 147 patients subsequently referred to the liver unit at King's College Hospital over two years.¹ The median initial delay in presentation to the referring hospital in this group was 30 hours (survival 56%) compared with eight hours for 100 patients presenting to the accident and emergency department at King's (survival 100%).

Although methionine is of obvious benefit in treating paracetamol overdose and is considerably cheaper than N-acetylcysteine, we cannot agree that it is “as effective.” For example, N-acetylcysteine, but not methionine, can restore reduced glutathione in damaged hepatocytes² and this supports clinical observations that N-acetylcysteine is effective later after paracetamol overdose than is methionine. Moreover, when given late after paracetamol overdose N-acetylcysteine seems to carry none of the risks of possible encephalopathy ascribed to late methionine.³ Finally, the oral administration of any antidote seems inadvisable in a condition in which around 20% of patients vomit.⁴

For those patients who present too late for N-acetylcysteine (>16 hours after overdose) and who deteriorate significantly (prothrombin time >40 seconds prolonged 72 hours after overdose) we would encourage an early transfer to a specialist unit for intensive care and liver support. In patients who developed grades III and IV hepatic encephalopathy survival was 46% in 46 patients reported in 1982⁵ and 50% in a more recent series of 60 patients who were part of a controlled investigation of the value of charcoal haemoperfusion.

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