well have died at home or elsewhere without our knowledge. Those of <2500 g who died in the 2nd–4th weeks were: a 2400 g mongol with Dandy-Walker syndrome (at 4 weeks), a 2400 g baby with congenital viral pneumonia (in the 2nd week), a cot death of a 1420 g baby at home (in the 3rd week), and a quadraplet weighing 900 g who died from Klebsiella pneumonia (at 3 weeks).

Despite Dr Dunn and Dr Speidel's warning, the Southmead figures fail to distinguish between babies born there and elsewhere (or so I infer from the mention of problems from afar which is otherwise irrelevant). I agree with their submission that this invalidates further comparison, but I shall continue. The category 500–1500 g contains a mixture of babies, some with an excellent chance of survival and others with none, and without further breakdown it is meaningless. If their distribution matches that of Salisbury in 1974–76, there can have been no undeformed death >750 g in 1978. Is this so? Or do they have more babies of 1400 g and fewer of 500 g because of transfer from outside? The advantage of selection to the receiving hospital is, of course, offset by a worsening of the figures in the referring hospital, unless both claim the baby in which case the regional figures will show a spurious improvement. A similar error of selection is produced by counting babies at the nursery door instead of at birth.

Even if figures are properly derived and presented raw by number, year, weight, and origin, they provide no basis for comparison unless the state of the babies coming into care is the same. This depends on the pattern of motherhood which perhaps changes uniformly throughout a wide region, and of obstetric care which shows much local variation and can change abruptly as doctors move and methods (whether alcohol drips or caesarean delay times) alter. Both Salisbury and Bristol show a similar decline in mortality over the years—the Southmead figures corresponding to the lower University of Bristol line of the Southmead chart are 5·6, 8·9, 9·5, 7·4, 3·7, 4·2, 2·7, and 2·2 respectively for the years 1969–76. In Bristol the trend may be due to the institution of intensive care in 1970; but in Salisbury, where paediatric care has been held constant, the steady improvement over the years must be due to better mothers or to better care before birth. Incidentally this makes the pooling of figures over the years unreasonable. Even in 1976 it is likely that Salisbury which lacks senior registrars, had no convenient inpatient clinics, and has insufficient fetal monitors, was handicapped compared with Bristol; but if comparison is to be made, it should be with the later years. I have already dealt with the likely bias among Southmead's lighter babies; for those from 2000–2500 g where transfers are less likely, our figures match (Southmead 8·0, Salisbury 9·5 per thousand for 1974–76, a statistically insignificant difference of about one baby in 7 years).

Perhaps a better approach is to look at the individual babies and ask why they died. This I attempted to do for babies over 1000 g in Table 3 by excluding those we could not or would not wish to save by reason of lethal uncorrectable deformity, tentorial tear proved at necropsy, or severe intrapartum asphyxia suggested by prolonged apnoea at birth. Again looking at 1974–76, there were 5 such deaths, one after operation elsewhere, and 2 in babies delivered far away without help and admitted moribund. This gives a paediatrically preventable NMR of 0·9/1000 which is not of course fairly comparable with Southmead's preventable NMR of 1·7 in 1978.

An administrator doomed to view the world through marks on paper, might estimate from the Southmead graph that, spread over the country, their methods would have killed 5000 babies in 1970–73. Having a profound distrust of vicarious statistics, and recognising Bristol's long record of distinction in the care of children, I know that this would be nonsense, as are most such computations. So much for the numbers game, by which we need set no great store.

Like modern rock climbing, intensive care has developed awesome techniques, which although sometimes of use to the scrambler, threaten to become an end in themselves, so that the best way to take a baby up Eiger appears to be by the north face. It is no longer entirely facetious to suggest that a patient with a heart attack sometimes needs intensive care to survive the effects of intensive care, and that those who succumb to this may more or less balance those who would have died if they had stayed quietly at home under skilled supervision after initial resuscitation. Whether this is true of newborn babies I do not know. Neither do Dr Dunn and Dr Speidel, but I hope they will take the opportunity to find out by subjecting some of their babies to the Salisbury usage (having first read my paper a second time to correct their inadequate summary of the method). In the meantime we should remember that truth does not come out of the mouth of a committee, and that the safest response to uncertainty is diversity. As Dr Dunn and Dr Speidel so kindly say, we have a lot in common, and of course research must continue, although perhaps it should not be mimicked too soon or too widely. But all nurseries really should divulge their results in proper form, if necessary in confidence, perhaps to Sir Cyril Clarke and Professor Neville Butler to whom our babies owe so much. And perhaps too they should end their day with a Litany—‘From gastric oxygen, streptomycin, delayed feeding, and arterial thrombosis, Good Lord Deliver Us’—it will be a long one, and there is no reason to think it is not lengthening. I may even join it myself.

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Sir,

I should like to make some comments on the paper by Hughes-Davies (Archives, 1979, 54, 59). I think there are several points that need to be made, in view of his allegations that neonatal intensive care is of little benefit.

Firstly, his figures are not as good as he would like to make them. For infants of birthweights 1001–1500 g, apart from one very good year in 1976 which all units get periodically, his figures are considerably worse than those quoted currently from neonatal intensive care units in the UK. Furthermore his figures for 1500–2000 g report a neonatal mortality which is again two to three times
higher than that reported from such units. To compare with his Wessex neighbours is unjustifiable—clearly they also need better intensive care facilities, and to compare with England and Wales for the first month is again quite unsatisfactory. In addition there is much evidence to show that the overall standard of perinatal and neonatal care in this country is a disgrace.

Secondly, I find his Table 3 unsatisfactory. Prematurity is not a diagnosis I recognise between 1001 and 1500 g. I suspect all those 7 babies died from hyaline membrane disease (HMD)—untreated. Furthermore, column one in Table 3 only contains 12 babies, whereas 26 babies of this birthweight died. Some may have had lethal deformities, but presumably the majority died of intrapartum asphyxia. We have shown (Roberton and Tizard, 1975) that it is such small babies who suffer intrapartum asphyxia that suffer the most severe HMD, but many of these are salvagable in a neurologically intact state by modern techniques in neonatal intensive care.

Thirdly, I would hope that all paediatricians would now regard it as a completely unsatisfactory standard of care to provide face mask oxygen for very low birthweight babies without control of arterial oxygen tension.

One very important factor to consider when such data are provided is what are the obstetricians in his unit doing with women with major complications of pregnancy and seriously compromised fetuses at gestations of 28 to 30 weeks? Do they feel they have no alternative but to try to keep the pregnancy going for another week or two with subsequent intrapartum death, or do they in fact send such women to be delivered in a perinatal unit providing modern standards of intensive care? Many of us who run neonatal intensive care units know the latter practice is increasingly common where the local standards of neonatal care are inadequate.

Neonatal intensive care does save lives. The Table shows that neonatal mortality in Oxford was reduced by half over a 3-year period during which an adequate programme of intermittent positive pressure ventilation (IPPV) was instituted. The standards of care described by Dr Hughes-Davies may have been satisfactory in Salisbury, they may be satisfactory in the Solomon Islands, but I hope that all readers of the Archives will reject them as being unsuitable for the UK in 1979.

<table>
<thead>
<tr>
<th>Year</th>
<th>Neonatal deaths</th>
<th>Infants surviving IPPV</th>
</tr>
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<tbody>
<tr>
<td>1971</td>
<td>41</td>
<td>1</td>
</tr>
<tr>
<td>1972</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>1973</td>
<td>21</td>
<td>21</td>
</tr>
</tbody>
</table>

Dr Hughes-Davies comments:
Some of the points made by Dr Roberton are covered in my reply to Dr Dunn. I agree that prematurity is an unsatisfactory diagnosis at any weight. Five of our 1001–1500 g babies so labelled were born in 1970 when I was in Saigon and I have no other details except that 3 were 28 weeks or less, and 2 were second twins; it is likely that babies were disturbed more than in other years. Of the other 2, one, born in 1974, weighed 1020 g supposedly at 25 weeks and died at 4 hours after repeated apnoea; the other died at 24 hours in 1971 and weighed 1420 g; histology showed only atelectasis, and neither had HMD. Of the 26 babies dying in this weight range, 9 had prolonged apnoea at birth, 6 in 1971 or before, one in 1972, and 2 in 1974. They did not have HMD. One of the most striking features was the mildness of respiratory distress in babies handled gently in Salisbury (and in the Solomon Islands where I was pleased to meet a very fit baby now 14 months old who weighed 750 g at birth and who was cared for conservatively by Dr Ogatuti). Perhaps babies prefer pastures to battlefields—certainly their need for high concentrations of oxygen is rare, and its risks may be balanced by those of an indwelling arterial catheter which I am sure Dr Roberton would agree is the only worthwhile method of monitoring yet available. Even this is vitiated by a 10% leak from the ductus arteriosus.

No baby to my knowledge was transferred elsewhere either before or after birth except for surgery, and the distribution of weights matches the country as a whole. Patterns of intervention varied as they did elsewhere over the period, but our relations with the obstetricians were good, and I do not think our practices influenced theirs.

Of course intensive care saves lives; and of course it demands a price which can perhaps be justified in hospitals lucky enough to enjoy the skills of Dr Roberton. But I hope he will read my paper again. I have erred if he reads it as an attack on intensive care. It was simply an account of my reaction to practices current 13 years ago, which he suggests are still common today; and I hope he will regard the results as a control group for his own if he cannot bring himself to try the method. Dr Roberton's Table shows a fall in neonatal deaths about the same proportionately as occurred in Southmead and Salisbury and probably elsewhere in the first half of this decade; and, in the absence of an adequate library, I cannot comment on the number surviving IPPV which must depend on the number submitted to it. Again I would ask first for reliable figures; and second for a demonstration, perhaps in a single region, that Dr Roberton's methods can be as effective in less fortunate hands.

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Hypopituitary dwarfism and breech delivery

Sir,
Recent investigations by Rona and Tanner (Archives, 1977, 52, 197) show that breech delivery is a common occurrence in patients with idiopathic hypopituitary dwarfism.


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Reference

Conservative care of the newborn baby.

N R Roberton

Arch Dis Child 1979 54: 484-485
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Updated information and services can be found at:
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