Alternatives to hospital care

Study's results may not apply elsewhere

EDITOR.—I wish to urge caution in extrapolating the results of Joanna Coast and colleagues' study, which implies that a tenth of patients admitted to general hospitals could be relocated to more appropriate care.¹ I am leading a "total fundholding" project in Winchester, in which the practice will purchase all care on behalf of our patients, and have been examining the practice's use of acute services. We obviously have an interest in using expensive acute services carefully, and to that end we have followed up all our acute admissions through hospital, using an experienced ward sister as a project nurse. She has objectively assessed the appropriateness of continuing admission daily by using the Radcliff bed instrument. This instrument allows a precise description of the reasons for continuing stay and allows us, using software that we have devised, to analyse appropriate use of hospital beds.

On the patients' discharge we have also asked general practitioners to assess whether they could have been admitted direct to a nursing home rather than an acute unit. The results show that in a practice of 20 000 patients only 2% of admissions could have been to a non-acute environment.

The greatest saving in bed use can be made if the primary care team liaises with the hospital during the patient's admission to bring forward the date of discharge. We implemented changes on 1 April and hope to show considerable reductions in occupied bed days.

The reasons for admission to acute units are varied and depend on factors such as the confidence of general practitioners in the local community services, the availability of beds, the increase in technology available to treat patients (such as acute lysis in myocardial infarction in elderly people), and local geriatric services. We have found that in our relatively privileged community inappropriate admission is relatively rare.

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1 Coast J, Inglis A, Frankel S. Alternatives to hospital care: what are they and who should decide? *BMJ* 1996;312:162-6. (20 January.)

Emergency consultation clinics avert unnecessary admissions

EDITOR.—Joanna Coast and colleagues report that about a tenth of admissions to general hospital might be suitable for alternative forms of care.¹ In the child health department in Southampton an emergency clinic runs from 1 pm until 3 pm on weekdays (the 1-3 clinic) to address this issue. It is staffed by middle grade paediatricians with consultant cover. Children with acute and subacute problems are booked in daily.

During a recent five month survey of the clinic's activity 456 children were seen. Their presenting complaints were, as would be expected, mainly acute gastrointestinal (121), respiratory (103), or infectious illnesses (86). Of the 451 children whose notes we retrieved, 86 were admitted to hospital. In the remaining group 181 were discharged without hospital follow up: investigations were arranged, with follow up in the 1-3 clinic, for 85; a management plan was started and follow up arranged for a consultant outpatient clinic for 72; and 27 received a further specialist opinion either that day or at an urgent outpatient appointment.

There is no doubt that such a clinic is appropriately used and popular with local general practitioners. A paediatric opinion can be obtained readily and one of several management strategies adopted. An experienced doctor can provide reassurance and discharge the patient, provide a management plan and begin investigations with review at the 1-3 clinic or an outpatient clinic, or arrange admission if necessary.

Admission to hospital is disruptive to family routine and may adversely affect the child.² With increased numbers of paediatric admissions to a reduced number of beds,³ it is increasingly important that children are admitted "appropriately" to hospital. MacFaul *et al* suggested that 26.5% of admissions for less than 24 hours were unnecessary. Once children arrive in a ward they are often kept in overnight for various reasons other than their medical condition—it may be very late in the evening by the time they are reviewed by senior staff, their parents may have left the ward, transport may not be available to take them home, or their parents may be expecting them to stay.

Although we cannot give exact figures, we believe that by comprehensively assessing children in an emergency consultation clinic and devising management plans for them we have been able to avert many unnecessary admissions. Perhaps a similar model of care could be adopted by the adult service.

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Nursing shortages

Pay increases are most efficient response to labour shortages

EDITOR.—In his editorial about the shortage of nurses James Buchan concludes that the establishment of an independent national standing committee and a longer term view of workplace planning would be useful.¹ Such an approach in the planning of medical (doctor) staffing has regularly failed and since 1944 has produced a "hog cycle" of glut and famine, as in the nursing market. Thus if forecasting of the number of nurses that will be needed is to be improved we need to learn from these experiences.

The most efficient response to labour shortage may be price (that is, pay) increases. Such incentives would induce nurses back into the NHS and provide a stimulus to managers to use their scarce and expensive nurse labour force more efficiently, substituting labour and capital where appropriate. Whether forecasting by national standing committee can do better than market signals is debatable.

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1 Buchan J. Nursing shortages. *BMJ* 1996;312:134-5. (20 January.)

Nationally determined pay could result in high marginal costs

EDITOR.—As a former economist, I found James Buchan's editorial on the shortages of nurses evocative of the difficulties in recruiting staff to operate buses during the 1970s.¹ While planning the number of nurses that will be needed clearly poses greater challenges because of the more substantial training required, some important similarities remain. Lessons learnt in London Transport may have current relevance for the development of pay and staffing policies in the health service.

The recruitment of nurses by the health service makes up a considerable proportion of the total labour market, with the implication that if pay is too low then the desired numbers of nurses in employment will not be achieved. Tough and effectively pursued pay claims may well, of course, deliver pay in excess of this minimum, but the current suggestion is that recruitment, in some areas at least, is becoming more difficult.

Two important points can be made. Firstly, the need for pay increases to facilitate recruitment in hard pressed areas means that the marginal cost of the extra nurses thus recruited may be several times greater than their average cost, with obvious dramatic implications for any evaluation of their net benefit to the service. If the effective extra cost of an additional nurse is £80 000 a year rather than £20 000 then many managers may wish to think again.

Secondly, the magnitude of this multiplier is inversely related to the degree to which pay rates are determined locally. If a national pay increase is awarded to relieve staff shortages in a few hard pressed specialties in, say, London then clearly the marginal costs will be greater than if the pay rise can be restricted to the areas in which recruitment is difficult. It remains the case, however, that whenever recruitment is constrained by pay factors the need to increase pay to expand numbers of staff will always result in marginal staff costs being greater than the average. Those people who support the principle of nationally determined pay conditions for nursing staff should be aware that one consequence could be the imposition of spectacularly high marginal costs on some critical areas of the health service.

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Neonatal prevention of iron deficiency

Blood can be transfused from cord clamped at placental end

EDITOR.—Alfredo Pisacane advocates placental transfusion to increase iron stores in neonates.¹ This is easy at vaginal delivery but difficult and potentially hazardous at caesarean section. We would suggest clamping of the placental end of the cord as an alternative (DGD and ANAW, 27th British congress in obstetrics and gynaecology, Dublin, 1995), especially in premature infants, who will benefit from an increase in haemopoietic stem cells² as well as the iron. The problems with placental transfusion at caesarean section are those of possible delayed resuscitation, hypothermia, and displacement of the surgeon or assistant. Alternatively, if the placenta is delivered immediately with the infant without the cord being clamped the risks are maternal

haemorrhage and air embolism and neonatal haemorrhage from torn placental vessels.

A study of the cords in 120 mature infants delivered by caesarean section suggests that clamping the cord at the placental end and holding it above the infant during resuscitation results, on average, in a neonatal transfusion of 41 ml (fig 1). "Full cords" were clamped at both ends within 10 seconds of delivery, "drained cords" were the same cords after passive draining into a sink, and "transfused cords" had drained passively into the infant for three minutes. Figure 1 shows the distribution of the cords' weight. Drained and transfused cords were similar, the median weight of both being 0.9 g/cm lighter than that of full cords. The average length of transfused cord was 46 cm.

Fig 1—Distribution of weight of umbilical cords before and after blood was drained

A similar study needs to be done on premature infants born by caesarean section, as a sizeable proportion of such infants are. Low birth weight predisposes to anaemia. If a proportionally similar cord transfusion occurs in premature infants this could be a simple, safe, no cost substitute for full placental transfusion until the problems of safely achieving placental transfusion are overcome. Indeed, for reasons other than anaemia a small placental transfusion may be ideal, as Linderkamp concluded in an extensive review.³

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- 1 Pisacane A. Neonatal prevention of iron deficiency. *BMJ* 1996;312:136-7. (20 January.)
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Placental transfusion might reduce prevalence of iron deficiency

EDITOR,—Alfredo Pisacane states that current obstetric practice in relation to immediate or early clamping of the umbilical cord may contribute to neonatal iron deficiency owing to the volume of fetal blood that is retained in the placenta when this practice is followed.¹ He also points out that even a moderate transfusion of 20-30 ml/kg from placenta to infant can minimise depletion of iron stores in late infancy.

There is evidence that relatively large volumes of blood are retained in the placenta after immediate or early clamping of the cord. The mean volume of cord blood collected from 132 placentas in one study was 117 ml (range 43-210)² and from 167 placentas in another study 112 ml

(range 30-200).³ The average blood volume of term infants is 80-85 ml/kg, so these quantities represent a considerable proportion of the blood available for infants. In the second study the haemoglobin concentration was measured one day after delivery in 125 infants. When the collection of placental blood exceeded 100 ml the mean haemoglobin concentration was 156 g/l (range 122-192), and when the collection of placental blood was 80 ml or less the mean haemoglobin concentration was 175 g/l.³ These figures show the quantity of infant blood remaining in the placenta and its effect on neonatal haemoglobin concentrations. Standard texts quote normal mean haemoglobin concentrations on day 1 as being 190 g/l.⁴ As cord and day 1 haemoglobin concentrations are measures of iron stores available to the infant a reduction in the quantity of blood left in the placenta must increase the iron stores of the infant.

Iron deficiency in infancy is by no means confined to developing countries. A recent survey of diet and nutrition in Britain showed iron deficiency in 25% and iron deficiency anaemia in 12% of children from private households in the second year of life.⁵ There was no significant association between the haematological variables and social class or employment status. Moderate placental transfusion resulting from delay in clamping the cord might well reduce the prevalence of iron deficiency. We join with Pisacane in urging that a large clinical trial be undertaken to evaluate the effects of placental transfusion.

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John Wayne Cancer Institute is mainly funded by National Cancer Institute

EDITOR,—In her review of my *Horizon* programme, "A miracle for cancer?" Frances Calman makes an unfortunate assumption.¹ She claims that the John Wayne Cancer Institute in California is funded by a wealthy American, Michael Milken. This is not true; it is mainly funded by the National Cancer Institute.

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- 5 Calman F. Milken buys immunity. *BMJ* 1996;312:190-1. (20 January.)

Goals and methods of audit should be reappraised

EDITOR,—In my role as a coordinator of medical audit I sympathise with the views expressed by David Sellu.¹ Why are other doctors so reluctant to stand up and say that audit is not working, has

largely wasted £220m, and should now be urgently re-examined? I agree strongly that a few realistic national targets should be established for each specialty. These could, at little cost, be measured across Britain. The resulting comparative data would be much more meaningful than the current plethora of local audit projects, few of which have any chance of changing practice. It is disappointing that the royal colleges have not taken the lead in this, and the government may now do so by default.

Sellu is right to be sceptical about the glossy annual audit report. A good report should document recommendations for change with evidence that these were disseminated and that reaudit was done to show that change had occurred. Everyone knows the audit cycle, but few manage one turn of the wheel.

Genuine audit is an essential part of medical practice. I suggest, however, that most current audit activity should be suspended for, say, two years while goals and methods are urgently reappraised. Audit could then make a fresh start, preferably with a new name: any suggestions?

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- 1 Sellu D. Time to audit. *BMJ* 1996;312:128-9. (13 January.)

Finding meaning from loss

EDITOR,—I was very moved by the views expressed by Thomas Roques about his brother's suicide.¹ Firstly, he states that his brother died "because the illness from which he suffered overpowered every last reserve of his strength." To struggle, in the face of stigma, to come to an acceptable understanding of why a loved one took his or her life can be an overwhelming issue for those who have suffered a loss in such a way.²⁻⁴ Roques deals with this supremely well by focusing on his brother's dignity and strength.

Secondly, Roques concludes that to centre on the death detracts from the value of his brother's life but that "concentrating on his life allows him to live on." This is such an important concept in coming to terms with and finding meaning from a loss, whatever the cause. So often we tend to bury the influence of a person along with the physical body. Roques is clearly resolved to ensure the future influence of his brother. As Frankl, the famous Austrian psychiatrist, maintains, those who are left behind become the guardians of the future influence of the one they have lost. It becomes their responsibility to nurture this influence so that the meaning of the person's life is continued.⁵

In my attempts to help patients to come to terms with such a tragedy I am so often stuck for words. Models of successful coping by people who have been through the experience are extremely valuable aids because they enable patients to see their tragedy in a different light. I am constantly searching for better ways to alleviate patients' emotional pain and help them to reinterpret their grief in meaningful terms. May Roques's words be the medicine.

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