lives and visits are often infrequent. To this extent, therefore, I see the community hospital in populations in excess of 40 000 being of primary significance to the community in respect of acute diagnostic and surgical services at an appropriate level, and the geriatric and long-stay element as a part of the overall picture rather than the predominant feature. In populations less than this figure, however, then I would agree entirely with Dr Evans's comments about the role of community hospitals. This assumes that they can be viable in small communities, and this again is an area that, I would suggest, needs careful study in relation to the overall costs of these establishments set against the benefits to the community.

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## Immunisation against whooping cough

SIR,—In showing that 75% of infants below 3 months of age with whooping cough were admitted to hospital and that 42% of all hospital admissions of children notified as whooping cough were infants of 5 months or younger, Drs Christina L Miller and W B Fletcher (17 January, p 117) have indeed confirmed the widely held belief that "in young infants whooping cough is still dangerous." They have *not* shown that "at all ages previous vaccination reduced the severity of the disease." What they have shown is that, among notified cases, a significantly higher proportion of the more severe cases and of those admitted to hospital were not immunised or were incompletely immunised. This does not mean that immunisation is necessarily protective. Of 8092 cases notified to them, 2940 (36%) were fully immunised while only 2424 (30%) were definitely not immunised.

In the same issue (p 128) Dr N D Noah claims that "current vaccines provide young children with substantial protection against whooping cough." What he actually shows, in a single tabulation of notifications uncorrected for age, is that the incidence of whooping cough is lower in immunised than in non-immunised children. But the rate of notified infection was still relatively high (50 per 100 000) in 1974 in children fully immunised with the new vaccine. There is no evidence in either article that immunisation of older children protects younger ones.

Several questions arise:

(1) What kind of immunisation is this for which success is being claimed? It is an immunisation which leaves those at highest risk (that is, below 6 months of age) unprotected and which, even when complete, is associated only with partial protection of those in the lowest risk groups.

(2) What kind of epidemiology is this which advocates immunisation by excluding consideration of factors other than immunisation? It is admitted in both articles and is indeed obvious from the data that factors other than immunisation must influence susceptibility to whooping cough. If immunisation is to be tested for efficacy the data must be standardised for domestic, demographic, and social factors. Whooping cough is much lower in incidence, hospital admissions are less frequent, and immunisation schedules are often better maintained in districts where socioeconomic conditions are favourable. The reported association between protection and immunisation could be an expression of better social conditions and child care as much as of biological protection by pertussis vaccine.

(3) What kind of editorial policy is this which publishes incomplete data and promotes far-reaching claims about the efficacy of immunisation but refuses to publish collateral data questioning this efficacy?

Paradoxically, the articles by Drs Miller and Fletcher and Dr Noah reinforce the suggestion made in my letter in your issue of 10 January (p 93) that evidence about the efficacy of pertussis vaccine is lacking. But the questions remain.

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## Low-dose heparin and the prevention of venous thromboembolic disease

SIR,—With reference to your leading article on this subject (23 August, p 447) there is, I believe, an important distinction to be made in terms of the population at risk and the efficacy of low-dose heparin.

Our study[1] showed that low-dose heparin was not an effective agent in the prevention of thromboembolic disease in patients following elective hip surgery, in this instance total hip replacement. This study was one which compared low-dose heparin, aspirin, warfarin, and dextran 40. The determination of fresh postoperative thrombi was by the routine use of venography by the technique of Rabinov and Paulin.[2]

Our findings were quite clear that low-dose heparin was not effective in this population group. Similar findings have been reported by Evarts and Alfidi.[3] The report by Gallus *et al*[4] on hip fractures also showed that low-dose heparin was less effective here than in other population groups. I think this is an important distinction to be made and feel that it should be called to the attention of your readers.

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## Management of babies with diarrhoea

SIR,—In temperate climates the dangers of hypernatraemic dehydration in diarrhoea and electrolyte overload due to concentrated milk formulae are well documented. It is also recognised that a proportion of children with diarrhoea have temporary lactase deficiency. These factors have encouraged recent management regimens which recommend that "all solid food and milk [are] taken out of their diet for the first 24 hours" (your leading article, 6 December, p 539) and "the most important principle of management is to stop all milk and solids initially."[1]

I believe the most important principle in the management of diarrhoea is the replacement of the water and electrolytes that have been lost. In tropical countries where diarrhoea, often associated with malnutrition, is a major problem[2] the withdrawal of food and especially breast milk is wrong. Such restriction can tip the nutritional balance against a child whose condition is borderline. Moreover, mother's milk, the main source of high-quality protein for many children, will decrease rapidly in the absence of suckling. Continuing breast-feeding is one useful way of providing some fluid and nutrition at the same time.[3]

Reports from tropical countries indicate that hypernatraemia is not a frequent consequence of diarrhoea but that hypokalaemia is common.[4 5] This is probably because in poorer countries most children receive breast milk for many months. In industrial countries artificial feeding is much more common and diarrhoea occurs predominantly before 3-6 months of age, while the kidneys are still relatively immature. Since active oral rehydration is known to be effective[6 7] I feel your leading article is too negative about the use of oral electrolyte fluids. In areas where the need for rehydration is greatest and facilities are least available the benefits of even the most simply compounded electrolyte mixture far outweigh the hazards of hypertonic intoxication.[8]

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## Effect of levodopa on Parkinsonian tremor

SIR,—Until recently therapy in Parkinson's disease followed two major precepts. Firstly, that akinesia and rigidity respond best to levodopa and to a relatively slight degree to anticholinergic drugs. Secondly, that tremor can be satisfactorily treated by stereotactic thalamotomy only.

While agreeing with these sound clinical observations, one must point out that the two clinical situations represent almost opposite extremes of a clinical continuum, beginning at one end with pure akinesia and rigidity, then developing an admixture of tremor, and ending with pure tremor. One sees numerous patients who manifest akinesia, rigidity, and tremor. What seems as yet still not widely appreciated is that in many such patients treatment with levodopa causes definite improvement in all three aspects of their pathophysiology. Furthermore, the degree of improvement of tremor obtained is of value to the patient as well as being apparent to the physician.

The improvement in tremor caused by levodopa has been recorded by several workers.[1-4] My colleagues and I[5] conducted a double-blind controlled trial to compare the relative efficacy of levodopa and amantadine in Parkinson's disease. Levodopa, of course, proved to be superior in a wide