uneventful pregnancies giving rise to unaffected children had the screening programme been offered to them: a tricky concept. (It is not easy to see how that estimate of cost is obtained from their abbreviated table III.) The cost of permanent care of people born with Down's syndrome relative to that of an assumed normal birth cohort is so low partly because the estimated cost of permanent care of 45-year-olds (the age at which 100% of Down's syndrome births are assumed to be in permanent care) is low (about £250 per person per annum) but principally because, when discounted at 10% per annum for 45 years, it gives a "present value" of only £3 per person per annum.

Next they estimate the total (relative) "present value" cost (of caring for people born with Down's syndrome) as £4150 per person per annum. Yet in their summarising paragraph they call this (8.1 affected births) a benefit and it is discounted a second time at 10% in the calculation of a total programme benefit. This notwithstanding that their calculations suggest for West Scotland a "replacement" benefit of some £350 000 and a "no replacement" benefit of £800 000; in other words society will benefit to the tune of nearly £1m ("present value") by preventing each year eight uneventful pregnancies resulting in eight normal births (after amniocentesis and terminations for the eight affected).

This illustrates how a high discount rate makes distant future earnings of the newborn negligible compared with the present costs of infant care and the near future costs of schooling, even in the healthy. One of the benefits that has to be taken into account (even if it is not given a cash value) is the value of life per se.¹ The logical conclusion derivable from their calculation is not to screen the over-40s for Down's syndrome but to prevent all births (whether "replacement" or not).

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¹ Buxton, M J, and West, R R, *British Medical Journal*, 1975, 2, 376.

Effect of skin-cleaning agents on Dextrostix readings

SIR,—With the increasing use of reagent strip tests for biochemical screening we would like to report a potential cause of misleading results which we have encountered in the use of Dextrostix and which is illustrated by the following case.

A 79-year-old insulin-dependent diabetic was brought to the accident and emergency department unconscious. Apart from increased muscle tone and bilateral extensor plantar responses there were no abnormal physical signs. An initial assessment of blood glucose was made with Dextrostix reagent strips by two independent observers from samples of capillary blood obtained by finger prick. Visual readings were recorded as falling between 9.7 and 13.9 mmol/l (175 and 250 mg/100 ml). However, formal laboratory estimation on a venous blood sample taken at the same time gave a value of 1.67 mmol/l (30 mg/100 ml) and as a consequence 50% glucose was then given intravenously, with rapid improvement in the patient's clinical condition.

The Dextrostix reagent strips used were from a freshly opened bottle and when tested on venous blood were found to give accurate and reproducible results, thus indicating that the discrepancy was in the technique used rather than in the Dextrostix

reagent strips themselves. Further inquiry revealed that before the finger stab the skin had been liberally swabbed with 70% isopropyl alcohol (Sterets swab).

Ethanol or 70% isopropyl alcohol when added to blood produces a sticky brown precipitate of denatured haemoglobin that will adhere to the surface of a Dextrostix reagent strip. Possibly residual alcohol on the skin after swabbing may mix with blood to produce this brown precipitate, which can impart a brown colour to the test surface. This may be interpreted by an uncritical observer as indicating a falsely high blood glucose level, particularly in poor lighting and when the true blood glucose is low. More significantly, Dextrostix reagent strips discoloured by the brown precipitate also give falsely high readings when used with a reflectance meter (Eyetone, Ames Co).

These misleading results may occur when rapid determinations are being made in emergencies with appreciable quantities of alcohol remaining on the skin surface. This appears to have been the explanation in this case and this phenomenon has not been reported previously. We would therefore recommend that any alcohol-based skin cleansing preparation be allowed to evaporate completely before skin puncture is performed and that any brown colour on the test surface should be treated with extreme suspicion. This will avoid the potential danger of misdiagnosing hypoglycaemia when using Dextrostix reagent strips.

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Treatment of diarrhoea in undernourished children

SIR,—Dr G Hatcher (6 March, p 571) advises adamant resistance to any milk feeds being given to infants and children under 3 years of age for 24 hours after commencing treatment of a mild diarrhoea because of the risk of hyperosmolar dehydration.

It is essential to stress that this practice is extremely hazardous in infants and children in whom there is any degree of undernutrition. The *BMJ* is read widely in many parts of the world and it behoves those who review problems of childhood to take into account all the different conditions in which they may occur and which may modify management considerably.

A recent WHO guide¹ to the management of diarrhoea for primary health auxiliaries has stressed the importance of early feeding, starting not more than six hours after hydration has been instituted. Hyperosmolar dehydration presents usually in infants on highly concentrated feeds before the start of treatment but should never develop during treatment, in which adequate hydration is as imperative as early calorie-protein intake. Furthermore, it is not clear whether Dr Hatcher would include breast-feeding in "milk feeds". I cannot believe he would. Twenty-four hours' withdrawal of breast-feeding would expose infants in many parts of the world to further risk of the diarrhoea-malnutrition circle, with the likelihood of total termination of breast-feeding. In addition, breast milk is highly unlikely to produce a hyperosmolar state.

The further suggestion that milk should not be recommended for the much longer period of up to three weeks in severe diarrhoea on account of the risk of temporary lactose intolerance serves only to increase my anxiety concerning the adoption of the practice in undernourished infants in the first year of life, and particularly in areas of the world where low-lactose alternative feeds are not available. Diarrhoea may increase slightly when milk feeding is recommenced, but as long as hydration is maintained this is of little consequence compared with the necessity for maintaining and improving the nutritional state of the infant.

Finally, there is strong evidence² that the use of glucose-electrolyte solutions given orally in adequate amounts restores appetite and allows feeding to be started earlier, consequently with less weight loss and more rapid nutritional recovery. Water on its own is less effective in this respect, especially if it is unaccompanied by early feeding.

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¹ World Health Organisation, *Treatment and Prevention of Dehydration due to Diarrhoea—Guide for Workers at Primary Level*. Geneva, WHO, In press.
² Hirschhorn, N, et al, *Journal of Pediatrics*, 1973, 83, 562.

Glucose absorption and diabetes

SIR,—Professor G C Cook (20 March, p 688) reports that an unselected group of Arabs in Riyadh absorbed glucose more rapidly than a group of Africans studied in Lusaka and comments that the prevalence of diabetes differs in the inhabitants of these two areas. He suggests that increased sucrose consumption may result in portal hyperglycaemia which stresses the pancreas and thus impairs glucose tolerance. However, as he also points out, both Arabs and Africans eat sucrose, the Africans adding it to their staple carbohydrate diet. Consequently sucrose alone cannot be responsible for this phenomenon. He suggests that subclinical or inadequately treated gut infections may be the agent responsible for slower absorption in Africans.

While accepting these arguments we suggest that the form in which food is taken may be another factor. Trapping of otherwise available carbohydrate within the intact cell walls¹ may reduce the amount of available carbohydrates. Dietary fibre or other unavailable carbohydrates (storage polysaccharides) which may modify the physicochemical properties of the intestinal contents may also be important. Some of the undigestible polysaccharides form gels which reduce postprandial glycaemia,^{2,3} possibly by transient trapping of glucose molecules within the gel, thus delaying their absorption.

If β -cell stress of the pancreas is a factor in the development of diabetes, then any agent which modifies postprandial glycaemia may be a factor which alters predisposition to diabetes. The mode of action by which such substances may operate to modify glucose tolerance in the long term has been mentioned previously.⁴ We have studied the effect of two unavailable carbohydrates, Guar gum (a storage polysaccharide of a cluster bean, *Cyamopsis tetragonoloba*) and pectin, on non-insulin requiring diabetics.⁵ When 26 g of these

unabsorbable carbohydrates were added to a breakfast test meal containing 106 g of absorbable carbohydrates the mean maximum rise of blood glucose between 15 and 120 minutes after the meal was only 40-68% of the control.

Modification of food form may therefore be a useful therapeutic manoeuvre in controlling some diabetic patients.

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¹ Horwicz, D L, and Slowie, L, *Annals of Internal Medicine*, 1975, **82**, 853.

² Leeds, A R, et al, *Lancet*, 1975, **2**, 1213.

³ Gassull, M A, et al, *Journal of Physiology*, 1976, **256**, 54P.

⁴ Leeds, A R, Gassull, M A, and Jenkins, D J A, *British Medical Journal*, 1976, **1**, 900.

⁵ Jenkins, D J A, et al, British Diabetic Association, Spring Meeting, 1976.

Prognosis of new and worsening angina pectoris

SIR,—The report of Dr Barbara Duncan and others (24 April, p 981) is clearly of great importance, but their conclusion regarding the prognosis of new angina may be unduly optimistic because they omitted from their series patients whose angina had already culminated in myocardial infarction or sudden death.

We have recently completed a study of 317 patients with angina in which we combined the prospective and the retrospective approaches by analysing the histories of the patients from the onset of their angina until death or myocardial infarction, or for an average of 6½ years. (As in the Edinburgh study we were dependent on general practitioners for referring the patients so that the material was not unselected.) We found that the incidence of infarction or sudden death was at its highest in the first few days after the onset of angina and declined rapidly after the first month. Thus the incidence of acute cardiac episodes was 4% during the first week and 2% per week during the next three weeks, falling to 0.6% per week during the next two months.

The other striking feature to emerge from our study was that the early prognosis was much worse in those patients whose angina had an abrupt onset than in those in whom the onset was insidious. In those with an abrupt onset the incidence of acute cardiac episodes was 18% during the first week and 5% per week during the next three weeks, falling to 0.5% per week during the ensuing two months.

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BMA and HCSA

SIR,—I have read with great sadness the report on the "Relationship between the BMA and HCSA" (3 April, p 850) together with the letters from Mr A H Grabham (p 851) and Dr N A Simmons (17 April, p 963).

It has always been true that the Central Committee for Hospital Medical Services has appeared less powerful and less effective in negotiation with

the DHSS and its predecessor, the Ministry of Health, than the General Medical Services Committee. When, many years ago, I first became interested in so-called "medical politics" I too believed that this was attributable to dominance of the influence of general practitioners within the BMA and hence the greater power of their autonomous standing committee, the GMSC, and I became a member of the Regional Consultants and Specialists Association (the precursor of the HCSA) but fortunately I remained a BMA member. Subsequent experience as a member first of the CCHMS and later of the Council of the BMA totally convinced me that this was not so but that the weakness in negotiation of both the CCHMS and the Joint Consultants Committee with the Ministry of Health and with the Review Body arose from the apathy and indifference of a substantial majority of consultants to the structure of the National Health Service and the details of the terms and conditions of service therein; from tensions between the so called "teaching" and "non-teaching" staff and between members of the various disciplines within the hospital branch of the Service; and also from a lack of awareness or interest in the problems of the junior medical staff, which caused these doctors to organise and seek help outside the CCHMS.

Far from membership of the BMA, with the presence within it of a strong GMSC, being an impediment in the presentation of the CCHMS views and the case of the hospital staff to the Ministry of Health and the Review Body, the very reverse proved to be the case in my fairly long experience as chairman of the CCHMS. I received unfailing courtesy and help from three successive GP chairmen of the BMA Council and from two GMSC chairmen. There were differences of opinion and conflicts of interest which had to be discussed between the committees and sometimes such differences required their presentation to the Council or the Representative Body to achieve settlement, but it was not my experience in many years of membership of the RB and Council that a sound case, well prepared and strongly supported by hospital staff as a whole, was ever defeated by sheer weight of GP voting membership alone.

If it be true that the profession now faces a situation in which not only its own future but the whole form and ethos of medical practice for years to come is at stake is not the absolute priority that a united profession presents its case to the Government and the country? I am very well aware how sincerely the HCSA hold their views. Nevertheless, if their present divisive policy persists and the future of private medicine is destroyed or emasculated I believe that their successors will attribute that destruction to these divisive and weakening tactics, so tragically arising from unjustified suspicion of the motives of those who should be their colleagues.

It would appear that HCSA members should ask themselves four questions: (1) Are differences of opinion within the profession better resolved within the profession or by arbitration of the DHSS or the Review Body? (2) If the HCSA has 5000 members who are active and informed could they not through participation as elected members of regional and central HMSCs ensure that their policies were those of the CCHMS? (3) Do they seriously believe that such a strengthened CCHMS, representative of all hospital staff, would be deliberately hindered in effectiveness in presenting its views to the DHSS by a hostile or antipathetic BMA? (4) If at any time a strong divergence of view between major branches of the profession develops where else other than within the BMA organisation can it be resolved?

Members of the medical profession, because we are on occasion arbiters in matters of life and death, can become and are rightly accused of being arrogant. Such arrogance would appear to motivate the HCSA in its claim that hospital

staff views should be managed by itself and its own secretariat and presented to the authorities without their colleagues in other branches of the profession having the prior right to examine and seek to modify them.

Mr Grabham wisely says, "I believe basically that a single, efficient, democratically elected body is to be preferred rather than a 'marriage of convenience'—such marriages are rarely successful." This is wholly true not only in our own narrow interests but far more so if we are to create a body which the DHSS and Parliament will respect and from which it will seek help and advice.

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Family planning in the hospital service

SIR,—Following a recent discussion with other gynaecological colleagues in the South-western Region it seems clear that many area health authorities find themselves unable to implement the scheme for sterilisation and contraception which was agreed between the DHSS and the BMA, although various modified schemes are apparently under consideration.

Meanwhile, as gynaecologists, we are besieged by patients and doctors with requests for sterilisation under the scheme, and it would seem fair that the DHSS should make clear to patients and general practitioners that this scheme has not in fact been implemented. Evidently some of the objections to the scheme are financial, and on these grounds many gynaecologists themselves are opposed to its introduction. I think we should remind ourselves that there are many ways in which savings can be made in the Health Service, and it would seem hardly sensible to expect one group in particular to bear the full brunt of economy measures. To be fair, vasectomy, contraceptive measures, and female sterilisation, other than on strict medical grounds, should be remunerated in a similar way in view of the fact that these procedures are extra to one's normal commitment.

Those who have expressed deep concern about the waste of Health Service funds over the proposed scheme in letters to the national press will no doubt have made sure that funds are not being used unnecessarily in other directions in the Health Service, such as over-prescribing, unnecessary investigations, and over-elaborate equipment. One would naturally assume that they have already refused to accept extra payments in the form of merit awards in order to help the Health Service in its financial crisis.

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*.*The text of a letter on this subject that has been sent to all consultants by the chairman of the Negotiating Subcommittee of the CCHMS was published in last week's issue (p 1233).—Ed *BMJ*.

Hospital practitioner grade

SIR,—On behalf of this committee I write to express the mounting concern of hospital doctors in this region at the implementation of the hospital practitioner grade. Though this grade has been the subject of discussion for some years, recent developments in the Health