the control centre was recorded as the arrival time. Moreover, the centres using automatic time-stamps (the centre quoted above did not) were prevented from entering times retrospectively.

Despite these qualifications, the findings show that the resources of some deputising services, medical manpower or telecommunications or both, appeared to be stretched at bank holiday periods.

Generalisations about the quality of deputising services as a whole have in the past been misleading. It is to be hoped that the introduction of standard procedures for monitoring the operation of deputising services (DHSS Health Circular HC(FP)(78)1) will serve to diminish differences in quality among them.

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Alpha-fetoprotein in the diagnosis of hepatoma

SIR,—The ideal diagnostic test is perfectly sensitive (true-positive (TP) ratio=1) and perfectly specific (false-positive (FP) ratio=0). Dr P J Johnson and his colleagues (2 September, p 661) apparently approach the ideal in their report that a diagnostic serum α -fetoprotein (AFP) concentration of 10 IU/ml (10.5 ng/ml) has TP and FP ratios of 0.97 and 0.01 respectively in the diagnosis of hepatoma in cirrhotics. Usually as sensitivity increases so specificity decreases and the TP and FP ratios are related by a receiver operating characteristic (ROC) curve the shape of which depends on the test characteristics, the disease, and the population tested. The ROC curve illustrated was constructed from information in the literature on cirrhotic Caucasians tested for hepatoma.¹ The position X of the point TP=0.97, FP=0.01 lies well to the left of the curve derived from other studies. This discrepancy probably occurred because Dr Johnson and his colleagues derived the FP ratio from non-diseased patients who were not those in whom hepatoma had been suspected and tested for but rather those who had had a necropsy and been shown to be hepatoma-free. Indeed, the authors point out that higher FP ratios would occur in patients suffering from a variety of common disorders.

The optimal diagnostic concentration or operating position on the ROC curve is determined by the prevalence of disease in the tested population and the "costs" of misdiagnosis.² If a disease is common and the course of action indicated by a positive test curative and without side effects a sensitive test is best—a position high on the curve (B). If the disease is uncommon and the course of action of less value and with more side effects a specific test is best—a position low on the curve (A). Benefits and costs are difficult to define, but in the cirrhotic patient with a hepatoma the benefits of action are marginal and the optimal position is largely determined by the disease prevalence.¹ Dr Johnson and his colleagues work in a liver unit, where the prevalence of hepatoma may be higher than usual, but generally the prevalence in patients tested for hepatoma is low (for example, 3%) and the less sensitive, more specific diagnostic concentration is appropriate. However, different centres have different prevalences and

ROC curve for different diagnostic serum AFP concentrations.

may also have different disease patterns and test methodologies. Ideally each laboratory performing serum AFP estimations would construct its own ROC curve for the class of patients tested using past data and modifying the curve as more data became available. Then TP and FP ratios could be reported as well as the actual result and the physician could use his first estimate of disease probability (PD) and Bayes's formula to obtain a revised estimate of disease probability:

$$\frac{PD \times TP}{(PD \times TP) + (1 - PD) \times FP}$$

Alternatively, the laboratory could report the results of a test as positive or negative at a level decided upon by cost-benefit analysis. Such help from the laboratory is especially important for rare diseases like hepatoma because the individual physician may not have seen many (or any) cases to provide a basis for his assessment of a test result. This need for advice is shown by the clear difference between serum AFP results from patients with and without cirrhosis tested by the method of D Johnson and his colleagues. At the same serum AFP concentration very different TP ratios occur.

It must be tempting for the practising physician to accept a diagnostic level which apparently has a high TP and low FP ratio, but we suspect that in most centres the routine use of the serum AFP concentration of 10 IU/ml (10.5 ng/ml) in the diagnosis of hepatoma in deteriorating cirrhotics would lead to an unacceptably high number of false-positive results.

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¹ Phillips, P J, et al, *Journal of Clinical Pathology*, 1977, 30, 1129.

² Swets, J A, Tanner, W P, and Birdsall, J G, in *Signal Detection and Recognition by Human Observers*, ed J A Swets. New York, Wiley, 1964.

How to raise funds

SIR,—I would like to add a few comments to Dr A K Thould's advice on fund-raising (14 October, p 1065). Doctors have a head start as they are trusted in their community and they must have some patients who would be concerned to help them apart from their personal friends. A bank manager told me

seven years ago to aim at making my charity worth one-tenth of a million, and this is what has been accomplished by delegating to non-professional people. My view is that few people read pieces of paper unless these are handed to them in person and in this way stamps have been saved. (And the ladies' room is a good place to sell Christmas cards!) I receive 2000 printed newsletters each year free of charge, stating that the accounts are available for inspection. No member of the public has ever asked to see them but these newsletters are in the waiting rooms of my colleagues and I consider they have provided a source of interest and support.

I found, like Dr Thould, that my first visit to the Charity Commissioners was very important, and all their suggestions have been most constructive. The mayor of the local borough can be an important ally and his secretary is invaluable as she provides continuity throughout the years. It is important to find out which grant-making trust is interested in your particular charity and to keep the influential person informed of what you are doing and why. I have avoided self-advertisement by insisting that my local newspaper refers to me as "the founder" of my charity and it is only when I write to my professional journals that I sign my name.

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Intensive iron-chelation in thalassaemia

SIR,—We have read with interest your leading article (16 September, p 782) about subcutaneous infusion for iron-chelation in thalassaemia.

We are at present following 56 thalassaemic patients (40 boys and 16 girls) ranging from 18 months to 17 years; they are kept on a high-transfusion regimen (keeping haemoglobin at 9-14 g/dl) and receive intramuscular desferrioxamine 20 mg per kg per day. In the last few months we have been offering these patients the option of receiving, during their hospital stay for transfusions, desferrioxamine by either intravenous or subcutaneous infusion by means of a portable (166 × 53 × 23 mm) syringe driver. While the intravenous infusion was disliked almost unanimously, the subcutaneous pump, quickly nicknamed the "transistor," was enthusiastically accepted by 32 of the 34 boys selected to try it on the basis of age and number of previous transfusions. They welcomed the switch from the dreaded daily intramuscular injection to the little painless stitch; they would watch TV, sleep, and even engage in ball games while wearing it. On the other hand, 13 of 15 girls did not accept it so easily: many cried, a few even refused to try it, and all of them seemed to be most aware of the bulky, unsightly object that reminded them of their difference from others. Two of the girls on this occasion questioned their parents for the first time about the cause and prognosis of their disease. The two boys who have so far refused subcutaneous infusion were already showing signs of psychological distress and came from families that had not yet learned how to cope with the disease.

So far 21 families have decided to administer subcutaneous infusion at home. Although we are aware that the long-term benefits of this form of therapy have yet to be demonstrated,

we believe that the trial is worthwhile. We have also found that many parents starting subcutaneous infusion at home have acquired new hope and a greater personal involvement in the care of their children. The main obstacle to routine home treatment, apart from the psychological difficulties, is the cost of a subcutaneous infusion apparatus (including the syringe driver, still half the price of a colour TV set, and a scalp vein needle for each infusion).

In conclusion, our short-term experience is encouraging: if its efficacy is confirmed by long-term trials, subcutaneous infusion therapy promises to be a reliable, convenient method of preventing or reducing iron overload in transfusion-dependent patients.

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Naming of drugs

SIR,—The explosion of drugs on to the market is disturbing, and the dangers were emphasised by Sir Richard Doll in Oxford six years ago. Not only do drugs have chemical and proprietary names, but the same preparations are often marketed under different names. The prescriber finds it difficult to remember these and to distinguish one drug from another. When the names of the drugs are very similar errors are likely to occur. For this reason the name Molivate was changed to Eumovate. Other drugs, such as Movelat and Motival, are easily confused. The biochemical effects of Sinthrome and Sintisone or of Optimax and Optimine are very different, but again the names are very close. Can many of these names not be simplified before more accidents occur?

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*. *Since all the names mentioned by Dr MacGregor are those of proprietary preparations his letter provides one more good argument in favour of using BPC approved names. These are carefully devised not only to avoid confusion with other names but also to indicate, wherever possible, the pharmacological group to which the drug belongs.—Ed, *BMJ*.

How to appear on television

SIR,—May I comment on the article about appearing on television by Mr Karl Sabbagh (21 October, p 1145)? His thesis is that a doctor who is approached to appear on TV should "trust" the producer in deciding whether or not he should appear on TV. What Mr Sabbagh fails to say is what the position of the doctor is if the producer misuses that trust.

Several years ago I was asked to contribute to an article in a national newspaper on a medical theme currently of public interest. I placed my "trust" in the journalist involved—much to my subsequent chagrin. The article was not in the form that the journalist informed me that it would be; and it contained material that I specifically wished to be excluded. The result of my willingness to give my services "as a person who does have something to contribute" (to use Mr Sabbagh's

phrase) was that I received the inevitable letter from the GMC, paid over £160 for a legal opinion on whether I had a case to sue for libel, and had several weeks of letter writing—and throughout all this time very much aggravation.

During the past year I have been approached twice to appear on TV for the purpose of contributing to a discussion on a subject of current public interest. My immediate reaction was a very definite "no," and I strongly recommend any doctor similarly approached to think twice about the proposition, despite Mr Sabbagh's comments. The question the doctor should ask himself is whether he can envisage medical colleagues who were not invited to appear on the TV programme watching their television sets with notebook in hand, having already looked up the GMC's address in Hallam Street, and just waiting to send off the letter of complaint. If such a scene can be imagined, then I suggest that he forget the invitation—the decision not to appear may not be "particularly good for medicine," but it will definitely be very good for one's own peace of mind.

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SIR,—Mr Karl Sabbagh in his interesting piece on appearing on television (21 October, p 1145), while offering some useful hints, omits some of the unexpected hazards.

The person who phones has, in my experience, rarely been the producer but a research assistant. Well-informed, courteous, and seductively persuasive she briefs you well, tells you of an eminent colleague who may be participating and what line she thinks you ought to take. She omits to say that there will be at least five others on the panel and that if you are lucky you may have 20 seconds of talking time. And that's after you have rearranged, with great difficulty, all your other commitments and suffered the concern and the anxiety that appearing on television entails.

Or what's worse is when you accept, at very short notice, a pressing invitation to be on the programme the following evening which you consider worth while, only to be told half an hour before the car arrives that "owing to unforeseen circumstances" this part of the programme has had to be postponed. Fair enough, but what of the indignity when they put the programme on a week later with another colleague in your place and neither explanation nor apology?

Even worse is to be invited to take part in a programme in a few hours' time, and because it is all so rushed nobody in the studio has time to talk about it and before you realise it either you are in the studio about to appear in somebody else's slot or, what happened to me, somebody else was about to do your bit.

But there are innumerable well-timed, carefully thought out programmes in which it is a privilege to participate and which enable you to "say something important about your own specialty in minutes."

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Day hospitals

SIR,—Having had a research interest in geriatric day hospitals for the last three years, I was very interested to read of the work of a Nuffield-funded day hospital mainly for pre-

terminal cancer patients (14 October, p 1053). Though not documented, some geriatric day hospitals have carried out similar supportive work in elderly cancer patients, with benefit both to patients and to relatives (if any).

Professor E Wilkes's day hospital also caters for those with "chronic disease" and here there is even more overlap with geriatric day hospitals since the conditions treated are very similar (strokes, arthritis, Parkinsonism), as are the therapy and diversions used. Although geriatric day hospitals cater mainly for those in their 70s and 80s, about 13% of their work is with younger disabled patients with strokes, multiple sclerosis, etc; and this group is similar to those treated in the Sheffield unit.

It would seem very desirable, as Professor Wilkes suggests, that any new day hospital function should be grafted on to existing units, to avoid duplication of staff and skills and to avoid worsening of transport difficulties. If the physicians and surgeons who first care for these cancer patients will continue their care in the day hospitals, enlarging and sharing the facilities with geriatric physicians, this would be a further and desirable move in the integration of general and geriatric medicine.

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Drug treatment of psychiatric patients in general practice

SIR,—I am disappointed that your correspondents look on my survey (7 October, p 1008) as destructive academic research. I had hoped that the "practical help and advice on how to help our patients" asked for by Dr D C Hogg (28 October, p 1228) would be detected in the article. If, as a result of reading it, doctors now prescribe benzodiazepines singly, for short periods at a time, and in flexible rather than fixed dose schedules, and recognise that low dosage of antidepressants is adequate for sedation but inadequate to produce antidepressant activity, they will help their patients a great deal.

Dr I H McKee (4 November, p 1296) claims that my conclusions cannot be justified as I was a participant in the consultative process, and as my sample was a psychiatric outpatient one the results are not applicable to general practice. He is right in assuming that general practitioners did receive feedback about their prescribing habits—I hope this was recognised as much from the clinical response of their patients as from any ex cathedra pronouncements I may have made—and in the last two years of the study there was less incorrect prescribing than in the first. This is likely to reduce errors in prescribing in those patients referred to an outpatient clinic, but Dr McKee nevertheless suggests that those who are treated by general practitioners alone might show fewer prescribing errors. This cannot be answered from the study, which, as its title indicated, was concerned with patients seeing a psychiatrist. However, as the survey was concerned with prescribing habits rather than response to treatment I have no reason to believe that the practitioner's general prescribing principles differed for other patients. Of course not all general practitioners refer patients to psychiatric outpatient clinics, but from my experience of the generally high quality of care given to the patients I saw I doubt whether the doctors who did not refer