This raises some important questions. Is it good for the profession to demand that pupils should decide on medicine at the age of 13? Is it really a requirement of medical education that pupils should be so engaged in theoretical science from such a tender age? Is it good for the profession to select students who have had an unbalanced education? Is it not important for doctors to have a grounding in the arts, humanities, technology, and creativity as well as science?

Could someone concerned with selecting medical students please give me some answers, preferably before my son decides on his options after Easter?

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SIR,—Dr William Fleming remarks on medical students entering medical schools with high motivation and desirable approaches to learning who rapidly become amotivational and cynical, and cannot see the relevance of much of what they learn.¹ He observes that their approach to study deteriorates appreciably over the first few months.

This same observation has been made by Henry Silver, who observed a similar phenomenon in first year medical students in Denver.² His conclusion was that many of the students experienced medical education as an abuse and that they rapidly gave up and began to feel hopeless.

Dr Fleming also observes that many medical courses seem to encourage continuous assessment and examination rather than learning about principles. Our whole system of medical examination and assessment seems to be of the type that disorients and demoralises medical students. Most medical schools have many examinations but do not provide comprehensive feedback on performance so that an examination becomes a moving goalpost at which students can aim only roughly.

I recently conducted a survey of 70 final year students at Sheffield Medical School and was startled to find an almost total absence of feedback on their performance. Forty nine of the students said that they had been surprised at some time in their training at their grades, thinking that they were either much higher or much lower than they deserved. Twenty one students claimed that they had no feedback on history taking skills in medicine or surgery, and 35 complained that they had no, or poor, feedback on clinical skills in medicine or surgery. Seven thought that feedback on taking histories was good and seven that feedback on clinical skills was good. Essay writing is still an integral part of most medical curriculums, yet 60 students were dissatisfied with feedback on their essay writing during the whole course; 53 were equally dissatisfied with that on multiple choice question examinations. Only 10 students were satisfied with the present feedback system; 49 did not even know what feedback was available through departmental heads or consultants.

Might I suggest that if examinations are to fulfil any purpose their aims need to be clearly stated and students need to be given regular feedback sessions, particularly on clinical skills and taking histories, so that they may improve their performance.

Few, if any, final year medical students contemplating the final examinations have any knowledge of the degree of skill required to pass or the types of subjects they should be studying beforehand.

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1 Fleming W. The national curriculum and medical education. *Br Med J* 1989;298:135. (21 January.)

2 Silver H. Medical students in medical school. *JAMA* 1982;247:309-10.

Broadening research in the NHS

SIR,—Professor Geoffrey Rose's comments on the lack of health services research in the NHS and the need for such research¹ are both welcome and timely.

The recent report on priorities in medical research by the House of Lords select committee, as well as addressing difficulties in the realm of basic research, made the point that no organisation of similar size to the NHS would be expected to function with such little attention to assessing its effectiveness and efficiency. There has never been a time in the history of the NHS when this type of research was needed more, and yet there is a lack both of motivated and experienced people to carry it out and of available research funds.

In East Anglia we have adopted a slightly different approach to the North West Thames Regional Health Authority but it is one which we hope will achieve similar ends. At its meeting in November last year the regional health authority agreed both to increase funds devoted to the health services research group based at the university department of community medicine in Cambridge (which is engaged in research projects commissioned by the nine health authorities within the region) and to set up a new health services research fund (of about £200 000 each year) separate from the existing locally organised research budget.

Experiences within East Anglia have been similar to those suggested for North West Thames. Applications to the locally organised research committee have, in the past, been largely from clinical or laboratory scientists based in academic departments or in large hospitals. Applications for applied research have been few and commonly of poor quality and, even when sound, have sometimes not been funded because the committee thought that they were outside the scope of the scheme as defined by the guidance at the time, being thought to be matters of management and not research. The complete separation of a health services research fund from the locally organised research fund with two independent assessment committees will, we hope, redress the balance in giving equal attention to applied health services research and to basic clinical and laboratory based activities.

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1 Rose GA. Broadening research in the NHS. *Br Med J* 1989;298:212. (28 January.)

Late renal failure due to prostatic outflow obstruction

SIR,—We agree wholeheartedly with Dr S H Sacks and colleagues on the importance of identifying men with bladder outflow obstruction who are at risk of renal impairment.¹ Some men whose renal impairment recovers after prostatectomy for benign disease may be at high risk of future renal impairment, and they should certainly be followed up more closely.

Unfortunately, identifying these men in general practice is not easy. The urologist with the benefit of access to ultrasonography can detect upper tract dilatation. Those with access to ultrasound measurement of residual urine volume in the clinic will be in a better position to evaluate these men, for a residual urine volume greater than about 150 ml predicts upper tract dilatation with a sensitivity of more than 85%²: most of these men also have a palpable bladder. Men who have both

large volumes of residual urine (>300 ml) and high pressure phasic activity on ambulatory monitoring³ or poor compliance on bladder pressure testing have the greatest risk of this complication.⁴

The following data illustrate the difficulty of using measurement of serum creatinine concentration to identify these men. We studied 32 men with chronic retention of urine (>30 ml) due to bladder outflow obstruction in whom glomerular filtration rate determined with edetic acid labelled with chromium-51 and serum creatinine concentration were measured and renography performed. Of 15 men with upper tract dilatation, two had a glomerular filtration rate >60 ml/minute and no fewer than nine of the 15 (60%) had a serum creatinine concentration <200 µmol/l. Measurement of serum creatinine concentration is therefore insensitive in detecting upper tract dilatation and may lull the doctor into a false sense of security, cheap and easy though it is to perform.

What can be done to detect these men before irreversible renal failure develops? One problem is that commonly they have not consulted their doctor previously: too many elderly men ignore worsening symptoms of prostatism. The second point is that doctors should examine patients with prostatism: those with a palpable bladder, involuntary loss of urine, and certainly those with an increased serum creatinine concentration should be referred urgently for a urological opinion. Unfortunately, a large proportion of men with upper tract dilatation will not be detected by this method. The solution may be that more men will have to have easier access to a urological opinion.

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DF-2 infection

SIR,—I was intrigued by Dr W P A Whitehouse's letter on infection with *Pasteurella multocida*.¹

I have seen three, possibly four, patients infected with this organism in the past six years. The first was a 45 year old man who developed meningitis two days after having nasal polypectomy. *P. multocida* was cultured from his cerebrospinal fluid, and he recovered fully after treatment with benzylpenicillin. He was a delivery driver for an animal foodstuffs company and allowed dogs to lick his face when visiting farms. His son was simultaneously admitted with meningitis, but no central organism was isolated. This occurred during the school summer holidays, while the son had been accompanying his father on the delivery rounds: I wonder if he might have been infected in the same way.

The two other patients, a boy of 7 and a girl of 13, both had intermittent ear discharge as a result of longstanding perforations of their tympanic membranes. In both *P. multocida* was isolated from an ear swab during a flare up of the discharge, which resolved on treatment with ear drops containing steroid and neomycin. Both of them allowed their pet dogs to lick their ears and faces.

As Dr Whitehouse states, *P. multocida* is commonly cultured from wounds caused by dog bites;