This last matter is of no small importance for, on the strength of this opinion, accepted, so far as I know, with what seems to me inadequate challenge, the whole of our profession is being stampeded into agreeing to an exception being made in the Medicines Act in respect of nurses (not to refer to pharmacists, though in this connection it is worth asking when it became accepted that prescribing could be divorced from the medical examination of the patient). If this exception is carried through it allows nurses to prescribe, in however restricted a sense—a task for which they are not trained as doctors are—without their being obliged to accept the responsibility which every doctor who prescribes must carry.

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Revised career structure: first priority

SIR,—Mr D Innes Williams's article (13 January, p 144) on "Revised career structure: first priority" is timely, clear, and succinct and seems to me like a breath of fresh air in the current debate on this issue. It matters little whether the title be hospital specialist or consultant for the service career grade, with later progression to senior consultant. Clearly, though, no one would make the job title "subconsultant"; it was surprising the effect in my old school when we changed from prefects and subprefects to prefects and senior prefects!

MICHAEL H BEST

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Thoughts on hospital staffing

SIR,—In his paper on hospital staffing (2 December, p 1581) Mr I K Mathie spells out very clearly some of the problems of the present system and some of the solutions that are possible. He omits two very important points—firstly, that the current hospital staffing structure will continue to depend on substantial numbers of foreign graduates to fill SHO and registrar posts; and, secondly, that because of the considerable rise in medical graduates trained in UK medical schools that started in 1977 there will be increasing difficulty for registrars seeking their next job. This difficulty, already with us, will become more acute from August 1982, so that there is little time left for the profession to design and implement a new staffing structure for hospital medical staff.

These conclusions follow from a study of two tables in the DHSS document *Medical Manpower, The Next Twenty Years*, quoted by Mr Mathie. Table A7 details the medical school intake and medical graduate output from UK medical schools from 1960 to 1977. The rise in output from 1844 doctors in 1961 to 3045 in 1977 occurred in big steps in 1968, 1974, and (the largest)—296 extra graduates) 1977. The pass rates in the last five years have been about 92% (women do better at 94%), and their number has doubled from 486 in 1971 to 972 in 1977. The steep rise in output will continue to at least 1981, when 3350 doctors should qualify from UK medical schools.

Table A11 gives the breakdown of permanent hospital medical posts from 1970 to 1977. In 1977 there were 3240 HO posts, 9197 SHO posts, 6567 registrar posts, and

3017 senior registrar posts. There should be enough HO posts until 1981 to satisfy UK-trained graduates unless many more than 92% qualify. Even if every UK-trained graduate does two SHO posts there will be over 2600 posts left vacant. About 1400 doctors leave the hospital service each year, mostly to enter general practice, leaving the rest to compete for registrar posts. Again, there should be no problem for UK-trained graduates, and there should be 3300 posts over. This leaves a total of nearly 6000 SHO and registrar posts that could be and may need to be filled by foreign graduates. One way in which all these posts could be filled by UK-trained graduates would be to increase the medical school output of doctors to 4500 per year; another would be for all doctors to spend another term as SHO and as registrar. Both these remedies would exacerbate the problem of registrars finding posts when they have completed their contracts.

Each year about 700 consultants are appointed, usually from senior registrar posts. Thus about 700 senior registrar posts fall vacant each year. In 1977 there were a total of 3028 registrars who were UK and Irish born, and presumably half of them will have completed their two-year contract in 1978. With the inevitable rise in medical graduates by 1982, there should be over 3250 UK-trained graduates (excluding the Irish) in registrar posts, with over 1600 seeking further posts. Where will the excess registrars go?

If women medical graduates continue in full-time hospital posts in the same proportion to the men as when they qualified, then 1040 are likely to occupy registrar posts in 1982. Five hundred and twenty will be seeking senior posts, which they may very well want to do part time; they will be competing with 1080 men for the 700 senior registrar posts. It is more than likely that the women will be the unlucky ones, because they will be more difficult to fit into the staffing structure, however able they may be.

In my view the hospital staffing structure must change sooner or later, but the recent rise in medical graduate output from UK medical schools will force this change sooner rather than later. It must be in operation by August 1982, otherwise the solution will be forced on us, and it may then be both not of our choosing or to our liking.

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Fee for service or capitation fee?

SIR,—Like Dr T D Whitefield (25 November, p 1503), I read with interest the report by Dr K C Harvey regarding the Ontario Health Insurance Plan (28 October, p 1241). I also have worked as a general practitioner in both Britain and Canada, and endorse Dr Whitefield's comment that the fee-for-service system of payment raises the standard of medical care to the patient and is fairer for the doctors concerned.

I have to challenge Dr Harvey's final statement in his article, when he states that the attractiveness of the fee-for-service method of payment must be balanced against the level of controls, regulations, bureaucracy, and apparent reduced personal freedom which

follows its implementation. While the insurance plan (Medicare) might be under governmental control, the providers of medical services (physicians) most certainly are not. Apart from a few doctors employed by agencies such as the Workers Compensation Board and the Public Health Services, the vast majority of physicians in Alberta (and indeed in all provinces in Canada) are in private practice, and it is the intention of most physicians to keep it this way.

Can Dr Harvey, or any other proponent of the capitation-fee system, demonstrate its value and effectiveness as compared with the fee-for-service system? As a regular reader of the *BMJ*, I am astonished at the articles and letters which are published revealing all too clearly the shortcomings of the British system (for example, the letter from Dr G F G Woodman entitled "Shortcomings of the NHS: a yawning chasm," (21 October, p 1158)).

In Canada each provincial Health Insurance Plan is different, and there would be some merit in Dr Harvey's looking at the situation in Alberta, which has managed to avoid some of the difficulties experienced by physicians in Ontario. Physicians in Alberta can accept the Medicare benefit as payment in full, or ask the user (that is, the patient) to pay the balance if the physician's fee is greater than the benefit paid on his behalf by Medicare.

In Canada the political advantages of Medicare are now exhausted and it appears that the Government is anxious to find ways to limit its involvement in the health care delivery system.

A G DAWRANT

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Selection of medical students

SIR,—Bobbie Jacobson (Personal View, 9 December, p 1638) makes some telling observations about the selection of medical students. However, she does not make the necessary distinction between the "fairness" of a selection system and its "effectiveness."

A "fair" system is one which is explicit and open, under which applicants know all the rules and in which there are no hidden criteria. (An example is that used in the state medical schools in the Republic of Ireland, in which, to avoid any possible charges of discrimination, the only determinant of any significance is the applicant's school leaving grades.) An "effective" system on the other hand is one which fulfils its own objectives: the type of student sought is in fact selected.

Are the systems in our medical schools effective? It is difficult to tell, as it is customary practice neither to publish any objectives for the process nor to evaluate the result. Jacobson rightly suggests that this situation requires improvement. Are our selection mechanisms "fair" then? Polly Toynbee¹ recently sat in on a day's interviews at a teaching hospital: her description of the extraordinary processes which occurred suggests—if true—that, in this school at least, the process is far from fair. Certainly some schools establish targets for different groups of students (for example, reasonably enough, students from outside the UK); however, these can and do include unpublished quotas for women and, in the case of at least one school, Scottish (as opposed to English) applicants. The criteria operating in the selection process are thus not always made explicit.

The fairness of the selection process is inevitably largely under the control of individual medical schools; but could there not be a "code of good practice," which might, for example, outlaw "secret" quotas, recommend the provision of visits to the medical school for prospective customers, and even suggest minimum entry qualifications for school-leaver applicants? Improving the effectiveness of the system depends on more explicit definition of the objectives of basic medical education, and the implications of these. As Jacobson suggests, more research and development (and frankness) are needed if we are to create a fairer and more effective system.

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¹ Toynbee, P, *Guardian*, 18 December 1978, p 13.

Points

Postoperative pain

Dr F P ANTIA (Bombay) writes: Your leading article "Postoperative pain" (19 August 1978, p 517) mentions two patients undergoing identical types of surgery perceiving different degrees of pain. I do agree with your observation that personality differences account for some of the variations. However, ... do we know anything about the pain that may occur due to cutting of various deep or superficial small parietal nerves and the consequent pain due to their resection and healing? Would not such factors contribute to the variations in the perception of pain by the patients?

Shingles: a belt of roses from Hell

Dr F R C MANNING (Epsom) writes: I regret the depressing statements in your leading article (6 January, p 5). ... Since publication of the results of 97 cases of herpes zoster treated with short-wave diathermy to the spinal cord,¹ some 300 further patients have been given this treatment, mostly with great benefit. The possibility that the effects are entirely psychosomatic is irrelevant; a large body of local practitioners and their patients will bear witness to the fact of the rapid relief of symptoms, particularly of postherpetic neuralgia, that this simple treatment can afford.

¹ Allberry, J, Manning, F R C, and Smith, E E, *Practitioner*, 1972, 208, 687.

Dr R E CHURCH (Hallamshire Hospital, Sheffield) writes: With reference to your leading article (6 January, p 5), although you may be unable to find published evidence that zoster can be contracted as a reinfection with a virus from a patient with chickenpox or zoster, those of us who have seen epidemics of chickenpox among children, in which those previously affected with chickenpox develop herpes zoster, will continue to maintain this common belief until you can prove otherwise.

Dr J B TRACEY (Exeter) writes: With reference to your leading article (6 January, p 5) ... One evening, I had an urgent call to a child who, breaking off suddenly from play, had been

having what his father vividly described as a "brainstorm," clawing at him and "yammering" in an indistinguishable flow of words. ... The only evidence that I could find to make a possible diagnosis was a single typical chickenpox vesicle on one shoulder only; the rash duly appeared on the following morning. I was already familiar with the nightmares that commonly precede the eruption of varicella by a few hours and warned the parents of this possibility in contacts to spare them anxiety. Having had relief of long-standing postherpetic neuritis in some cases by the injection of cobalamin intramuscularly, in a number of cases of senile herpes zoster I gave this prophylactically. I wonder if others have done this.

Drs N P and G SILVERTON (Leeds) write: With reference to your leading article (6 January, p 5) on shingles ... most patients seem to present because of pain, and if the rash has already resolved, there can be considerable diagnostic difficulty, especially in the chest or abdomen. Where the history or physical signs make the diagnosis more obvious, it has been our practice to prescribe a small dose of a phenothiazine (say, chlorpromazine 25 mg twice daily), in addition to the minor analgesia which patients have normally already been taking. The symptomatic improvement in some cases has been most impressive, and even patients requiring opiates as inpatients have responded sufficiently to be able to cope with minor analgesia.

Dr L G MORGAN (Medical Department, Inco Europe Ltd, Swansea) writes: Readers of your recent leading article (6 January, p 5) on shingles may be interested to know that in 1900 an extraordinary number of cases of "alcoholic paralysis" were admitted to the Workhouse Hospital in Manchester and many of these had herpes zoster. ... Septimus Reynolds, a physician of the Manchester Royal Infirmary, remembered "that arsenic was the only known drug that produced herpes." He immediately tested the local beer for arsenic content and found it to be present. The arsenic was eventually traced to the sulphuric acid used to convert cane sugar to invert sugar required for brewing, and with its removal the epidemic ceased.

Dr A C CATTANACH (New Milton, Hants) writes: Zoster, you say in your leading article (6 January, p 5), must be treated early. Surely this must imply what you do not mention—namely, prophylaxis. Because chickenpox is generally a mild illness there is no clamour for immunisation in childhood. Perhaps, because zoster is a common, depressing, painful, and disfiguring condition, we should risk the possibility of being wrong in our ideas about the connection and immunise all who have not had chickenpox.

Viruses and reclaimed water

Dr G MYDDELTON (Vaud, Switzerland) writes: With reference to your leading article on viruses and reclaimed water (16 December, p 1662) ... what is needed is the establishment of an alternative new water supply to the metropolis for drinking purposes only, brought in by pipe line from some distant pure source

and charged for by meter at its true economic cost. A supply of 10 litres per day each for a population of 10 million should be enough for drinking, cooking, and food manufacture and could be supplied by a pipe 70 cm in diameter with a flow of 3 m per second. It will have to be done one day—why not start now?

Glue ear, grommets, and swimming

Mr A L PAHOR and Dr D A CAUSER (Dudley Road and Hallam Hospitals, Birmingham) write: With reference to your contributions on this subject (5 August, p 420; 4 November, pp 1247 and 1301; 25 November, p 1497; 9 December, p 1649), we agree with Mr P E Roland that children frequently have little trouble when swimming with grommets in situ and support the finding that hundreds of such children do swim with no ill effect, but we also agree with Surgeon Captain P W Head that water passes very freely through the grommets into the middle-ear cleft. We carried out experiments ... showing that at a depth of 1.8 m the eardrum needs to move 1 mm to accommodate the increased pressure, otherwise water enters the middle ear. If the eardrum does not "accommodate," 0.08 ml of water enters the middle ear—more with repeated dives. Thus we conclude that it is safer to provide children with plugs and allow them to swim. ...

Possible effect of time on renal allograft rejection

Dr D P PAPWORTH (Department of Anaesthesia, Westminster Hospital, London SW1) writes: I noted with interest the paper by Dr M S Knapp and others (13 January, p 75) relating the time of rejection of renal allografts to circadian rhythm, their results in particular suggesting the most likely time being around 6 am.

It has long been an integral part of traditional Chinese medicine to recognise a circadian rhythm of energy flow to the body organs, the cycle beginning at 3 am with an energy peak in the lungs. Most appropriately, the Chinese circadian clock would put the time of minimum energy level in the kidney between 5 and 7 am.

This concurrence of Eastern and Western medicine suggests an excellent opportunity of testing the possibility and practicality of using Chinese and Western medical techniques in conjunction. I wonder if the use of Chinese medical technique to increase the energy level in the kidney, after renal transplantation, might reduce the incidence of rejection ... and would be interested to know the views of an expert acupuncturist. ...

"Trump cards for GPs"

Dr E D IRVINE (Exeter) writes: Dr Andrew Smith (6 January, p 46), after praising some area medical officers as "surprisingly responsive," makes the snide aside "—not a bit like the former medical officers of health." He should know that a generalisation like this is silly and unworthy of a university teacher. As one of the former medical officers of health, I have known very many of them and the great majority were very reasonable and approachable: they had a difficult and often pioneering job to do and they did it well.