is possible. It is commonly believed that bilateral sciatica and a past history of lumbar disc disease are precursors of sphincter paralysis. We stress that the leg pain may be unilateral—or even non-existent. If it is non-existent there will be rectal or vaginal pain, which may not be prominent when the patient presents. Furthermore, many of our cases presented during the first attack of lumbar disc disease.

Urinary retention associated with centrally protruded discs is generally painless, and the abdomen should be examined for an enlarged bladder in suspected cases. Neurological examination should include a careful search for sensory abnormality in the perineum between the buttocks. It has been suggested⁴ that the patients who fail to recover sphincter function after operation may suffer from intractable urinary infection and renal damage, but our experience and that of others⁶ does not bear that out. Most patients can empty their bladders voluntarily, though some may require bladder neck resection.⁷ Faecal continence is also possible with regular suppositories, thus allowing patients to have a normal social life, the one embarrassment being the complete inability to control flatus.

Despite the lack of correlation between the length of the history (table) and result of operation, we believe that an emergency operation is mandatory. Although partial loss of control of the sphincter may persist for as long as one year, in some cases there was a complete lesion within 24 hours. Delay surely allows a partial cauda equina lesion to progress to complete sphincter and sensory paralysis. A neurologist should be consulted urgently to provide the best possible prognosis.

We believe that previous reports, though gloomy in outlook, have drawn attention to this condition, leading to earlier diagnosis in many instances, and this seems to be borne out in our own unit since Shepherd's⁴ paper.

We thank Mr B A Harries, Professor V Logue, and Professor L Symon for permission to include patients under their care.

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References

- ¹ Mixter JM, Barr JS. Rupture of the intervertebral disc with involvement of the spinal canal. *N Engl J Med* 1934;**211**:210-5.
- ² O'Connell JEA. The indications for and results of the excision of lumbar intervertebral disc protrusions; a review of 500 cases. *Ann R Coll Surg Engl* 1950;**6**:403-12.
- ³ Jennett WB. A study of 25 cases of compression of the cauda equina by prolapsed intervertebral discs. *J Neurol Neurosurg Psychiatry* 1956;**19**:109-16.
- ⁴ Shepherd RH. Diagnosis and prognosis of cauda equina syndrome produced by protrusion of lumbar disc. *Br Med J* 1959;**ii**:1434-9.
- ⁵ Robinson RG. Massive protrusions of lumbar discs. *Br J Surg* 1956;**52**:858-65.
- ⁶ Lozada L, Buckley TF. Cork discs; a survey of 339 operated cases. Society of British Neurological Surgeons, Autumn Meeting, 1980:41-60.
- ⁷ Scott PJ. Bladder paralysis in cauda equina lesions from disc prolapse. *J Bone Joint Surg* 1965;**47**:224-35.

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For Debate . . .

Medical manpower and the career structure: a new approach

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Abstract

A change in the ratio of trainees to consultants is necessary: despite being the agreed policy of the profession and DHSS, existing central planning machinery has failed to bring about its implementation. There is no reason to suppose that central methods can ever achieve the desired ends without intolerable constraints on the liberty of doctors. Freedom for individual groups of consultants to negotiate local changes in manpower coupled with inducements to both them and the authorities would seem to provide a promising approach that has not yet been adequately debated or explored. In the nature of it such an idea is unlikely to be attractive to central bureaucratic organisations, whether governmental or professional.

Introduction

Everyone now accepts that there is a serious imbalance between the number of doctors in the training grades and in the career grades. While partly manageable when the junior ranks contained a large proportion of immigrant doctors able to re-emigrate, the rise in the number of British trained graduates is rapidly bringing matters to crisis point.

There is also little disagreement that there are only two possible solutions. A semi-permanent career grade other than consultant (sub-consultant grade): this has repeatedly been ruled out and seems unlikely to be ever acceptable. The alternative, a considerable expansion of the consultant grade, with some contraction of registrar numbers, has been the agreed policy of both DHSS and the profession for a decade, and is enshrined in the "Third progress report."¹

It is commonly asserted that this policy has failed. This is not so: it has merely failed to be implemented. To quote the Medical Practitioners Union (MPU) on this point, "... the problem has been ... the failure of those who are responsible for central planning to persuade those who possess power locally to pursue the central policy, and the lack of any mechanism to constrain them to do so. Our present problem has been created not by central and regional manpower committees but by the failure of medical executive committees at district and area level to follow

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the national policy."² Against an intention to expand the consultant grade by 4% a year must be set the reality of an actual expansion between 1971 and 1979 of 2.78% a year. This may not seem a disastrous difference, but because of the effect of compound growth it amounts to a shortfall of about 1200 consultant posts, or 10% fewer than was actually intended. The clamp on the number of registrars has been more successful, as one would have expected given the way the system works, but even so the overall ratio of consultants to registrars has moved adversely during these years.

How can the solution be implemented?

Given virtually unanimous agreement on the nature of the problem and the desired solution, and having identified the reason it has not been achieved, debate in recent times should have been centred on ways of removing the difficulties in the way of implementation. Yet, astonishingly, this has not been so. When the proposals outlined below were first publically aired (at a conference chaired by the Chief Medical Officer, DHSS, June 1980) they were regarded as too revolutionary to merit serious discussion. There are some signs, however, that influential opinion is moving. Mr Bolt, chairman of the CCHMS, recently suggested to the House of Commons Social Services Committee that they should look to the consultant contract for a solution to the staffing problem.³ So far, however, I have not been aware of any close analysis of the principal types of options open to achieve the desired ends, although examples of one possible approach have been promoted in the paper "Hospital staffing in the 1980s"⁴ and by the MPU, whose solution in principle is very similar: strange bedfellows. (In passing one may observe that it is a pity that the trade union and socialist bias of this organisation makes its views so generally unacceptable to most doctors since their general analysis of the problem is well reasoned and only their solution is, to me, wholly unacceptable.)

The facts of life are that the pressure for expansion must arise at the periphery and must be influenced almost exclusively by local rather than national considerations. Central intentions, when it comes to expansion, are not implementable unless there is a comparable demand for expansion at grassroots level. Indeed, if there is to be any element of selectivity or redistribution the demand for expansion must actually *exceed* that which is planned. Requiring central approval for the creation of new posts can only check demand, not increase it. Our current methods are akin to trying to control the speed of a motor car by using only the brake, relying on the whim of others to press the accelerator. Manpower planning guidelines have about as much impact on the outcome as changing the price of petrol.

The solution then boils down, very simply, to a choice between devising ways of motivating the local consultants to want consultant expansion rather than trainee expansion or, alternatively, of devising more effective means of ensuring that their natural wishes are frustrated. For convenience, I shall call these either devolutionist or centralist approaches, although they could equally well be designated libertarian and authoritarian. There is, of course, the possibility of applying elements of both policies, but it is fruitful to analyse them separately.

Current motivators

What determines the frequency with which those at the periphery feel motivated to expand medical staffing? Let us take a realistic look at the options facing, say, a group of four general surgeons when they are asked to suggest corrective action for long waiting lists. An additional consultant colleague will mean for each of them, personally, at least a possible reduction in outpatient clinic time; less operating time; fewer

beds; a smaller share of the trainees' time; less influence (five people's views to consider instead of four); a potential cut in income from private practice of unknown magnitude; and the possible loss of a proportion of the more interesting patients to the new man's special interest. Unless the necessary facilities (theatres, anaesthetists, beds, clinics) can be expanded the overall waiting time will not be reduced, no more work will get done, and each will find himself less than fully employed to his own satisfaction.

Suppose, however, that they press for an extra registrar, SHO, or clinical assistant; how different it all looks. More of the "less interesting" work can be hived off as excellent "training experience"; with someone to do the follow-ups, more new cases can be seen; there will be a deputy should any urgent domiciliary consultations be called for or a family crisis arise; a better standard of care should follow; and probably less out-of-hours disturbance. It does not need much insight to see why initially registrar, and then SHO, expansion has proceeded apace and left consultant expansion lagging behind.

A more centralist solution?

The climate, both in the NHS and in the general political field, is towards devolution. The 1974 reorganisation devolved major powers to statutory health authorities leaving DHSS with a mainly advisory role. The 1981 reorganisation moves the process even further. The political party in office favours increased choice for the individual and reduced involvement of government. Those who argue for stronger central decision and control must recognise that they are swimming against the tide.

Their case would be stronger if there was any track record to support the view that such matters can be accurately planned or controlled. The planning of medical manpower has seen some notable miscalculations. Remember Goodenough.⁵ Even knowing the number of likely consultant vacancies in one specialty, anaesthetics, a mere two years hence, has not enabled the planners to provide an adequate number of senior registrar applicants. The vagaries of human behaviour have defeated them so that, for example, there are now fewer applicants per consultant post, shorter periods in the senior registrar grade, more locums, and more unfilled consultant posts in anaesthesia than ever before, and this on senior registrar numbers that should have been more than enough.

The Nabarro proposals⁴ are a distinct step down the road of making sure central planning is not upset by individual decisions. The number of higher training (HT) registrar posts would be decided centrally, although on what rational basis half a dozen individuals would decide that this region should have more and that region fewer is far from clear. To avoid the development of a queue for higher training posts ("We must have someone with wide experience") trainees *would not be allowed* to have more than a fixed time in such a post in the same specialty. How will they be stopped? I cannot believe a department with an unfilled vacancy and a suitable (and experienced) candidate will not find some way. Will they have to check with all previous employers and validate the accuracy of the curriculum vitae? Anyway, why should not the persistent and dedicated individual try again? The number of honorary contracts in each region would also be centrally determined. There are, on average, fewer than two honorary senior registrars in anaesthetics per region. Is my friend X to have two while my colleague Y, whose work I do not rate very highly, is held to one? As for Nabarro's assumption that a cut in trainees will make consultants apply for another consultant colleague or do the work themselves, it does not need much imagination to envisage other scenarios. Cut one SHO on the surgical side? Well, one SHO will have to cover for surgery and obstetrics. Cut one SHO on the medical side? One will have to cover paediatrics and general medicine, and so on. I have worked in hospitals abroad where two moderately experienced trainees covered the clinical emergency work of the

whole hospital after 5 00 pm. As for the clinics, what is to stop a consultant deciding to see fewer new patients each time now that he has to do his own follow-ups? A longer wait for an appointment may be no bad thing for the consulting practice, anyway.

Under Nabarro, the flower of our British medical schools would be protected from unfair competition from the schools of the Indian subcontinent by various restrictions. It does not seem to be appreciated that while someone may prefer to work almost indefinitely as a registrar in the NHS rather than work in the Indian medical service, they may not be so keen when one of the alternatives is to be out of work: as the number of British graduates increases, that is increasingly the option that they will face. Indeed, clear signs of this exist: hospitals in the Arabian Gulf now have many medical staff making their way home to India or Pakistan from training posts in the United Kingdom—an excellent example of the unplanned self-corrections of which a free system is capable.

The MPU inevitably also favours a centralist solution, but they have seen the weaknesses of such half-measures, and their proposals are enough to send a shiver up any libertarian's spine. Each specialty would have to decide the duration of training so that regional manpower committees can decide how many consultant vacancies in each specialty there will be the appropriate number of years ahead and take in the exact number of trainees required. No room here for the high-flyer, the man taking his own route, the year abroad, or two years in research. He will muck up the planning completely. Such an approach takes too little account of the difficulties of reliably predicting the required numbers so far ahead. For example, there are 129 anaesthetists in the 60-64 age group in England and Wales,⁶ which one might suppose would indicate about 26 retirement vacancies a year. But, on the basis of what has actually happened over the years, the DHSS is projecting an average of 64 retirement vacancies for each of the next four years. This enormous disparity is due to those who die before retirement, retire early, emigrate, go into industry, or become postgraduate deans or professors of medical education. Having arrived at this actuarial estimate one has to add the likely number of new posts, which itself is the complex resultant of general economic factors and changes in the practice of medicine. The possibility of getting it monumentally wrong is quite high, and if it is wrong then on the MPU model there may be only foreign applicants for some of the vacancies when the time comes or, even worse, no vacancies for some of our own trainees.

Further refinements of control which they recommend are that employers would not be allowed to accept anyone for specialist training if he had been misguided enough to have two years' experience already (although it is not clear how you can be sure that he has not). If he did stay he would be counselled so "that he knows perfectly well that *there is no chance whatever* of him attaining a consultant post in the specialty in the United Kingdom" (my italics). There speaks the true voice of authoritarianism.

To bolster the system the MPU sees that the central medical committee would need to have powers "to restrict the total number of doctors employed in any region" and further "to restrict the total number of doctors employed in any region in any specific specialty." Just in case that is not enough, they foresee a need for "reserve powers," which would require a doctor who had done his two years and was no longer eligible to enter a specialty training post to apply for central permission before continuing to hold even a non-training post in that specialty in that region.

I have enlarged on this at possibly undue length because so few people seem to appreciate the impracticality of such central solutions without a great deal of control of doctors. Indeed, one can say quite confidently that to make such solutions work would require doctors to be subject to limitations on their freedom much greater than any normally imposed in a free society and certainly more than those on any other professional group in Britain.

A devolutionist solution?

It has already been argued above that what is needed are ways of motivating consultants to ask for a consultant colleague. Sometimes this will need to be in exchange for a trainee. By no means is it necessary to motivate all consultants in this way. In anaesthesia, for example, the substitution of consultants for 200 out of the nearly 900 registrars is all that is required, and even this needs to be phased over about five years. How can this be done? For some reason there seems to be a reluctance to admit the proposition that money is an important motivator of doctors. Those who doubt this may care to explain why large numbers of anaesthetists take themselves to Sweden, Holland, or the Middle East for part of their annual leave, and work in a way that is generally held to be unacceptable, doing the night calls without benefit of trainees. Of course, money is not the only motivator, and the special structure of medicine in the United Kingdom has resulted in alternative benefits being an important factor. Nobody, however, I think would deny that, while the factors that motivate any individual are unpredictable, overall one can influence the state of affairs with various inducements that may or may not have a direct monetary value but which for that individual have a monetary equivalence or, in economists' jargon, "an opportunity cost." For example, making the salary of a pathologist twice that of a surgeon or physician would certainly influence some young doctors in their choice of career. Obtaining £40 an hour for working in the operating theatre between 11 00 pm and 7 00 am might lead some younger anaesthetists to suggest that they could manage with one registrar less. Giving an obstetrician a free day after a night first on call might be very attractive to him if his ruling passion were birdwatching. The problem is to know how many individuals would respond to which inducements. Such an individual matter can be resolved only by individual decision in the personal context of age, temperament, motivation, geography, etc.

In fact, it could rarely be a totally individual decision since most consultants work in functional units of two or more consultants with one or more trainees. This functional unit is therefore the logical bargaining unit. The size of the functional unit varies substantially between specialties and is often not the same for different grades of trainee: the senior registrar may be shared between two firms, the registrars may rotate through four units, but the SHO may "belong" to only one pair of consultants. Every trainee, however, can unequivocally be assigned to a group of one or more consultants whose work or lifestyle is influenced by whether he is there or not. That is the unit whose decisions actually influence medical manpower distribution, and in my submission it is to this reality that we should be bending all our thoughts if we wish to bring about an acceptable change in the staffing structure.

The bargaining unit in action

The current reorganisation provides an opportunity to delegate down to district health authorities the power to bargain manpower changes within certain limits. Too drastic a change would be as undesirable as no change and regions might be set a target of, say, a 5% reduction in registrar posts in general surgery, obstetrics, and general medicine in the first target year. The regional manpower committee would need to monitor progress in each district to ensure that a suitable balance was being achieved throughout the region.

Clearly, however, the bargaining inducements available to the health authority are too few and too clumsy: a greater variety and range are needed. In particular, there is a need for substantial recall and out-of-hours payments—and, furthermore, the value of them would need to be locally negotiable if fine tuning is to be achieved. The role of central negotiation would be limited to agreeing a permissive framework: cash limits would provide the realism of what actually is achieved.

What if all the consultants in the bargaining unit cannot

agree? Consider a group of ten consultant anaesthetists with five SHOs and four registrars: suppose only six agree to the proposal to bargain away one registrar? This is only one variant of the general problem of the need for the health authority to be satisfied that the same level of service will continue after the change of staffing: this means defining what the registrar in question is actually doing in the way of work, and how that work is going to be covered. Any work done on his own may be taken over by the consenting consultants for extra sessional payments or they may be taken into a new hospital practitioner or associate specialist post, or by rearrangement become the kernel of a new consultant appointment. The on-call work may necessitate sessional adjustment—that is, time off in lieu, recall payments, or stand-by fees, or a combination of these. The mix would be a matter for local bargaining. In the process of definition it would become possible to isolate those consultants who wished for no change and to ensure that their sessions and rotas were not affected, the changes being confined to those who have chosen to become part of the bargaining unit. One immediate apparent potential benefit is that a clearer light would shine on the grey area of the “pair-of-hands” component of training posts. It would also show that good training posts may contain a good deal less than a week’s work, and where the work element was high there would be more to bargain about.

While in NHS terms such a freedom to buy out some training posts would certainly lead to disparities in income between places and specialties, the concept of “alternative benefit” suggests that in real terms it would merely be diminishing these disparities. Where there is much private practice, registrars may well prove to be literally priceless: elsewhere they will have their price, either in money or leisure.

Role of the centre

A devolutionist approach does not mean that there is not an important place for central negotiations to set the scene. The freedom to advertise unfilled posts at the top of the scale is an

example. The inducements to expand private practice will be a potent influence in encouraging an increase in consultants. But other initiatives are possible, particularly those directed at motivating the authorities. It is commonly said that any new consultant costs the authority X hundreds of thousands of pounds in support costs. Why not then give an earmarked allocation of development money of, say, £100 000 each year for the first four years for any additional consultant appointment in certain specialties, this money not to be available if no appointment is made? Perhaps it could be even more if there is a reduction in registrars in the same specialty! No doubt ingenious minds could devise other, more subtle, inducements.

Three tests are worth applying to all proposals for solving the staffing structure problem. The first is so self-evident that it hardly ever gets enunciated—namely, that one has to be able to start from the current set-up and be able to move to the desired end by gradual stages. Secondly, the change must be capable of being controlled to move in either direction. Finally, it should accord with what it seems likely that existing doctors (particularly consultants) will actually support in practice. I suggest that this approach passes all three tests.

References

- 1 Anonymous. Hospital staffing structure (medical and dental): third progress report. *Br Med J* 1972;iii:143-6 (suppl).
- 2 Medical Practitioners Union. *Medical manpower and career structure*. London: MPU/ASTMS, 1980. (MPU policy document.)
- 3 Russell W. Budget, White Paper, manpower, and waiting lists. *Br Med J* 1981;282:1004.
- 4 Anonymous. Hospital staffing in the 1980s. *Br Med J* 1980;280:1237-8. (Nabarro proposals.)
- 5 Ministry of Health Interdepartmental Committee on Medical Schools. *Report*. London: HMSO, 1944.
- 6 Department of Health and Social Security. *Hospital medical staff—England and Wales. National tables. 30 September 1980*. London: DHSS, 1981. (Table 8(A).)

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A 35-year-old woman with a 1-year-old child has had ischaemic necrosis of the lunate bone in the right wrist for eight months. There is secondary synovitis, and she suffers considerable pain when using the wrist. What is the treatment, and what is the prognosis with or without surgery?

Ischaemic necrosis of the lunate bone in the wrist is a traumatic condition and is as indicated, a form of vascular post-traumatic avascular necrosis. The lunate bone gradually becomes squashed, unbalances the row of carpal bones, and causes secondary osteoarthritis changes at the lower end of the radius. There are three courses of treatment. One is to remove the lunate, which often relieves much of the pain but leaves the patient with a weak grip. The second is to arthrodesis the wrist, which seems a big step without trying something else first. I would favour insertion of a silastic spacer after removal of the lunate bone. This gives reasonable results without weakening the wrist too much. The prognosis without surgery is that of an increasingly painful wrist in spasm with limited function; eventually there is so much pain that the patient may not use the wrist at all.

Is the advice that a woman taking a contraceptive pill should discontinue it if she is going to have a general anaesthetic still valid? If so, for how long before and after the anaesthetic should oral contraception be suspended? Does the advice apply to every anaesthetic, even for minor procedures such as dilatation and curettage or manipulation of the spine?

Only a handful of epidemiological studies have investigated the risk of postoperative venous thromboembolism in users and non-users of oral contraceptives.¹⁻³ All have come to the conclusion, however, that there is some rise in risk in those taking the pill. Accordingly, it would still seem to be advisable to withdraw oral contraceptives four to six

weeks before a major surgical operation whenever possible. The risk of venous thromboembolism after minor procedures of the sort referred to in the question is, however, so tiny that I doubt whether discontinuation of the pill is likely to be worth while in most cases. If the pill is discontinued before surgery a reliable alternative method of contraception must be substituted. I know of no paper which provides any information about how soon after a surgical procedure it is safe to restart oral contraceptives, but on an empirical basis I would suggest a couple of weeks after the patient is fully mobile.

- 1 Vessey MP, Doll R, Fairbairn AS, Gliber G. Postoperative thromboembolism and the use of oral contraceptives. *Br Med J* 1970;iii:123-6.
- 2 Greene GR, Sartwell PE. Oral contraceptive use in patients with thromboembolism following surgery, trauma, or infection. *Am J Public Health* 1972;62:680-5.
- 3 Sagar S, Stamatakis JD, Thomas DP, Kakkar VV. Oral contraceptives, anti-thrombin III activity, and postoperative deep vein thrombosis. *Lancet* 1976;i:509-11.

A man in his early 80s has had a hiatus hernia for 55 years. To combat heartburn he has taken magnesium carbonate tablets for 35 years, usually one or two after dinner and at night (bed head raised and three pillows)—any number up to eight tablets. Recently the pain and heartburn suddenly ceased, and he became completely eupeptic. What is the meaning of this change?

The interesting cessation of heartburn may be due to (1) spontaneous reduction in acid secretion from the stomach; (2) a stricture or a fundal carcinoma developing, which might form a barrier to reflux but which would usually produce dysphagia; or (3) the reduction in weight that sometimes accompanies aging. Nevertheless, it may remain inexplicable. Provided that no new symptom such as dysphagia, progressive anorexia, or weight loss have occurred no further action need be taken.