or her partner together may enable the doctor to ask about the influence of the disease on their partnership and thus allow them to discuss emotionally loaded topics together.

Local support groups can also be invaluable. Many patients and their partners find that the leaflets, meetings, and other facilities of the Multiple Sclerosis Society and Action for Research into Multiple Sclerosis provide support that neither health nor social service professionals can give.

Offering to help patients with multiple sclerosis and their families in these ways is a vital aspect of management and will remain so until traditional therapeutic endeavours become effective.

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Study of factors in atherogenesis

EDITOR,—We are the authors of a paper, published last year, on the interactions of serum copper, selenium, and low density lipoprotein cholesterol concentrations in carotid atherogenesis.¹ In the methods section we gave details of the assessment of atherosclerosis and stated (fourth and fifth sentences of this subsection): “The intima media thickness was measured from video recordings of the entire scanning procedures by the scanning physician (RS). The reader was blinded with regard to the subjects’ identify and whether she was reading a baseline or a two year follow up recording.” This part of the description of the method was inaccurate.

Technically speaking, the entire scanning procedures were not video recorded: roughly half of the whole scanning time was recorded. The recordings included, however, the imaging of the entire length of the common carotid arteries. Secondly, when the intima media thickness was measured the identities of subjects were not literally hidden from the observer as this was not possible. The baseline and follow up videotapes were, however, read in a random order. The reader was blinded to all risk factor values and, when she was reading the follow up tapes, to the baseline measurements of intima media thickness. We used the term blinded as the observer made about 8400 measurements over 13 months and could not possibly have remembered the previous readings for any single person. Also, the computerised videotape reading equipment gave the distance reading only after both the lumen-intima interface and the media-adventitia interface had been defined by cursors driven by software. We do not believe that these minor inaccuracies in any way undermine the validity of either our findings or our conclusions.

To verify this, the same observer repeated the baseline and two year follow up measurements of intima media thickness from the original video recordings, which had been stored for three to five years, in a random order and blinded, as far as possible, with regard to the identities of the subjects. The mean of the absolute differences between the original and repeat measurements was 0.07 mm (0.08 mm for the increase in two years). The intraclass correlation coefficient for agreement between all original and all repeat measurements

Mean increase in maximal carotid intima media thickness after two years (mm) (adjusted for age and cigarette pack years) according to serum copper and low density lipoprotein cholesterol concentration, from original and repeat measurements

	Low LDLC (<4.0 mmol/l)		High LDLC (≥ 4.0 mmol/l)	
	Original	Repeat	Original	Repeat
Low copper (<17.6 μ mol/l)	0.08 (n=52)	0.11 (n=52)	0.05 (n=25)	0.09 (n=25)
High copper (≥ 17.6 μ mol/l)	0.06 (n=22)	0.06 (n=22)	0.25 (n=27)	0.29 (n=27)

LDLC=Low density lipoprotein cholesterol.

was 0.91 (0.69 for the two year increase). The measurement variability was independent of both serum copper and low density lipoprotein cholesterol concentrations. We also repeated the main analysis of our paper (table III in that paper), using the repeat measurements of intima media thickness (table). All of the crude means and adjusted means (adjustment for age and cigarette pack years) were identical to within 0.1 mm of the original means (greatest difference 0.04 mm). The interaction between serum copper and low density lipoprotein cholesterol concentrations was, if anything, stronger (net difference 0.25 mm instead of 0.22 mm) than with the original measurements.

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Medical abortion

EDITOR,—In discussing the situation where a woman changes her mind after receiving mifepristone and as a result the fetus is born but with an abnormality, Michael Heard and John Guillebaud recommend that the “initial consent includes a woman’s agreement that she must take full responsibility for any outcome.”¹ The effect would be that the child would be deprived of any right of action in respect of any abnormality resulting either from use of the drug or from failure to continue using it.

Such a recommendation does not accord with the law. A “wrongful life” action by a malformed fetus claiming that it should have been aborted has yet to succeed in the British courts² but has been recognised in the United States as giving a right to damages for pain and suffering.³ Nor is it clear that such a right of action is barred by the Congenital Disabilities (Civil Liability) Act 1976. If a child does have such a right then it cannot be excluded by the mother signing a consent form. Similarly, an action by a child against the manufacturers of a drug alleging that its use caused the child injury while in utero could be brought under this act and any consent form signed by the mother would be subject to the requirement of reasonableness in the Unfair Contract Terms Act. And what about an action by a child resulting from negligently per-

formed in vitro fertilisation treatment? Why should a consent by the parents bar such an action? More debate is needed on this.

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- 1 Heard M, Guillebaud J. Medical abortion. *BMJ* 1992;304:914. (4 April.)
- 2 McKay v Essex Area Health Authority (1982) Q B 1166.
- 3 Curlender v Bio-Science Laboratories (1980) 165 Cal 477.

PPP and physiotherapy for senior citizens

EDITOR,—I recently received a letter from Private Patients Plan (PPP) announcing that those people who may receive tax relief on their premiums—that is, old age pensioners—may receive physiotherapy benefit only if the physiotherapy is ordered by a consultant and not if it is recommended by their general practitioner. My letter is not to debate the merits or otherwise of the announcement but to draw attention to the source from which it originated. I would expect such a decision to have been arrived at by the medical advisers to PPP. In fact, it has been imposed on PPP by the Inland Revenue, and, seemingly, PPP has accepted it without demur.

In its letter to me PPP says that until now it paid for physiotherapy provided it was satisfied that the physiotherapy had been ordered by a doctor. The letter then goes on to say, “The Inland Revenue have now advised us that they are not prepared to allow that situation [as outlined above] to continue in respect of subscribers claiming tax relief.”

Subscribers claiming tax relief may be just the people who need this benefit most. I have written protesting strongly to PPP for having permitted the Inland Revenue to rule in what is surely a clinical matter. I hope that all medically qualified senior citizens will do the same, for I see no reason why our financial position should permit the Inland Revenue to control or dictate our clinical treatment. If this matter passes without protest who knows what the next infringement of clinical freedom may be?

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Patterns of hospital medical staffing

EDITOR,—*Achieving a Balance* aimed at providing trainees entering a chosen discipline with a reasonable chance of eventually becoming consultants, and regions have been wrestling with quotas for registrar and senior registrar posts set by the Joint Planning Advisory Committee to bring higher professional training into balance.¹ In the West Midlands region this has now largely been achieved, and most disciplines are on target to achieve their 1995 registrar quotas. The implementation of the heads of agreement on junior doctors’ hours, however, has the potential to swamp the principles of *Achieving a Balance*.

The heads of agreement principles can be achieved in only two ways. One is to recruit junior staff, particularly at the senior house officer level, as necessary to provide for appropriate rotas or shifts across the board in all disciplines. The present number of such trainees is not sufficient for this to be possible except in large hospitals, and even then such legal rotas or shift systems will be achieved only by enforcing cross cover between related and sometimes barely related specialties. Given the current number of graduates in the United Kingdom, it would be possible to staff an increased number of senior house officer posts only by recruiting from overseas, and from the Euro-

pean Community in particular. There would then have to be a considerable increase in career registrars and senior registrars, which would negate the intention of *Achieving a Balance* just as it was beginning to become really effective, or there would be many senior house officers in the system with no prospects of promotion.

The staff grade and other non-training grades are not the answer: they cannot be expected to solve the on call commitment in any appreciable way as the number of such posts is limited to a maximum of 10% of the consultant establishment. The alternative is for an increase in consultant numbers without a commensurate increase in junior staff and for a change in consultants' working practice. In many disciplines consultants would have to work in larger teams and accept being on call, often with only one level of cover. They would be involved in much more day to day care. This message has not yet been made clear to the consultant body, but I suggest that this is the only way in which the aims of both the agreement on junior doctors' hours and *Achieving a Balance* can be reconciled.

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1 Carney A. Patterns of hospital medical staffing. *BMJ* 1992;304:1197-8. (9 May.)

EDITOR,—Andrew Carney's article on patterns of hospital medical staffing does not address the main problem—namely, the lack of a career grade equivalent to the army rank of major.¹ *Achieving a Balance* has always been unrealistic—demonstrably so in the light of the recent heads of agreement and the new restrictions on juniors' working hours.

The medical career structure in hospitals suffers from several main defects, among which are that everyone has to reach the top; that clinical responsibility is equated with the top grade; a failure to accept at junior level the need for both career and training posts, to the detriment of both; the false concept of a fully trained, rather than adequately competent doctor; and that a consultant's job has too many facets, with inevitable professional and geographical conflicts.

In the services the bottom three ranks are roughly equivalent to preregistration house officer, senior house officer, and registrar (including senior registrar). Once initial regimental training is complete officers spend periods at these levels in regimental work and training work—for example, attending staff college courses. All are guaranteed promotion to regimental officer at field rank; at this rank they are fully professionally competent but are able to take advice from above. The competent move upwards to the general ranks and the less competent sideways to less taxing jobs. In the health service there is no career grade that everyone must achieve, and through which everyone must go, but is not the top. Promotion from senior registrar to consultant is the equivalent of promotion direct from captain to general. Until there is an equivalent to field officer in the health service the career structure will inevitably result in overwork for junior staff and violent fluctuations in supply of, and demand for, consultants.

A middle buffer to smoothe these problems out is essential for a successful career structure. On promotion to this specialist grade doctors would be competent specialists with clinical responsibility but able to take advice from consultants in the same way that general practitioners do. Those good enough would be promoted to do true consultant work, while the less competent would move sideways to do less taxing, but nevertheless essential, sessional work. This would give those responsible for acute emergencies and the very ill, including the new specialists, time to concentrate

on this work with some relief of the routine workload. Consultants would contribute to clinical medicine, management, research, and national advisory machinery, for which they would be paid, and would tend to specialise more in one type of work than at present.

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Racial discrimination in registrar appointments

EDITOR,—The proposed investigation by the Commission for Racial Equality into alleged discrimination against ethnic minorities in the appointment of consultants, though most welcome, is not likely to come up with the full facts.¹ Consultants can be appointed only from candidates who have risen through the system to the senior registrar cadre. The chance of doctors from ethnic minorities achieving this is hampered by their inability to get a good registrar post. It is generally known that many otherwise well qualified senior house officers are unlikely to be short listed for registrar jobs simply because their names are easily recognised as foreign.

The restrictive system of appointment to registrar posts that have future prospects—previously based on unwritten understanding—is now becoming official policy with the categorisation of jobs into career and visiting posts, as proposed in *Achieving a Balance*. The real intention of this is to exclude all foreign competition. A few doctors from ethnic minorities are now being caught in the no man's land of being unable to apply for either visiting registrar jobs (because they have full residency status) or career registrar jobs (because their names do not sound right).

The average doctor from an ethnic minority asks to be allowed to compete where meritocracy is the norm. If the Commission for Racial Equality cannot do something for him or her at registrar level neither can it do anything at consultant level.

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1 Beecham L. Are doctors from ethnic minorities discriminated against? *BMJ* 1992;304:1513. (6 June.)

Neonatal intensive care and the NHS reforms

EDITOR,—Information on the effects of the NHS reforms on neonatal intensive care was sought by a questionnaire sent out last March, at the end of the first full year of the changes. The questionnaire was sent to named neonatologists working in 50 British neonatal units, including all the recognised regional and subregional units in every health region in England and Wales as well as Scotland and Northern Ireland.

Forms were returned from 33 neonatal intensive care units, which tended to represent the larger units. The median (range) number of infants mechanically ventilated in these units was 116 (18-200) a year. Thirteen units were part of hospitals that had become trusts in either the first or the second wave. Ten respondents reported that their unit had received an increase in its recurrent budget in the financial year 1991-2, and six of these were in trust hospitals. Only three units reported a reduction in their recurrent budget, and all were in non-trust hospitals. Nine units reported that they had admitted "significantly more" babies to their unit for intensive care in the current year compared

with the previous year; only two reported having admitted "significantly fewer." Five of the units that had admitted more babies were in hospitals that had no plans to become trusts, and one of those that had admitted fewer babies was in a hospital intending to become a trust.

Replies were obtained from at least one unit in each of the 14 English health regions as well as Wales, Scotland, and Northern Ireland. Responses indicated that there was a regional plan or strategy for perinatal services in each of the 17 regions, but six indicated that there seemed to be a fading or absent financial commitment to the plan. Only three regions seemed to be considering proposals for regional contracting of neonatal intensive care.

All respondents expressed a view on the effects of the NHS reforms on their units. Nineteen thought that there had been no change in their service, and seven stated that there had been an improvement and seven a deterioration. The commonest reason given for a worsening of the service was the perception that the regional structure of neonatal services was falling apart.

Despite the evidence for more babies being offered intensive care in the units sampled, there are few data to suggest that this is due to the NHS reforms; indeed, most of the units that admitted significantly more babies were in institutions that had not expressed an interest in becoming trust hospitals. The main concern of the consultants was the possibility of individual units "going it alone" and reducing the drive towards strategic planning of services on a regional basis. This is a particular fear in London.

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Checking quality of health care records

EDITOR,—C P J Charlton and C J Cuninghame express concern¹ about the accuracy and completeness of computer based immunisation records in Grampian.² We have addressed this issue before and are continually reviewing the quality of our immunisation records.^{3,4}

Immunisation data are held on the same computer as general practitioner registration data from which target payments are made, based on exactly the same denominator. This circumvents the problem reported by Jammi Nagaray Rao whereby general practitioners have to notify both the family health services authority and child health computers.⁵ At the time the data are entered the patient's details are checked by the computer against registration data, age at immunisation is validated for the accepted range of giving times, and vaccine data—manufacturer, batch number, and expiry dates—are compared. When discrepancies occur these are investigated and corrected by primary care staff. Grampian has a relatively stable population, and the proportion of children not registered with general practitioners is extremely small. We also, however, monitor all health visitors' immunisation records of children newly transferred into the area, cross checking with general practice sources.

The main method of data quality assurance is by quarterly feedback of immunisation figures to general practitioners, who receive target payments on the basis of the accuracy of these data. General practitioners and staff cooperate, using the information as a prompt for immunisations not yet performed and for correcting inaccuracies. Because of the continuous nature of this feedback discrepancies are minimised, and we have no reason to believe that the level of any residual error has changed throughout our study.²