important enough to detect nor the power of the trial to detect that reduction are reported. If the power of the study is low (which is likely given the small numbers in each group) then lack of significance is not proof of lack of effect. If the size of the effects found and their confidence intervals had been reported we would have been able to make a sensible judgement.[2]

Finally, the authors in their reply state that 'significant differences are not in themselves enough to reject the null hypothesis'. It is not clear what they mean. If they mean that in a study with 54 significance tests we should interpret the odd significant results with caution, we could not agree more. We oppose the slavish use of P-values.[3]

It would have been better if (say) three endpoints had been used, for example a measure of morbidity, asthma remedy use and health service resource use. These three endpoints would have had a clear interpretation and would have been measuring different outcomes.

2. Trials with repeated measurements of response over time require a prespecified policy for statistical analysis, aimed at a single specific hypothesis of interest-repeated significance tests at each time point should be avoided. White and colleagues report nine significance tests at half-yearly intervals, 54 in all. The analysis of variance for each morbidity measure at the end of each time period tests a different hypothesis. Each relates to a different clinical effect and a different time after which one expects these effects to be observed.

If one is interested in the effect on morbidity over time, then the presence of a time trend can be tested using a multivariate analysis (as we suggested) which allows for the correlation between general practitioners' scores over time and which more efficiently uses the repeated measures.

An alternative approach is to decide *a priori* how long it is likely to take for the intervention to produce a clinically meaningful effect. Once that time has been decided an appropriate test of the difference in outcome between the general practitioner groups at that time point should be performed with the confidence intervals reported.

3. The magnitude of the clinical effects for the primary endpoints should be stated along with the confidence limits. Nowhere in White and colleagues' paper are the general practitioner scores reported for the intervention and control groups separately. They test the significance of the differences in the scores achieved by the general practitioner groups but do not present the size of difference or clinical effect being tested. Thus we have no idea of the clinical importance of the effects being tested.

This is all the more surprising since they state that 'one has to interpret the importance of results from a clinical point of view'. We could not agree more.

4. The intended size of the trial and the power calculations should be specified in advance. When a study is being planned the researchers need to decide what is the smallest size of clinical effect they consider to be worth detecting and at what level of statistical significance. The appropriate size of the study (in this case the number of general practitioners) is determined by the decision as to the power of the study to detect such an effect at that level of significance if indeed the intervention does produce that effect.

Results must be evaluated in the context of prior knowledge, corroborative studies, dose–response relationships and their reproducibility.[4] However, taking the above into account the finding of a statistically significant result is, as far as we are aware, the only basis for rejecting a study's null hypothesis.

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Workload of full-time women GPs

Sir,
The paper by Judith Cooper and colleagues on workload and remuneration for part-time women in general practice (October *Journal*, p.400) has failed to emphasize that the most important factor in deciding the profit sharing ratio for part-time partners is the amount of out of hours and weekend work that they do.

Although the study shows how much on-call work is done by the two groups as a whole, this is not related individually to their daytime commitment. As a wife, mother and full-time general practitioner, I am in no doubt at all that the nights and weekends on call are by far the most stressful, tiring and intrusive part of a general practitioner's workload. It is also the most dangerous. The review body's figure of 13.5% of gross remuneration for out of hours work bears no resemblance at all to a realistic payment for the degree of disruption, wear and tear and fatigue that a full part in the average general practitioner's rota brings. It is not only the hours of night work either, but a busy night on call makes the following day's work far harder to cope with.

The amount of money earned for the number of nights on call should not be in a linear relationship because the more nights done the harder the load is to bear. The reward should accordingly be increased or decreased exponentially.

Therefore, full-time general practitioners, working at nights and weekends, may feel that their part-time partners, who do not share this load fully, should share significantly less of the profits regardless of their daytime working hours.

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Trainee collaborative research in the Essex faculty

Sir,
The paper by Timmins and colleagues (October *Journal*, p.423) demonstrates that a trainee collaborative study provides a healthy symbiosis: trainees participate in audit and encounter the College at a local level while the College benefits from a novel research tool. Clearly, as the authors point out, other faculties might consider involving local trainees in similar studies, to mutual benefit.

Given this pioneering approach, it seems ironic that the decision of the Joint Committee on Postgraduate Training for General Practice, in February 1988, to withdraw its recognition for training from the North East Thames region would have affected the trainees cooperating with the Essex faculty during the period of this study. Presumably, the training environment was so poor as to warrant withdrawal of recognition, rendering trainees ineligible for the College examination, yet adequate enough to stimulate the 'high standard' of work described by the authors which provided the basis of a paper deemed suitable for publication in the College *Journal.* It will be interesting to see how rapidly and capably trainees in less blighted regions are encouraged to

adopt the laudable principles of collaborative study.

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Compulsory audit projects for medical students

Sir,
As in Dundee (Letters, October *Journal,* p.430), the Nottingham general practice attachment includes a student audit project. Our experience over several years is that these work best if the topic is chosen by the student. The role of the tutor is often to limit the amount of work planned and to emphasize that while the study is likely to be useful to the practice, the educational objectives are paramount. Other than statistical validity there is little educational gain from analysing 100 rather than 50 records.

Encouraging students to choose their own topic leads to a wide range of projects, some of which are not audits, but studies of the practice population. From the examples given by Neville and Knox, it appears this is also the case in Dundee. Where possible we encourage students to include an audit element in their project, for example a study on use of alternative medicine by patients should include suggestions about how general practitioners should respond to this aspect of their patients' behaviour. Most importantly students should appreciate how far, if at all, their project fulfils the criteria for an audit.

Teaching the principles of audit is difficult, especially because of the lack of an accepted terminology[1]. Response to a question in the final examinations suggested that in the past we have failed to make these clear; many students were unable to give a satisfactory definition of audit or to distinguish between this activity and research. We have attempted to remedy this situation by emphasizing the principles of audit at both the beginning of the attachment and when the projects are presented.

Departments of general practice have to consider carefully how best to use their limited curriculum time. Audit, like communication skills, is a topic which has universal application and in which our discipline has established some expertise. General practice can make an important contribution to this area of undergraduate education.

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Reference

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Foreign body inhalation: a danger of metered dose inhalers

Sir,
Encouraging patients to replace the cap on their inhaler may not solve the problem described by Cuckow and English (Letters, November *Journal,* p.476). A patient of mine reported inhaling the cap itself, which impacted in the pharynx causing total respiratory obstruction. Fortunately, a powerful 'huff' managed to expel the cap but the experience was frightening and dangerous. I suspect the cause common to both experiences is undue haste in using the inhaler. Patients should be warned to take their time.

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Public policy and the clinical remit

Sir,
In the government's new contract for general practitioners, preventive services within general practice are seen as an objective of public policy. In his editorial (August *Journal,* p.309), Dr Buckley argues that the setting of targets by the government for preventive measures may reduce the amount of time spent on other clinical work. How can the profession reconcile the public policy aims of the government with the necessity of evolving the clinical content of general practice?

Since the inception of the National Health Service the clinical content of general practice has gradually changed. Initially, the hospital approach to medicine defined the 'clinical gaze'.[1] However, as the range of morbidity changed, with an increase in the presentation by patients of problems of a psychosocial nature and in chronic illness, general practice has adopted a more sociological approach in which different models and values of ill health and the disease process are utilized. This approach takes into account the meaning that ill health has for patients.

In the social process which generates the clinical content of a general practitioner's work, the medical process is negotiated through mutual exchange by the doctor and patient. Doctors must integrate their medical education, still largely hospital based, with the everyday medical content of general practice and in turn synthesize this collective knowledge with the health beliefs, knowledge and values of their patients.

Given the objectives of government policy, the future of general practice lies in its ability to define and take on a role which may well be more sociological in dealing with ill health, and not just in having a screening and preventive role for the health services.

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The College, the contract and the white paper

Sir,
While appreciating the need for the College to remain outside the political arena, I wonder if this aloof approach has not been taken to extremes. Most general practitioners are thinking of little else but the contract (after, of course, they have completed their 26 hours a week of work and collected their £65 000 per annum pay packets) while the College appears to be considering it very little. I suspect that many members feel that the College is remote from their day to day anxieties.

Now that the new regulations are on the statute books, it may be time for the College to be seen to be taking an interest in the contract and its effect on College members. May I suggest a series of apolitical articles, leaders and reviews to cover such topics as: the value and optimal frequency of health screening and geriatric surveillance; a consensus view on what constitutes 'hours convenient to patients'; a critical appraisal of child surveillance and health promotion clinics; a discussion of the dangers of stress, fatigue and burnout on doctors' performance.

We need to counter the disinformation put about by the government with a realistic account of a general practitioner's workload and remuneration. In particular the tenor of the recent newspaper advertisement implying that before the new contract was dreamt up general practitioners had very little to do needs to be contradicted by a respectable source — what better than the College. Our morale is low and our *caritas* is liable to be lost in a mass of *pseudo-scientia.* We need a voice.

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