subgroup within the Jewish community) have a particularly low incidence of carcinoma of the cervix. It is theoretically possible that all the apparent differences are the result of the proportions of Israeli women in the two groups.

The authors state that the overall relative risk is of borderline significance. This must be some new use of the word significance. The 95% confidence interval of the risk factor includes 1, and it would be more usual to state that the study had failed to show any significant difference between the two groups.

It is clearly important that studies like this are published, even when, as in this case, the results are essentially negative and even when factors such as smoking and the sexual history of the partners are unaccountably ignored. However, to present associations which do not reach statistical significance as if they proved a causal relation is irresponsible. Editors should be on the lookout for pitfalls and use expert statistical advisers more often than they do.¹

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1 Lock S. In: Gore SM, Altman DG. *Statistics in practice*. London: British Medical Journal, 1982.

*.*Dr Thomas replies below.—Ed, *BMJ*.

SIR,—Dr Parkin has raised a number of issues. He states that no details of the method of age adjustment are given. This is clearly described in reference 17 of the paper, which is referred to in the last paragraph of the methods section; we see no reason to provide details of such standard statistical procedures when they are readily available elsewhere. They are certainly not needed, as Dr Parkin asserts, to assess the validity of the results presented.

We recognise that the cases seen in the participating centres may not be representative of all cases in the populations of the countries in which the study was conducted. It was for this reason that the controls were selected not from the general populations of those countries but from among women admitted to the participating hospitals for conditions other than those under study. This procedure was instituted specifically to control for factors that are related to hospitalisation in the participating institutions.

The fact that only 3% of the cases but 20% of the controls came from Israel does not explain our results. Risks were increased in oral contraceptive users in most countries, and the overall relative risk was adjusted for both age and centre.

The 95% confidence interval of the relative risk of 1.19 was 0.99 to 1.44. Rounding 0.99 to one significant figure gives us a lower 95% confidence limit of 1. By convention this would be considered borderline by most people.

Smoking was not unaccountably ignored as Dr Parkin implies. Information on this factor was, unfortunately, not collected but we address this at considerable length in the discussion. Information on the sexual behaviour of the subjects' partners was also not collected. However, for such behaviour to be a source of confounding a woman's choice of contraceptives would have to vary depending on the number of partners her husband had. Although this is certainly a theoretical possibility, it seems unlikely and certainly provides

no reason for us to have refrained from publishing our results.

Dr Parkin questions the statistical methods that we used. We have used the most up to date techniques available and have had the privilege of consulting some of the finest statistical minds in the world today.

Finally, I should like to indicate that our final conclusions were written after considerable thought and discussion and represent a consensus reached by the participating investigators.

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SIR,—It is unfortunate that the recent WHO collaborative study on oral contraception and cervical cancer (30 March, p 961) discounted the potential effect of smoking. As the authors conceded, smoking has been shown to be an independent risk factor for cervical cancer that is dose related and increases with time. Neither is it appropriate to conclude that women in the study were unlikely to be smokers simply because low smoking rates have been reported for Third World women in a study on an unrelated topic. Firstly, the British study in general practice of oral contraception showed that oral contraceptives users had higher smoking rates than non-users. But, more importantly, smoking is already a substantial problem among Australian women (to be included in the study), and smoking rates among women from several of the Third World countries already included in the study are rapidly approaching those in the developed world. The most recent data available from WHO¹ and elsewhere show that 30% of women smoke in Australia,² 26% in Chile (Santiago), 20% in Colombia (Bogota), 16% in Mexico (Mexico City), 3% in Nigeria (Lagos), and 4-20% in Thailand.

The above rates do not include traditional forms of tobacco use which are popular among men and women in Nigeria, Thailand, and the Philippines. In the early studies on the cardiovascular risks of oral contraception the key role of smoking was underemphasised because women in the initial studies were not asked about their smoking habits. It would be sad if history repeated itself.

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1 Masironi R, Roy L. *Smoking in developing countries*. Geneva: WHO, 1983.

2 Hill D, Gray N. Australian patterns of tobacco smoking and related health beliefs. *Community Health Studies* 1984;8:No. 3.

Doctors' dilemmas

SIR,—I was sorry to see the correspondence between Ms Sheila McKechnie and Dr Peter Taylor on some of the ethical problems of occupational physicians (20 April, p 1216) become an exchange of quotations with a defensive reply by Dr Taylor. The underlying issue is too important and ought to be debated.

Ms McKechnie has a point: when employed by companies occupational physicians have salaries and fringe benefits—for example, cars, pensions, management social activities—which to many eyes identify them with management. Furthermore, the firm employs them to advise management. (I know that they

may give medical advice to individual workers but seldom do they separately give advice to workpeople as a group.) Furthermore, some of these occupational physicians also act as advisers to such bodies as the Chemical Industries Association and the Engineering Employers Confederation—a proper and important function; in a similar way the Trades Union Congress has its own medical adviser.

As a consequence of that status and of those duties it is not surprising that workpeople, some managers, and, in my experience, some hospital and general practitioners perceive the occupational physician as part of management. When he is, however, advising an individual worker the occupational physician regards himself as an independent doctor, but he does not always recognise the difficulty that a worker (now a patient?) may have in accepting that mental switch and that leads him to worry over confidentiality. Faculty guidelines (despite their name) partly enshrine practice; they do not, nor should they, instruct how this problem should be made tractable.

Changing names by itself does not help unless it betokens an underlying change of attitudes and functions. "Refuse collectors" are still dustmen, but with changing social attitudes mental hospitals are no longer asylums. Are occupational physicians different from industrial medical officers, or are they the same doctors with a less pejorative title?

That change in title signifies a recognition of what the better ones have been doing for some time. They are doctors, trying to work as doctors, in industry. But that does not help the misperception of them by the workforce. In over 25 years' experience in hospital outpatient departments and as a "neutral" observer going into industry from a university, I find that workpeople are more and more, but not entirely, recognising the occupational physician as a doctor in the workplace rather than "the firm's medical officer." But how is this change to be encouraged and developed in the present industrial set up in the UK? By education of occupational physicians in these matters, not simply by lectures, guidelines, and articles but by conscious demonstration by supervisors during training. By trades union leaders helping this change of attitude, where they see it in operation? By other means? My own teaching, which is not very original, is that each occupational physician must, by his total conduct, earn the acknowledgement that he is acting as an "occupational physician." He cannot expect it to be given automatically just because he belongs to the medical profession (or for that matter because of what the General Medical Council or the faculty guidelines say).

Both Sheila McKechnie and Peter Taylor have made signal contributions to the development of health and safety in Britain. I hope that their minds, and those of your other readers, may be turned to constructive debate on the problems underlying ethical issues in occupational medicine and on their solution.

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Preventing infant deaths

SIR,—Assessing and managing symptomatic infants at home is anxiety provoking for all concerned; while most consultations are associated with self limiting complaints, the same symptoms may herald progressive illness and, once in 10 years for an individual general practitioner, an unexpected infant death.

Dr Bernard Valman has argued (2 February, p 339) that improved assessment and management of symptomatic infants in general practice could save lives and that this management should include referral to hospital of all infants with certain "sinister" symptoms or

Characteristics of infants with symptoms admitted to hospital

Case No	Sex and age (months)	Presentation	No of times seen by GP before admission	Hospital diagnosis
1	M 3 days	Poor feeding (discharged from hospital that day)	1	Septicaemia (<i>Haemophilus influenzae</i>)
2	F 2	Noisy breathing	2	"Snuffles"
3	M 2½	Breathing difficulty	1	Bronchiolitis
4	M 4	Fever	1	Bronchiolitis
5	M 4	Vomiting and diarrhoea exhausted parents	3	Gastroenteritis (rotavirus)
6	F 7	Feeding difficulty. Previous cot death	2	Not unwell
7	F 10	Vomiting and diarrhoea. Parental fear of cot death	3	Gastroenteritis (rotavirus)

signs. We suspected that the symptoms suggested were too common and non-specific to make referral of all infants suffering them either feasible or desirable. We therefore conducted a survey of practices to which Southampton trainees are attached to measure the incidence and outcome of these symptoms over a two week period—25 February to 10 March 1985.

We asked doctors to keep a record of all children below the age of 1 year seen and to record those whose parents reported the presence of any one of the "sinister" symptoms: drowsiness, irritability, feeding poorly, and difficulty with breathing. We also included children said to have had a fever.

During the two weeks 18 doctors, including six trainees, saw 78 of the 248 children under 1 year on their combined lists. Fifty (64%) of the infants had at least one of the symptoms we were concerned with—that is, 20% of all infants on the combined list consulted with such a symptom in the two week study period. In half of these children the main symptom reported was poor feeding, in 25% breathing difficulties, and in 20% fever. By contrast only four were reported as mainly irritable and none as unusually drowsy. A week after the survey was completed the 50 symptomatic infants were followed up to determine their outcome; 48 were contacted, 37 (74%) had fully recovered, and the remainder were improved. None died. Among the 50 infants 18 were seen again by their general practitioners and seven were admitted to hospital (table). Of these, five were under 6 months old.

The survey results were subsequently discussed at a session of the Southampton trainees' day release course. We concluded that two of Dr Valman's "best buy" symptoms—difficulty in breathing and poor feeding—were too common in infants at home to be regarded as truly sinister. Our own consensus list of sinister pointers included: undue drowsiness, altered cry, symptoms in an infant less than 6 months old, floppiness or apathy on handling, the presence of several symptoms, and poor coping ability of parents.

We suggest that these might prove to have greater predictive value in the management of sick infants at home than those previously recommended.

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Differences in duration of stay for surgery in the NHS and private sector

SIR,—Professor B T Williams and others begin their paper (30 March, p 978) by giving undue prominence to the suggestion that the private sector may be managerially more efficient than the NHS. Yet nowhere in their paper do they provide evidence that managers influence the duration of stay of surgical patients. It is surprising that this suggestion should be given such prominence when their own analysis shows that the difference in duration of stay between the *true* private sector and the NHS was not statistically significant. The difference lay between NHS pay beds on the one hand and NHS beds and the private sector on the other.

Had they attended a few ward rounds in addition to compiling statistics they would have learnt what every house officer knows—namely, that the consultant has the greatest influence on the duration of a patient's stay. The consultant takes into consideration not only clinical and social factors (factors which their paper suggests do not account for the differences found) but also political factors, which their paper does not touch on. For example, a consultant may wish to keep a bed occupied until his or her firm next needs it for a take day or admitting day. Such factors do not apply in the private sector, where patients rather than beds are at a premium.

Most consultants have patients in all three areas: NHS beds, NHS pay beds, and the private sector. The question the good scholars should have asked is this: Why do consultant surgeons manage patients in NHS pay beds differently?

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Public and private sectors

SIR,—Your leading article on the private sector (13 April, p 1098) and *Scrutator* (p 1155) both refer to the study *Towards a New Understanding* recently published by the Nuffield Centre for Health Services Studies. This quotes the 1981 findings that both the NHS and the private sector look on collaboration "as an avenue of last resort."

In answer to a questionnaire by the Independent Hospital Group sent out this year 105 replies from acute hospitals in the private sector indicated a distinctly more optimistic result. The relation between district health authorities and members was mainly reported as good, very good, or excellent. There was one major area of political disquiet and varying degrees of difficulty reported in four other

districts. There is a record of increasing co-operation, mutual support and understanding, as well as more two way contracts made in pathology services, waste disposal, instrument hire, and postgraduate education.

There have been a fair number of formal requests from health authorities for package prices for undertaking work from the NHS waiting lists; these have not developed into firm proposals, mainly owing to political opposition or to the inability of the NHS and its consultants to reach agreement.

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Intellectual ability and human feeling

SIR,—Dr Michael O'Donnell has an enviable ability to write lucid, polished prose presenting original and often unorthodox views. Sadly, on 13 April (p 1154) he was to be found uncritically repeating the widely accepted dogma that the selection of medical students depends too heavily on a high level of intellectual ability. He quotes a doctor "you feel better for seeing" as saying that "a person does not need to be all that clever to be a doctor" without taking account of the fact that, while the doctor in question was undoubtedly well equipped for medical training in his generation, the scientific basis of medicine is now advancing so rapidly that he might well be quite unsuitable for practice by the end of this century. To survive the training for medical qualification demands a very high intellectual standard; to use effectively the methods of investigation and treatment now available requires no less. Doctors of our generation are often to be heard complaining that they would have had no chance of achieving admission to medical school by present day standards, with an inference that medicine would have been the poorer. They are probably right on both issues but fail to perceive that as medicine changes the qualities required of doctors change. It is a great mistake to judge this generation by the standards of 20 or 30 years ago.

In all these discussions there is an implication that intellectual ability is commonly incompatible with human feeling. For a number of years I taught surgery to medical students and was greatly impressed by the standard of personal kindness and sympathy that they displayed in their approach to patients. It seems to me that high intelligence increases rather than diminishes insight and, peering back dimly through the mists of time, I do not think that I and my contemporaries showed the sort of concern for our patients which is usual among students now. In medicine and in human relationships there is no substitute for experience, but, given time, I am sure that the new generation of doctors will be in no way inferior to their predecessors.

It must be a little depressing to be told, repeatedly, that the process which chose you for the practice of medicine was defective. I think that we should stop saying it and accept that scientific progress brings new challenges which may well need somewhat different people to confront them. I would be greatly surprised if the new men and women in medicine fail in that task.

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