be useful to doctors and others who want to help and we are looking urgently at the possibility of offering them a new poster using some of the new information.

We want most of all to ensure that joint action between the Health Education Council and practising members of the profession is part of "the new offensive."

GEORGE CUST

Health Education Council,
London WC1

SIR,—All health workers interested in preventive medicine will applaud your leading article (25 December, p 1522). Nor would they quarrel with Minerva's remarks (1 January, p 58), and some comfort, too, can be taken from the figures of Professor Sir Richard Doll and Mr R Peto (25 December, p 1525) for the reduction in the daily average number of cigarettes smoked by doctors between 1951 and 1971. Many would also give unqualified support to the paragraph on smoking in your own article (25 December, p 1548).

However, so much of the good work is eliminated by the thoughtless action of those doctors who still smoke. Time and again the ground is cut from under one's feet when patients quote these doctors' smoking habits as a counter-argument to one's attempts at health education.

Unless we as a profession are prepared to give an unequivocal lead to the public and unless the government of the day gives wholehearted support to antismoking education, I fear that little impression will be made on morbidity due to the "lethal weed."

RALPH A A R LAWRENCE

Leabrooks,
Derby

SIR,—Many of your readers will, no doubt, echo the verdict in your leading article (25 December, p 1522) that the paper by Professor Sir R Doll and Mr R Peto (p 1525) "brings to an end a 20-year investigation of doctors' smoking habits and sets out in detail the toll that smoking takes from human life, in both mortality and lingering ill health."

With regard to mortality this is a remarkable, even perverse comment in the light of Professor Doll and Mr Peto's table XI. The temporal trend in overall mortality in male doctors relative to that in the general male population was, undoubtedly, significantly downwards for the age group 20-64, but not significantly up or down for those aged 65-75, and, surprisingly, significantly *up* for those aged 75-84. In other words, the temporal trends in overall mortality show no consistent association with the trends of smoking habits. Of course it can be objected, with justice, that it is pointless to compare mortality in the self-selected group of doctors who chose to answer Doll and Hill's first questionnaire[1] with mortality in the general male population, which differs in so many constitutional and environmental respects from the responding doctors. Professor Doll and Mr Peto make similar points. Nevertheless, statistics for deaths from all causes have one great advantage: they are independent of the diagnosis of the cause of death. When we turn to death rates from lung cancer we have to face the abundantly documented complication of the unreliability of clinical diagnosis.[2] We cannot assume that the accuracy of diagnosis of lung cancer in doctors is the same as that in the general population.

I have shown that the detailed changes in recorded death rates from lung cancer in England and Wales from 1901 to 1970 were strikingly synchronous in the two sexes.[2] Thus the major cause of the increases had a simultaneous impact on both sexes and could not have been cigarette smoking because the increase in consumption of cigarettes by women lagged some 30 years behind that of men. Post-mortem studies of the frequency of lung cancer show that the most important factor in the increase of recorded lung cancer has been clinical diagnostic error.[2] Severe underdiagnosis during the earlier part of the century was eventually followed, in the past decade or so, by overdiagnosis. US studies[3-5] have shown that lung cancer has recently been overdiagnosed clinically by about a factor of two. A study carried out in 75 NHS hospitals in England and Wales in 1959 revealed that of 338 cases of primary cancer of the lung diagnosed clinically, 111 (33%) were regarded as false-positive by the pathologist at necropsy.[6] (Some 190 cases discovered at necropsy had been missed by the clinician, giving rise in 1959 to net underdiagnosis.[6])

In view of the wide publicity concerning lung cancer and smoking and the knowledge that many doctors have given up smoking the tendency of one doctor to make a false-positive diagnosis of lung cancer in a colleague is likely to be minimal. Direct comparison between the temporal trends of mortality from lung cancer in doctors and the dissimilar population of all men in England and Wales, with dissimilar standards of diagnosis, is therefore inadmissible. That Professor Doll and Mr Peto should highlight this comparison (their fig 2) is curious to say the least. Their regression line shows an average reduction in *relative mortality* (doctors versus all men) of about 60% over the period 1955-71. Over the corresponding period age-standardised recorded death rates from lung cancer in all men in England and Wales above about the age of 40 increased by about a factor of two.[2] In combination the data suggest that the recorded and verified *absolute* death rates from lung cancer in British male doctors—which should be more reliable than those in the general population—have shown no significant temporal trend, either up or down, over the period 1955-71. (Professor Doll and Mr Peto could readily enlighten us on this important issue.) The consumption of cigarettes by male doctors fell by more than 50% between 1955 and 1971 (Professor Doll and Mr Peto's table II). It appears that doctors have derived little or no proved benefit with respect to lung cancer, or to all causes of death, by giving up cigarettes.

When this evidence for temporal trends is coupled with the finding that the risk of lung cancer in inhalers is appreciably *less* than that in non-inhalers (Professor Doll and Mr Peto's table VII) it becomes increasingly difficult to accept the dogma[7] that lung cancer "is almost entirely due to cigarette smoking."

P R J BURCH

General Infirmary,
Leeds

[1] Doll, R, and Hill, A B, *British Medical Journal*, 1954, **1**, 1451.
[2] Burch, P R J, *The Biology of Cancer. A New Approach*. Lancaster, Medical and Technical Publishing, 1976.
[3] Rosenblatt, M B, *et al*, *New York State Journal of Medicine*, 1971, **72**, 2189.
[4] Herrold, K McD, *Pathology Annual*, 1972, **7**, 45.
[5] Jimenez, F, Teng, P, and Rosenblatt, M B, *Bulletin of the New York Academy of Medicine*, 1975, **51**, 432.
[6] Heasman, M A, and Lipworth, L, *Accuracy of Certification of Cause of Death*. General Register Office, Studies on Medical and Population Subjects, No 20. London, HMSO, 1966.
[7] Royal College of Physicians of London, *Smoking and Health Now*. London, Pitman Medical, 1971.

## Smoking habits of medical students

SIR,—In your recent leading article "That lethal weed" (25 December, p 1522) you say, "Clearly, while the medical profession has got the message of the dangers of smoking and has taken it to heart, the general public has failed to heed the warnings."

As a medical student project I have been studying smoking among medical students and non-medical student contrast groups (biologists, etc) at Newcastle University. My own findings are in accord with those from several other sources[1-3] in showing, regrettably, *no* significant difference in the proportion of medical students admitting to cigarette smoking compared with students in the other faculties sampled. The most recent results are shown in the accompanying table.

*Smoking habits of medical and non-medical students, Newcastle University*

| | Medical students | Biological science students | Total |
|---|---|---|---|
| Smokers .. | 32 | 21 | 53 |
| Non-smokers .. | 185 | 68 | 253 |
| Total | 217 | 89 | 306 |

$\chi^2 = 3{\cdot}45$. Not significant at $P \leqslant 0{\cdot}05$.

I am sure most of your readers will be as surprised and alarmed as I was by these results, which I hope to make available with the main substance of my project later this year. Furthermore, while these data and the supporting references refer only to medical students, I believe that previous work published in this journal, albeit 14 years ago,[4] showed that when an appropriate control group (equivalent in "occupational status") was used the purported greater sensitivity of the medical profession to the risks of smoking vanished into statistical oblivion.

The other studies on medical students[1-3] show that the Newcastle Medical School is by no means an exceptional case; indeed, there is evidence that fewer medical students at Newcastle smoke (or admit to smoking) than at some other medical schools.

ANDREW J BRUNSKILL

Medical School,
University of Newcastle,
Newcastle upon Tyne

[1] Knopf, A, and Wakefield, J, *British Journal of Preventive and Social Medicine*, 1974, **28**, 246.
[2] Baric, L, MacArthur, C, and Fisher, C, *Health Education Journal*, 1976, **35**, 142.
[3] Bynner, J M, *Medical Students' Attitudes Towards Smoking*. Government Social Survey Report SS 382. London, HMSO, 1967.
[4] Lynch, G W, *British Medical Journal*, 1963, **1**, 852.

## Cui bono?

SIR,—You (25 December, p 1548) seem at first sight to be on a winner. Stop smoking and stop accidents and people will no longer die from smoking or from accidents. Certainly it would benefit the individual, but unfortunately it would have no effect whatsoever on total