though the main beneficial effect of tamoxifen is to delay relapse and thus reduce mortality from breast cancer (20 (23%) deaths from breast cancer in the group given adjuvant treatment compared with 35 (32%) in the group given tamoxifen after relapse), it also has a striking cardioprotective effect (one fatal myocardial infarction (no radiotherapy given) without relapse in those given adjuvant treatment compared with 12 (five with radiotherapy) in those given the drug after relapse). Together these benefits have produced, after a maximum follow up of 12 years, a significant prolongation of survival, which was apparent only after three years from randomisation (hazard ratio 0.614 (95% confidence interval 0.41 to 0.92), $p=0.017$ with the likelihood ratio test fitting Cox's proportional hazard model). This overall effect on total survival is seen regardless of oestrogen receptor status, although the number of patients who were oestrogen receptor poor is too small (total=31) for statistical evaluation.

These results reinforce Dixon's comments regarding the potential benefits of adjuvant tamoxifen for breast cancer in elderly patients and highlight the additional protective effect against fatal myocardial infarction before relapse.³

HELEN J STEWART
DAWN EVERINGTON

Scottish Cancer Trials Office,
Medical School,
Edinburgh EH8 9AG

- 1 Dixon JM. Treatment of elderly patients with breast cancer. *BMJ* 1992;304:996-7. (18 April.)
- 2 Breast Cancer Trials Committee, Scottish Cancer Trials Office (MRC). Adjuvant tamoxifen in the management of operable breast cancer: the Scottish trial. *Lancet* 1987;ii:171-5.
- 3 McDonald CC, Stewart HJ. Fatal myocardial infarction in the Scottish adjuvant tamoxifen trial. *BMJ* 1991;303:435-7.

Recommendations for use of hepatitis A vaccine

EDITOR,—As a microbiologist at a district general hospital I have received a number of inquiries during recent weeks from general practitioner colleagues about the recently licensed hepatitis A vaccine. I felt limited by the shortage of available trial results. In that respect I very much welcome the publication of the clinical trial by Anthea J Tilzey and colleagues.¹

The structure of the article causes me concern. The authors come from St Thomas's Campus, SmithKline Beecham, and the Central Public Health Laboratory. That is as one would expect with regard to the product evaluation. However, the article, in its title and text, also addresses the issue of recommendations for its use. Should this be included in an article of which the manufacturer is coauthor? This concern is compounded further by the absence of guidelines, at present, from the Department of Health.

M A HEGARTY

Queen Elizabeth Hospital,
King's Lynn,
Norfolk PE30 4ET

- 1 Tilzey AJ, Palmer SJ, Barrow S, Perry KR, Tyrrell H, Safary A, *et al.* Clinical trial with inactivated hepatitis A vaccine and recommendations for its use. *BMJ* 1992;304:1272-6. (16 May.)

AUTHORS' REPLY,—We are glad that M A Hegarty welcomes the publication of our paper as he felt limited by shortage of available trial results. As Hegarty states, the paper is multiauthored. We believe it is important to acknowledge the roles of all those who made a major contribution to our study.

We thought it important that the results of our trials should not be considered in isolation, as some readers might themselves wish to make use of the vaccine; we knew that the vaccine would be

available by the time our paper was published. The views we have expressed are shared by a number of leading experts in hepatitis A infections. Furthermore, our recommendations for the use of the vaccine were essentially in keeping with the Department of Health's recommendations for the use of human normal immunoglobulin for travellers,¹ which would include such groups as members of the armed forces and medical students on electives. Although we suggested that consideration should also be given to people who may be occupationally exposed to hepatitis A virus, such as sewage workers, and certain patient groups, such as homosexual men² and injecting drug misusers,³ we took care to provide appropriate references for readers to make their own assessment.

The Department of Health has yet to provide guidelines but medical practitioners with an understanding of infectious disease and epidemiology should have little difficulty in identifying appropriate people for vaccination.

JANGU E BANATVALA
ANTHEA J TILZEY

Division of Microbiology,
United Medical and Dental Schools of Guy's and
St Thomas's Hospitals,
London SE1 7EH

- 1 Department of Health, Welsh Office, Scottish Home and Health Department. *Immunisation against infectious disease*. London: HMSO, 1990.
- 2 Kani JIA, Handwani RAK, Gilson RJC, Johnson AM, Maguire HC, Tedder RS. Hepatitis A virus infection among homosexual men. *BMJ* 1991;302:1399.
- 3 Jenkerson SA. Hepatitis A among drug abusers. *MMWR* 1988;37:297-301.

Deaths from haemolytic disease of the newborn

EDITOR,—I Z MacKenzie and colleagues suggest that the Office of Population Censuses and Surveys (OPCS) data on death associated with haemolytic disease account for only 15% of the fetal loss attributable to the disease.¹ Although we agree that some cases are missed owing to fetal loss before 28 weeks' gestation, our records indicate that the magnitude of the discrepancy is far less.

In Yorkshire, from 1977 to 1990 inclusive, 114 pregnancies with detectable anti-D antibodies resulted in either spontaneous or therapeutic abortion (before the 28th week). In 44 of these pregnancies fetal loss seemed to be anti-D related, being due either directly to haemolytic disease or, where therapeutic termination occurred, to high anti-D levels, when the likelihood of a successful pregnancy was low. Over the same period 35 deaths were registered with OPCS (after the 28th week).

It seems that at most 55% of anti-D related fetal loss within Yorkshire will not have been registered, though this figure is the worst estimate as it includes the therapeutic abortions. Only 47% of deaths that were directly anti-D related were unregistered if therapeutic abortions are excluded. This implies that OPCS data underestimate fetal loss by about a half.

G J DOVEY
P FLANAGAN

Regional Transfusion Centre,
Leeds LS15 7TW

- 1 MacKenzie IZ, Bowell PJ, Selinger M. Deaths from haemolytic disease of the newborn. *BMJ* 1992;304:1175-6. (2 May.)

Delayed diagnosis in NIDDM

EDITOR,—The paper by B M Singh and colleagues¹ reported findings similar to those from our department.² We questioned 150 newly diagnosed diabetic patients, 133 (89%) of whom had symptoms attributable to diabetes. Only 23 (17%)

symptomatic patients attributed their symptoms to diabetes. Twenty two (17%) had had symptoms for less than one month, 65 (49%) for between one and six months, and 36 (27%) for more than six months. The remainder could not be specific about the duration of symptoms.

We also inquired about a family history of diabetes to see whether this might influence the recognition of symptoms and speed of diagnosis. Sixty five (43%) patients had a relative with diabetes, and 51 (34%) had an affected first degree relative. Remarkably few of those with a family history realised the cause of their symptoms or appreciated their higher risk of developing the condition. This applied even when several members of the family were affected.

I agree with Singh *et al* that there is a need to educate the general public about the symptoms of diabetes but, with limited resources, it seems particularly important to concentrate on relatives of patients with non-insulin dependent diabetes who also have the means for screening with readily available blood or urine tests.

R H LLOYD-MOSTYN

King's Mill Hospital,
Sutton in Ashfield,
Nottinghamshire NG17 4JL

- 1 Singh BM, Jackson DMA, Wills R, Davies J, Wise PH. Delayed diagnosis in non-insulin dependent diabetes mellitus. *BMJ* 1992;304:1154-5. (2 May.)
- 2 Lloyd-Mostyn RH, Tan M. The influence of diabetic relatives on the diagnosis of diabetes. *Practical Diabetes* 1986;3:212-3.

Elderly people placed in wrong homes

EDITOR,—Fiona Godlee comments on the misplacement of elderly people in nursing and residential homes and on inadequate resources.¹ At a time of increasing demographic pressure the absolute reduction in the provision of both statutory residential homes and long stay NHS care is dictating the flow towards nursing homes. Valuable though nursing homes are, the soaring costs of support from the Department of Social Security do not necessarily reflect value for money, and some of the care procured is of inferior quality.

A continuing analysis (audit funded) of discharges from non-psychiatric hospitals in Aberdeen to continuing care, whether in a nursing home or a hospital, shows that those moving to nursing homes are much less dependent than those remaining in NHS continuing care wards. Among the first 25 residents admitted to each sector the mean modified Barthel index for those entering nursing homes was 33.0 (SD 5.1) compared with 23.8 (5.4) for those entering continuing care wards ($p<0.001$). (The modified Barthel index used in Aberdeen scores between 13 and 40, with the lowest score indicating maximum dependency.)

Although the dependency in many nursing homes is presently less than that in NHS continuing care wards,² this is changing rapidly. Those admitted relatively fit will age and become more dependent, and when the long overdue community care needs assessment is in place next year fitter people are likely to be offered more appropriate and cheaper care (whether at home or in residential settings that cost less).

Recent clinical experience suggests that nursing homes, relatives, and general practitioners are increasingly asking geriatric departments for advice and, at times, for problematic dependent patients to be removed from these homes and placed in NHS care. Such problems occur largely as a consequence of inadequate staffing, due partly to the insufficient funding available to nursing homes, many of which rely almost entirely on revenue from residents supported by the Department of Social Security.

The NHS nursing home experiments showed that high quality nursing home care is no cheaper than traditional NHS continuing care.³ Furthermore, a recent report by the Social Security Committee highlighted the underfunding of fees for state supported nursing homes.⁴ Before provision of NHS continuing care is considerably reduced the Department of Health must ensure that the need for high quality care for dependent elderly people is being met elsewhere. At present the NHS is still committed to looking after those requiring "nursing care," and many of the highly dependent and their families continue to request this.⁵ Much could be learnt from the experience of other countries (for example, Australia), but so far the policy makers have seemed to ignore this, with the resultant present chaos. A cohesive national policy is needed, but evidence suggests that the muddle will continue (or increase) after the watershed for community care in April next year.

WILLIAM R PRIMROSE
Department of Medicine for the Elderly,
Woodend Hospital,
Aberdeen AB9 2YS

1 Godlee F. Elderly people placed in wrong homes. *BMJ* 1992;304:1205. (9 May.)
2 Capewell AE, Primrose WR, MacIntyre C. Nursing dependency in registered nursing homes and long term care geriatric wards in Edinburgh. *BMJ* 1986;292:1719-21.
3 Social Security Committee. *The financing of private residential and nursing home fees. Fourth report.* London: HMSO, 1991.
4 Bond J. National Health Service nursing homes again. *Age Ageing* 1991;20:313-5.
5 Department of Health. *Discharge of patients from hospital.* London: DoH, 1989. (HC(89)5.)

Underfunding of inner city
general practice

EDITOR,—As general practitioners working in Tower Hamlets we are taking part in local discussion of prescribing policies. The underdevelopment of primary care in inner London has led to underallocation of resources because future funding is based on past expenditure.^{1,2} Despite some modernisation in general practice there is a continuing need to develop services, now set against the backdrop of cost limited family health services authorities.

As a deprived urban area Tower Hamlets has considerable avoidable morbidity and mortality. Standardised mortality ratios for 1986-90 for hypertensive and cerebrovascular disease (ages 35-64) were 177 (men) and 122 (women) and for asthma (ages 5-44) 157 (men) and 145 (women).³ The deprived and mobile population and the historical underdevelopment of services mean that many diseases and risk factors remain undetected. Local collaborative work, including the healthy eastenders project, and disease management guidelines address this problem. But improved care generally leads to increased therapeutic costs.

Prescribing analysis and cost (PACT) reports show that City and East London Family Health Services Authority's costs in December 1991 were more than 10% below the national average at 88% despite the authority having the national rate (45%) of generic prescribing. The region bases family health services authorities' budgets on PACT data with allowances for some costly transferred specialist prescribing such as drugs for HIV infection and fertility drugs. There is no uplift to finance the necessary improvements in prescribing initiated in primary care.

General practices now receive indicative prescribing amounts, which are set by the family health services authority in relation to their drug budget. In our practices the indicative prescribing amounts set for 1992-3 are less than actual expenditure in 1991-2 and seem to penalise the general practitioners for generic prescribing and high rates of detection of asthma. PACT data and indicative

prescribing amounts for one practice for the quarter ending December 1991 illustrate this. Generic prescriptions accounted for 66% of all prescriptions. Total costs were 11% below the national average and 2% above the average for City and East London Family Health Services Authority. The total cost of treating respiratory disease was 119% above the average for the authority. The indicative prescribing amount for 1991-2 was £202 927 and actual expenditure £258 582; the indicative prescribing amount for 1992-3 is £252 775.

These indicative prescribing amounts seem ridiculous; though not yet cost limits, they are economic guidelines and can adversely influence the quality of prescribing and detection of risk factors. We know of general practitioners who have felt constrained not to prescribe. We could not work within indicative prescribing amounts. They are a distraction and need replacing with guidelines for improving therapeutic practice.

Unless family health services authorities in deprived urban areas get more money to finance the development of quality care and services, including staffing, premises, and prescribing, according to national norms adjusted for local health indices, the quality gap will widen.

ANNA LIVINGSTONE
Gill Street Health Centre,
London E14 8HQ

RAJESH PATEL
Bethnal Green Health Centre,
London E2 6LL

1 London Health Care Planning Consortium Study Group. *Primary health care in inner London.* London: London Health Care Planning Consortium, 1981. (Acheson report.)
2 Hull S, Livingstone A, Dunford A. The general practitioner in the inner city. *J R Coll Gen Pract* 1984;265:469.
3 Department of Public Health Medicine, Tower Hamlets Health Authority. *Tower Hamlets people No 4.* London: Department of Public Health Medicine, Tower Hamlets Health Authority, 1991.

Lung cancer and radon

EDITOR,—Minerva has drawn attention to the 10% of lung cancers not attributed directly to smoking.¹ Much may be known about this already, as radon gas is cited as the second leading cause, especially in combination with smoking. Fiona Godlee in her article on environmental radiation² discusses radon but omits to mention that the prospects for cost effective intervention may be limited, especially when smoking has been phased out.

The number of preventable premature deaths from radon induced lung cancer among non-smokers in the United States is perhaps 700 a year (out of 5000) but in the United Kingdom less than 20 (out of 500). This is because only the buildings with a high level of radon may be thought worth treating to exclude radon so as to limit lifetime risks to 1% or less for non-smokers. This compares with an underlying total risk of cancer of around 20%, some of which may be addressed through diet and lifestyle.

However, up to 250 (out of 500) premature deaths in non-smokers might be avoided each year in the United Kingdom if £10 billion (£10 000 million) were spent initially on lowering radon levels in 10-20 million buildings. Such a sum might prove adequate to re-equip the NHS. More realistically, and assuming radon system lifetimes of 50 years within 80 000 of the worst affected houses, the cost per year of life extension may average at £70 000 for non-smokers. Action in the 2000 highest level houses would be better value at around £12 000 per life year, and might prevent two or three cases of lung cancer in non-smokers annually.

Recent articles have highlighted the debate on priorities within health budgets.^{1,4} However, vast sums that might be better spent on health continue to be allocated to "environment" via a public

health heading. Already billions of dollars have been spent on asbestos in the United States, apparently with little consideration of marginal cost effectiveness.⁵ Billion dollar bandwagons seem not to be fitted with brakes, and even the steering seems haphazard.

The central point is this: in the rush to environmental kudos funding is being devoted not only to genuine environmental issues but to minor health concerns, such as incidental exposure to benzene vapour from petrol. But some of the benefits may be so small that we need to pause to consider whether mainstream medical care could better utilise the resources. In short, it is time for some common sense to be applied as an antidote to shroud waving. Those with a good case need fear neither a dose of health economics nor rational environmental assessment. I would welcome correspondence on costs per unit benefit over a wide field for a review of spending on health compared with spending on the environment.

STEPHEN J WOZNIAK
Hertfordshire WD5 0QT

1 Minerva. *BMJ* 1992;304:516. (22 February.)
2 Godlee F. Environmental radiation: a cause for concern? *BMJ* 1992;304:299-304. (1 February.)
3 Normand C. Economics, health, and the economics of health. *BMJ* 1991;303:1572-7.
4 Smith R. Rationing: the search for sunlight. *BMJ* 1991;303:1561-2.
5 Common sense in the environment. *Nature* 1991;353:779-80.

Developing a hospital
information strategy

EDITOR,—We believe that information systems should be designed to provide management information and to facilitate clinical activity aimed at improving patients' care. The need for such systems is unassailable.

We agree with Christopher Bunch that "Clinical practice and decision making are poorly understood by managers and information specialists, and there are few clinicians who are both managerially competent and computer literate."¹ The creation of clinical information systems takes much effort and time. Of central importance to the success of such systems is the involvement of a consultant clinician in the specification of the system, and we believe that the royal colleges should address the question of training for clinicians in the development of information systems which may be subserved by the use of computers.

Managerial computer systems are used in the Central Manchester Trust, and our approach has been to pilot a clinical departmental computing system designed to meet the requirements of clinicians in the department of cardiology at Manchester Royal Infirmary; it is networked within the department and to the trust network. Demographic data, outpatient clinic lists, and inpatient waiting lists are downloaded from the central systems to the departmental file server.

The system provides basic office management technology, records the location of hospital notes within the department, and automatically generates clinic letters, ward letters, and discharge summaries. It enables scheduling and reporting of procedures in the catheter laboratory and stock control in the laboratory and other areas. Data are entered only once, and a particular member of the cardiology department's clinical or administrative staff is accountable for the accuracy of each item. All users gain something from the system—for example, it enhances job satisfaction; provides continuous access to selected administrative, clinical, and diagnostic data; and forms a basis for the development of clinical audit and resource management.

Our experience has shown that roughly 90% of the data required for a clinical departmental computer information system are common to all