anaesthesia the accreditation committee of the Royal College of Anaesthetists makes it clear that special consideration will be given to the needs of those in such posts. As one who has recently become accredited from an academic post (lecturer, senior registrar grade), I can attest to the truth of this.

Two years in a numbered post in Britain does not seem an unreasonable requirement. Those who accept posts without a number should be aware that they may be heading up a blind alley. The responsibility for advising such doctors lies with the senior clinical and academic staff who permit the proliferation of unregulated posts which are not eligible for accreditation.

J ROBERT SNEYD

Department of Anesthesiology,
University of Michigan Medical Center,
IG323 University Hospital,
Ann Arbor,
Michigan 48109-0048,
USA

- 1 Frew AJK. Specialist training and the EC. *BMJ* 1992;305:887. (10 October.)

Screening for abdominal aortic aneurysms

EDITOR,—It is not at all clear that screening along the lines proposed by P L Harris would have a large impact on reducing mortality from ruptured aortic aneurysms.¹ The best evidence for evaluating screening programmes comes from randomised controlled trials; unfortunately, none have been carried out to evaluate screening for aortic aneurysms. Because ruptured aortic aneurysms are a relatively rare cause of death, such trials are probably impractical because of the large samples required.² We must therefore use descriptive data to assess the likely benefits of screening.

From 1984 to 1988 inclusive, abdominal aortic aneurysms were responsible for an average of 5564 deaths a year,³ which is substantially below the 6000-10 000 that Harris quotes. Altogether 27.7% of these deaths occurred in women and 8.8% in men aged under 65; none of these deaths could have been prevented by screening men aged 65. Additionally, 30.0% of deaths occurred in men aged 75-84 and 6.3% in men aged over 84, with only 27.3% of deaths occurring in men aged 65-74, the main beneficiaries of the screening programme that Harris proposes.

The benefits of screening would be further reduced by non-compliance, especially if the prevalence of aortic aneurysms was higher in those who did not comply. No test has a sensitivity of 100%, and failure to detect all the aneurysms in the screened population would reduce the benefits still further. Some of the men diagnosed as having an aortic aneurysm might well be unfit for major surgery, and some other aneurysms would inevitably rupture during follow up.

As well as overestimating the benefits of screening, Harris underestimates the costs. The figure of £1 million a year that he says is required to run a national screening programme equates to £6000-£7000 per health authority. This would have to include the costs of equipment, establishing a case recall register, and employing and training staff. It is difficult to conceive how all this could be done for £7000 per health authority. At least 10% of the screened population would require further follow up for an indeterminate period, and Harris ignores the costs of this. Harris also underestimates the net costs of surgery: 2800 times £4000 equals £11.2 million, not £8 million. Up to 5% of the 4300 patients undergoing elective aneurysm replacement would die as a result of their surgery, and an unknown number of others would suffer major complications.

If screening for asymptomatic abdominal aortic

aneurysms is thought to be potentially worthwhile, further research is required into the epidemiology of the condition and into the full costs and benefits of screening, both financial and non-financial, before introduction of a national screening programme is considered.

AZEEM MAJEED

Department of Public Health Sciences,
St George's Hospital Medical School,
London SW17 0RE

- 1 Harris PL. Reducing the mortality from abdominal aortic aneurysms: need for a national screening programme. *BMJ* 1992;305:697-9. (19 September.)
- 2 Lederle FA. Screening for snipers: the burden of proof. *J Clin Epidemiol* 1990;43:101-4.
- 3 Office of Population Censuses and Surveys. *Mortality statistics 1984-1988: cause. England and Wales*. London: HMSO, 1985-90.

EDITOR,—As organisers of one of the largest programmes of community based screening for aortic aneurysm (the Birmingham community aneurysm screening programme), we take issue with some of the correspondence arising from P L Harris's comprehensive review of the subject.¹ In Birmingham and Solihull we have now screened 8000 men aged between 65 and 74, achieving a compliance rate of 87% with a single invitation. The aortic diameter was >30 mm in 545 men and >45 mm in 165. To date, 135 men have had their aneurysms repaired, with a 30 day mortality of 1.5%. Since the introduction of screening, despite an overall increase in the number of aortic procedures there has been a pronounced reduction in elective mortality and morbidity and length of stay in hospital.

J M Mason and colleagues claim to have evaluated proposals for aortic screening in south Birmingham but chose to ignore local data from the Birmingham community aneurysm screening programme.² They used information selected from a narrow range of the world literature, and, as they have acknowledged, "some very strong assumptions" were needed to reach their conclusions (J M Mason *et al*, Health Economics Study Group, St Andrews, Scotland, June 1992). Local trends are important, and Birmingham seems to be experiencing excess mortality from aneurysms (the standardised mortality ratio for Birmingham was 160 in 1990 (Office of Population Censuses and Surveys)). This is perhaps reflected by the high prevalence of aortic aneurysms (8.4%) found by the Birmingham community aneurysm screening programme in the screened population of Birmingham compared with other published series and those areas outside Greater Birmingham that we have screened.

Deaths from aortic aneurysm are increasing in Britain, and it is depressing to see patients continuing to die in the community and depressing for surgical teams to spend long hours treating patients with a poor chance of survival. Unless we conclude that treating patients after rupture of aortic aneurysm is not worthwhile this will probably become increasingly common. At present, little other than screening shows promise of changing the situation. The aetiology of aneurysms is probably far more complex than Mason and colleagues suggest,⁴ and the introduction of public health measures, even if effective, would take many years to produce benefit and would not address the immediate problem.

Preliminary results of screening for aortic aneurysm have been encouraging, with good compliance rates, acceptable accuracy, and low costs compared with those of screening programmes for other diseases. The second phase of evaluation of aortic screening, to determine the effect on community mortality, must now be embarked on rapidly. The only way this can be done, as F G R Fowkes and colleagues suggest,⁴ is with well conducted randomised studies; to do this needs the full cooperation and understanding of

everyone concerned, both in the community and in hospital units. Reviews such as that reported by Mason and colleagues do not answer this vital question and jeopardise the establishment of such studies.

C P SHEARMAN J D HAMER
G GRIMSHAW A CROW

Community Aneurysm Screening Programme,
Department of Vascular Surgery,
Queen Elizabeth Hospital,
Birmingham B15 2TH

- 1 Harris PL. Reducing the mortality from abdominal aortic aneurysms: need for a national screening programme. *BMJ* 1992;305:697-9. (19 September.)
- 2 Mason JM, Wakeman A, Griffiths RK. Screening for abdominal aortic aneurysms. *BMJ* 1992;305:1013. (24 October.)
- 3 Cheate TR, Scurr JH. Abdominal aortic aneurysms: a review of current problems. *Br J Surg* 1989;76:826-9.
- 4 Fowkes FGR, Ruckley CV, Powell JT, Greenhalgh RM. Screening for abdominal aortic aneurysms. *BMJ* 1992;305:1013. (24 October.)

EDITOR,—The arguments advanced by Azeem Majeed against a national screening programme for abdominal aortic aneurysms are specious, as is apparent from more careful consideration of the facts.

Ruptured abdominal aortic aneurysm is under-diagnosed as the cause of death in middle aged and elderly men.¹ As necropsy is not universal the mortality statistics from the Office of Population Censuses and Surveys² are believed to underestimate the number of deaths from this cause by a considerable margin.

Although new aneurysms may arise after the age of 65, these are unlikely to progress to rupture for at least another decade. This is why a single examination for men at 65 has been proposed. In the first year or two only a proportion of those at risk in this group will be identified, but this proportion will increase over time. More aneurysms could be detected by extending the scheme to include those with lower risk (women and younger men), but the law of diminishing returns would apply.

It is true that some men diagnosed as having abdominal aortic aneurysm may be unfit for surgery, but screening of asymptomatic individuals might identify a high percentage with low surgical risk.

On the question of costs the figure of £1m a year has been derived by extrapolating costs actually incurred in pilot studies³ and is therefore accurate. It will obviously be important not to undermine economies of scale by subdividing the total sum excessively. Majeed offers a simplistic mathematical correction to refute our estimate of the costs for additional operations expected to arise from nationwide screening. He fails to take account of the fact that the costs of emergency surgery are two to three times higher than those of an elective operation. After allowance for this difference a figure of £8m is realistic.

The need for continued research as advocated by previous correspondents⁴ is not disputed. It is appropriate for the Vascular Surgical Society to take the lead in this matter, and a specialist working group has been established to consider the issues in detail, identify deficiencies in current knowledge, and make specific recommendations regarding future progress. The merits of large scale randomised studies as suggested by Fowkes and colleagues and Mason and colleagues will be considered within this exercise. Progressive extension of screening programmes to encompass an increasing area of the country with detailed appraisal at each stage would seem to be a sensible way forward.

P L HARRIS

Vascular Unit,
Broadgreen Hospital,
Liverpool L14 3LB

- 1 Armour RH. Survivors of ruptured abdominal aortic aneurysms: the iceberg tips. *BMJ* 1977;iii:1055-7.

- 2 Office of Population Censuses and Surveys. *Mortality statistics 1984-1988: cause*. London: HMSO, 1985-90.
- 3 Collin J. The value of screening for abdominal aortic aneurysms by ultrasound. In: Greenhalgh RM, Mannick JA, eds. *The cause and management of aneurysms*. London, Saunders, 1990.
- 4 Fowkes FGR, Ruckley CV, Powell JT, Greenhalgh RM. Screening for abdominal aortic aneurysms. *BMJ* 1992;305:1013. (24 October.)
- 5 Mason JM, Wakeman A, Griffiths RK. Screening for abdominal aortic aneurysms. *BMJ*, 1992;305:1013. (24 October.)

Adolescent medicine

EDITOR,—Michael Malus highlights several areas of potential ill health among the teenage population in the United Kingdom.¹ His main premise is that improvements in teenage health depend on information and research findings that should be performed by a new form of secondary care specialist in adolescent medicine. He cites the success of the North American experience as being a good reason for promoting this new specialty elsewhere.

His review is based on mortality and morbidity statistics and the fact that they are at best unchanged and at worst have deteriorated over the past 10 or 20 years. This period has coincided with the emergence of the new specialty of adolescent medicine in North America. These data hardly support the concept of a successful introduction for the new specialty, and the one reference provided for a successful American programme describes teamwork rather than a specialty.

The medicine that Malus advocates is not holistic and does not seem to have considered the role of the family, education, or social services departments in the care of teenagers. Social needs may not always be the predominant factor of teenagers' care, but this group cannot be understood if isolated from their social context.

An adolescent medicine specialist with a significant service role would be faced with the difficulty of appropriate handover of care to other specialists. This is already the case with such illness as cystic fibrosis and renal disease in which the paediatrician may well care for the patient beyond the age of 16. However, more difficulties would ensue if the paediatrician were to hand over to the adolescent medicine specialist, who in turn would hand over to the adult physician. The general practitioner would probably be left trying to provide continuing care in the midst of poor communication with the secondary care providers.

American experience suggests that some teenagers may prefer some aspects of their health care to be provided away from their usual family or community clinics. It is unclear if this is the case in Britain. Research data from the Health Education Authority suggest that teenagers are uncomfortable in primary care consultations,² but this does not suggest that hospital doctors perform any better. Data from the United States and New Zealand suggest much criticism of health care professionals in the secondary sector,^{3,4} albeit in different specialties from that of Malus. Donovan has reported that a teenage health clinic carried out in his north London practice met with approval from the teenagers in the practice.⁵

Malus focuses on negative aspects of teenage care and assumes that drug use, teenage pregnancy, and use of alcohol and cigarettes is what teenagers would not do if they were merely better informed. The experience of health educators suggests that the solutions are not so simple. We know very little about teenagers' concepts of health and illness and the priorities they accord to health and lifestyle issues.

We agree with Malus that research into teenage health is an important area for investigation that should be encouraged. However, the creation of yet another specialty in the fragmenting secondary care sector will not necessarily help in the conduct of research which will inform "good practice" in

paediatrics, psychiatry, general medicine, accident and emergency medicine, and general practice.

L JACOBSON C WILKINSON
N CH STOTT P OWEN
R PILL

Department of General Practice,
University of Wales College of Medicine,
Cardiff CF3 7PN

- 1 Malus M. Towards a separate adolescent medicine. *BMJ* 1992; 305:789-90. (3 October.)
- 2 Bolding J. *Young people in 1987*. Exeter: HEA Schools Health Education Unit, University of Exeter, 1988.
- 3 Resnick M. *Health concerns of youth—multiple perspectives*. London: Academic Press, 1982.
- 4 Morris E. *Looking after yourself—some views from 15 to 19 year olds on health and illness*. Wellington, New Zealand: Department of Health, 1985:95-6. (Special Report Series 73.)
- 5 Donovan CF. Is there a place for adolescent screening in general practice? *Health Trends* 1988;20:64.

EDITOR,—Michael Malus's editorial arguing for a separate specialty of adolescent medicine focuses largely on the behavioural, psychological, and psychiatric aspects of adolescence.¹ These aspects of health care need often require skilled and sophisticated interventions if behavioural change is to occur. In the United Kingdom these are already offered by child and adolescent psychiatrists. The Health Advisory Services's report *Bridges Over Troubled Waters* in 1986 highlighted the need for further development of adolescent psychiatry.² Most of its recommendations have not been implemented and remain equally relevant in 1992.

Since the advent of the internal market in the NHS concerns have been expressed about psychiatric services for young people. The president of the Royal College of Psychiatrists has written to those chairing regional health authorities specifically about the continued need for psychiatric inpatient units for adolescents.³

Purchasing authorities need to be aware of the distinctive mental health needs of adolescents as this section of the population has few prominent or powerful advocates and pressure groups. They should seek to place contracts that encourage provider units specifically to address the needs of this neglected group. This will mean being clear about the skills possessed by physicians and those possessed by psychiatrists.

ANDREW CLARK
DAVID ROTHERY

Irwin Unit for Young People
(West Midlands Regional Adolescent Unit),
Hollymoor Hospital,
Birmingham B31 5EX

- 1 Malus M. Towards a separate adolescent medicine. *BMJ* 1992; 305:789-90. (3 October.)
- 2 NHS Health Advisory Service. *Bridges over troubled waters*. London: HMSO, 1986.
- 3 Sims ACP. *Psychiatric in-patient units for adolescents*. London: Royal College of Psychiatrists, 1992.

EDITOR,—Michael Malus proposes that there should be a specialty of adolescent medicine in Britain.¹ The transition from childhood to adulthood has increasingly become the focus of interest among clinical, educational, and social science professionals. Four key interrelated objectives of transition were identified by the Centre for Educational Research and Innovation²: a sense of identity and personal autonomy, taking full responsibility for one's own life; productive activity or employment with a view to self sufficiency (a goal perhaps to be modified in the present economic climate³); adult status in society and law, social interaction, and participation in the community; and adult relationships and roles within the family, establishing a partnership, and looking forward to parenthood.

Accomplishing these developmental tasks is seldom smooth; for young people with disabilities

"[the transition from school to adult life] is likely to be a period of particular stress."⁴ Yet these people have the same aspirations as their able bodied contemporaries, and most have a full life expectancy. We believe that specific transition services offer a way of helping these young people attain their full potential.

In Leeds our experience endorses a multi-disciplinary, multisectoral team approach focusing on the special needs of these young people. The work of our young adult team has recently been evaluated in a study funded by the Nuffield Provincial Hospitals Trust (in preparation), and we are writing a short handbook as guidance for those planning to set up services.

Under the Disabled Persons (Services Consultation and Representation) Act 1986, responsibility for physically handicapped school leavers rests with the local authority. But the health authority has a major role in identification and assessment and in providing health care and aids for daily living, as well as fostering self esteem and growth towards a fulfilled adult life.

MANNE CHAMBERLAIN
SALLY GUTHRIE

Rheumatology and Rehabilitation Research Unit,
School of Medicine,
University of Leeds,
Leeds LS2 9NZ

- 1 Malus M. Towards a separate adolescent medicine. *BMJ* 1992;305:789-90. (3 October.)
- 2 Fish J. *Young people and handicaps: the road to adulthood*. Paris: Organisation for Economic Cooperation and Development/ Centre for Educational Research and Innovation, 1986.
- 3 Jenkins R. Dimensions of adulthood in Britain: longterm unemployment. In: Spencer P, ed. *Anthropology and the riddle of the sphinx*. London: Routledge, 1990. (ASA monograph 28.)
- 4 Department of Education and Science. *Special educational needs*. London: HMSO, 1978. (Warnock report.)

Domiciliary thrombolysis by general practitioners

EDITOR,—The clinical criteria for entry to the Grampian region early anistreplase trial¹ were similar to those of previous trials in which electrocardiographic confirmation of the diagnosis was not required,^{2,3} and the diagnostic criteria were the same as those in the Anglo-Scandinavian study of early thrombolysis.³ The diagnostic accuracy of general practitioners and hospital doctors in the Anglo-Scandinavian study may therefore be compared directly.

The percentages of patients with a final diagnosis of any myocardial infarction were 72% in hospital and 78% in general practice, while for definite and probable myocardial infarction the figures were 66% and 61% respectively. This indicates similar clinical prowess even though junior hospital doctors take these clinical decisions every day while general practitioners averaged only about one trial entry a year. We agree that some patients with unstable angina were probably included under "ischaemic heart disease" or "possible myocardial infarction," but the explanation that John E Sanderson gives for the lower proportion of Q wave infarcts in the "home" group⁴ is incorrect: hospital staff were required to cite "hospital injection" unless they could find an alternative diagnosis to suspected myocardial infarction; this happened on only three occasions.

In the trial thrombolytic treatment was given strictly according to an agreed protocol and was not given inappropriately; it is the purpose of clinical trials to show what is appropriate clinical practice. We wished to test the hypothesis that very early thrombolytic treatment might abort infarction, which would be likely only in patients who had not yet developed diagnostic abnormalities on electrocardiography. That hypothesis was not confirmed, and the trial should certainly not be seen as a recommendation to give thrombolytic