the increased mortality. I would find it difficult on the present evidence to ask a fit, asymptomatic, elderly patient to agree to undergo parathyroidectomy.

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Non-mydriatic Polaroid photography in screening for diabetic retinopathy

SIR,—I have been using a non-mydriatic camera in a district general hospital diabetic clinic for the past three years and think that the finding by Dr D Jones and colleagues (9 April, p 1029) that one in five Polaroid photographs are uninterpretable is a remarkably high figure; in our experience failures are fewer than 1 in 10.

The age distribution of patients in their study is not mentioned; problems caused by constricted pupils and lens opacities rise progressively over the age of 65. If both eyes are photographed at the same clinic visit we have found that the second photograph is invariably of poorer quality than the first, and our practice now is to photograph the contralateral eye at the next clinic visit.

We have been screening all patients under 65 attending the diabetic clinic. Those with visual symptoms and those known to have retinopathy who were already under review by an ophthalmologist were excluded. The patients' mean age was 42.8 years (range 16-65) and mean duration of diabetes 9.8 years (range 0.47); 63% had type 1 diabetes. A total of 1166 retinas were examined with a Canon CR2-NM camera and Polaroid 779 film. Retinopathy (maculopathy, cotton wool spots, new vessels, and intraretinal microvascular abnormalities) was identified in 54 retinas (4.6%).

In an ideal world diabetic patients would undergo annual fluorescein angiography or be examined through dilated pupils by a consultant ophthalmologist (although many of my patients would be unwilling to submit repeatedly to either of these experiences). This utopian situation is unlikely to occur in most district general hospital diabetic clinics and the non-mydriatic camera should not be dismissed without further evaluation.

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What sort of health checks for older people?

SIR,—The leading article by Dr E G Buckley and Professor J Williamson (23 April, p 1144) commenting on the white paper *Promoting Better Health* raises the problem of the organisation of health services research and the dissemination of its findings.

In the late 1960s and 1970s comprehensive reviews of the value of screening for a variety of conditions and the criteria to be observed before introducing screening were published.¹⁻³ Furthermore, the Department of Health funded a major controlled trial of the value of multiphasic screening in middle age.⁴ In suggesting that health checks might be of value the authors of the white paper do not appear to have taken into account the results of these studies (funded by the Department of Health and Social Security).

In view of the correct insistence by the present government on the improvement of efficiency and effectiveness in the National Health Service, it is disappointing to find its own white paper wanting to perpetuate ineffective and inefficient procedures.

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Frequency of attendance at anticoagulant clinics

SIR,—We would like to add our comments to the findings of Drs M R Howard and D W Milligan (26 March, p 898) that 12 weeks between visits is compatible with good control in patients receiving long term anticoagulant treatment. It is our practice to work up to a 12 week period in all patients receiving anticoagulants. Once they are stable on an oral anticoagulant dose for this period we are very cautious about reducing the interval unless there is a genuine reason why the patient may require closer monitoring.

In the past recall of such patients at an earlier date has proved to be superfluous, and indeed changes in their doses have rendered them outside the recommended international normalised ratio (INR) range. We have come to the conclusion that because oral anticoagulants are influenced by many interactions (drugs, alcohol, compliance, disease state) any one factor or a combination of factors could be a reason why a patient has an abnormal INR value. Long term stable patients presenting with an unusual or an abnormal INR are quizzed very thoroughly for a reason. The patients for whom no reasons for variation are found are brought back to the clinic early with their dosage unaltered. If on return their INR is still abnormal only then is their dose adjusted.

If a reason for variance is clear, however, then their dose is adjusted and they are brought back to the clinic early for restabilisation.

In our hospital we have recently switched over to the narrower guidelines suggested by the British Society of Haematology for anticoagulant control. We have found that, while initially it takes longer to stabilise the patients, consistent control within the narrower limits is possible once patients are established. Finally, we are under pressure to increase the time between visits to limit the number of patients in our clinic, which is having to serve ever greater numbers of patients as more patients undergo cardiac surgery and receive anticoagulants long term.

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SIR,—Drs M R Howard and D W Milligan's study (26 March, p 898) produces some interesting questions but few solutions. In 1984 Wilson and James discussed the use of a computer in anticoagulant clinics.¹ We have used their program, with minor refinements, for over two years. The international normalised ratio can be set for a particular patient, and extremes of anticoagulation of some groups of patients can be avoided.

Control of anticoagulation in our clinic has improved.² There has been a reduction in people underanticoagulated (INR <2.0) from 14% to 6% and the number overanticoagulated (INR >4.5) has remained unchanged.

The importance of clerical help and a readily accessible database is highlighted by the apparent disappearance of 21 patients during the study by Drs Howard and Milligan. A computerised record system would help to prevent this. Increasing numbers of patients are being anticoagulated in the United Kingdom. We must provide a safe means of monitoring control. The use of computers in this regard has not yet been exploited fully.

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Healthy cities

SIR,—Glasgow is often cited as an "unhealthy" city and has been included by the World Health Organisation in its healthy cities project, described by Dr Tony Delamothe (16 April, p 1117). It is considerably larger than any other city in Scotland, and the cost it places on the health care system is enormous. When the mortality data in Scotland for 1959-83 were reviewed, however, it became clear that Glasgow did not have the highest mortality.

Although Glasgow had an excess mortality of 15% between 1959 and 1963, nine towns had greater excesses, with the small town of Coldstream heading the list with an excess of 34%. In 1969-73 mortality from all causes in Glasgow did not even fall within the top tenth of the distribution, although it had an excess mortality of 12%. Doune, a small town in central Scotland, had the highest mortality with an excess of 50%. In 1979-83 the mortality from all causes was computed for the 56 districts of Scotland. Glasgow had an excess of 15%, which was second to the district of Cumnock and Doon Valley.

Nine towns were in the top tenth of the distribution during both 1959-63 and 1969-73, indicating persistent health problems. For example, Whitthorn (in the south west) was ranked second highest for both periods with excesses of 32% and 46% respectively. During 1969-73 the disease profile for Whitthorn showed an excess mortality for all cancers, coronary heart disease, and cerebrovascular disease; but excesses were also found for bronchitis, emphysema and asthma, breast cancer, stillbirths, and perinatal mortality. Similar disease profiles, showing that ill health is not the prerogative of the cities, can be constructed for many of Scotland's small towns.

While ill health in a small town will never pose the cost on the National Health Service that is imposed by a large city, the relatively high numbers of deaths found in some of Scotland's small towns should not be ignored. Health for all by the year 2000 is as relevant to the smaller towns in Scotland as it is to Glasgow.

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Inhaling heroin during pregnancy

SIR,—Dr J E M Gregg and others (12 March, p 754) make the unsupported assertion that "the

practice of substituting methadone antenatally needs to be reconsidered for women who inhale."

They report no systematic attempt to obtain a detailed history of drug taking, saying that their patients admitted to using drugs but were reluctant to give details of the substances abused. Repeated testing for the presence of drugs in the urine provides a simple method of ascertaining drug use, and few patients sustain their reticence when shown the results. An exact knowledge of drugs which have been taken in pregnancy is vital when assessing the risk to the newborn. It is surprising to find no mention in the study of the numbers of patients currently injecting heroin, as needle marks would have been noticed presumably.

The pattern or severity of drug taking during pregnancy is not described. Withdrawal symptoms may be dose related,¹ and the amount of opiates taken daily is easily estimated by using the stated dose in fractions of a gram or from the stated daily cost and prevailing local prices. The daily consumption of prescribed methadone may be known with some accuracy.² Convulsions occurred in two of the babies whose mothers had taken methadone, but the relevance of this information is unclear as the doses are not given. Without urine testing there is no certainty that other drugs such as barbiturates or benzodiazepines were not also taken.

Methadone may have advantages for the woman but disadvantages for the neonate. If the woman wishes to withdraw from opiates there are many safe ways, such as a reducing course of methadone. Problems arise if the pregnant woman is unable or unwilling to withdraw before term. An intravenous drug user is best advised to take an oral preparation in the lowest possible dose, and methadone seems an obvious choice as it is readily prescribed in a liquid form which cannot be injected. The pregnant woman who "chases" heroin and is unable to withdraw or to reduce her habit is best served by a prescription of the lowest achievable dose of methadone. The advantages are that any doctor may prescribe this drug, and the patient may be encouraged towards less harmful pursuits.

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2 Johns A, Gossop M. Prescribing methadone for the opiate addict: a problem of dosage conversion. *Drug Alcohol Depend* 1985;16: 61-6.

AUTHORS' REPLY.—As we mention in our paper, the method of heroin abuse used by mothers in our study was inhalation, except in one mother who injected heroin in early pregnancy.

Mothers were asked at their first visit to the antenatal clinic about drug, alcohol, and cigarette habits. While admitting freely to the abuse of heroin by inhalation, on questioning later, in the postnatal period, they were reluctant to disclose details of the quantities of heroin abused. At an antenatal clinic taking a history is the only practical approach to the problem. Routine screening of urine for drugs would be impracticable and possibly unethical.

With respect to Dr John's point regarding the pattern and severity of drug taking, the form of this report forced us to abbreviate our description. In many cases we were aware of the daily cost, and hence the amount, of opiate used, but this bore no relation to the severity of symptoms. For the two babies who had convulsions one mother was taking 30 mg of methadone daily and the second a variable amount as she sold or bought methadone on the black market depending on the availability of

heroin. Knowledge of the actual dose is not always helpful. The relation between the maternal dose of methadone and the incidence of neonatal symptoms is unpredictable.¹ While methadone substitution has been used for many years for intravenous heroin abusers and is associated with improved fetal growth and reduced mortality, neonatal morbidity is greater and symptoms are more severe in the offspring of mothers maintained on methadone.²

A further intention of our paper was to suggest that antenatal methadone substitution may be inappropriate for mothers solely inhaling.

Can data about antenatal treatment for intravenous heroin abusers be extrapolated to mothers inhaling heroin? The withdrawal symptoms observed in the babies in our series might have been a consequence of substitution treatment in the mothers. The answer can be provided only by a controlled clinical study.

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1 Rosen TS, Pippenger CE. Pharmacologic observations on the neonatal withdrawal syndrome. *J Pediatr* 1976;88:1044-8.

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Cervical cytology screening

SIR.—Dr George H Anderson and others (2 April, p 975) have achieved a substantial decline in the incidence of and mortality from carcinoma of the cervix in British Columbia. In a recent study of the screening programme in Britain we concluded only that it seemed ineffective as presently organised.¹ However, our assessment may in part reflect the paucity of epidemiologically useful data available in Britain, the crucial defect of which is the lack of information on the age structure of the population screened.

To attempt to provide a better estimate of screening by birth cohort or social group than was available from Department of Health and Social Security records we surveyed the 212 laboratories in England recorded as having returned form SBH 140 on account of cervical smears processed in 1982. We received informative replies from 195, and the information is recorded in the table (only 88 laboratories had retained records for before 1974).

Completeness of records kept by laboratories processing cervical smears

Information required	Information recorded		
	Yes	No	Partial record
Department where smear taken	193	2	
Result of smear	189	3	3*
Date smear taken/received in laboratory	191	3	1*
Age of woman	181	11	3
Marital state of woman	117	63	15
Woman's occupation	65	108	22
Husband's occupation (if applicable)	92	94	19

*Positives only.

The distribution of laboratory information is patchy and would not permit a better assessment of screening than is already available. Many laboratories commented that data were retrievable only with great difficulty. The lessons to be learnt from 20 years' experience of collecting smear data

locally and nationally must be applied during the computerisation of laboratory information. Some of the information can be collected only with difficulty, some is inessential and hence dispensable (for example, marital state), and some can be approximated (for example by using postcodes as indicators of social class). Knowledge of the age distribution of the population screened is crucial and should preferably be counted as women screened rather than smears performed. Then we may be able to monitor our screening programme at regional and national level for the first time in its history.

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Pregnancy after renal transplantation

SIR.—Dr M D Pickrell and others (19 March, p 825) suggest that the incidence of intrauterine growth retardation is increased in pregnant recipients of renal allografts who have been treated with cyclosporin. Our experience is similar.

Three patients had pregnancies of 30, 30, and 35 weeks and delivered infants weighing 1000, 1100, and 1690 g respectively. All three babies were at or below the 10th centile. The first case was uncomplicated until the onset of premature labour, but intrauterine growth retardation was documented before delivery in the second and third cases (although only one of these pregnancies was complicated by hypertension).

Although intrauterine growth retardation was also seen in four out of 18 patients treated with prednisolone and azathioprine (unpublished observations), it may be that patients treated with cyclosporin are at greater risk. Dr Pickrell and colleagues speculate that cyclosporin is directly toxic to the fetus, but it is possible that the vascular changes seen in the kidney after prolonged treatment with cyclosporin¹ may also occur in the placenta, leading to intrauterine growth retardation. This could be studied by Doppler ultrasound² or by biopsy of the placental bed. As the number of women treated with cyclosporin increases any pregnancies occurring in this group would seem worthy of study.

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1 Mihatsch MJ, Thiel G, Spichtin HP, et al. Morphological findings in kidney transplants after treatment with cyclosporine. *Transplant Proc* 1983;15:2821-35.

2 Bradley RJ, Nicolaides KH, Brudenell JM, Campbell S. Early diagnosis of chronic fetal hypoxia in a diabetic pregnancy. *Br Med J* 1988;296:94-5.

SIR.—Dr M D Pickrell and others (19 March, p 825) should be congratulated for writing a helpful case report of intrauterine growth retardation in pregnancy after renal transplantation in patients receiving cyclosporin. We wish to raise the following points.

In normal pregnancy both glomerular filtration rate and effective renal plasma flow increase considerably. Therefore it would have been helpful to