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.

ANDREW JOHNS

Drug Dependence Unit,
Bethlem Royal Hospital,
Beckenham,
Kent BR3 3BX

1 Riley D. The management of the pregnant drug addict. *Bulletin of the Royal College of Psychiatrists* 1987;11:262-365.

2 Johns A, Goslop 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.

J E M GREGG
D C DAVIDSON
A M WEINDLING

Neonatal Unit,
Fazakerley District General Hospital,
Liverpool L10

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

2 Rosen TS, Johnson HL. Children of methadone-maintained mothers: follow-up to 18 months of age. *J Pediatr* 1982;101: 192-6.

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.

M MURPHY

Department of Community Medicine
and General Practice,
Radcliffe Infirmary,
Oxford OX2 6HE

1 Murphy M, Campbell M, Goldblatt P. Twenty years of screening for cancer of the uterine cervix in Great Britain 1964-84; further evidence for its ineffectiveness. *J Epidemiol Community Health* 1988;42:49-53.

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.

P F WILLIAMS
I G M BRONS
D B EVANS
R E ROBINSON
R Y CALNE

Departments of Nephrology, Surgery, and
Obstetrics,
Addenbrooke's Hospital,
Cambridge CB2 2QQ

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