that measurement of the plasma methadone concentration provides important information for clinicians and should be a routine part of substitute prescribing.

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Pregnant women taking methadone should be warned about withdrawal symptoms in babies

EDITOR,—Methadone maintenance programmes are established in Britain, and Michael Farrell and colleagues' review provides a reminder of the many benefits to opiate users.¹ It does not, however, mention the potentially serious neonatal withdrawal syndrome, which occurs in many babies born to mothers using methadone. The likelihood of withdrawal effects is only weakly related to the maternal methadone dose but is probably related to the speed with which concentrations decrease in the baby.^{2,3}

My district does not have an excessive problem with drug misuse, but since 1 January 1993, 12 babies have been admitted to the neonatal unit with a diagnosis of neonatal withdrawal. These admissions accounted for roughly 5% of our special care cot days. The table shows the maternal drug use immediately before delivery. We admit babies only when they seem to be experiencing serious withdrawal; until that point they are monitored with their mothers in the postnatal wards, and some babies never require admission.

After admission one baby, whose mother was taking only 5 mg of methadone a day, was not thought to have the withdrawal syndrome and was not treated. The remaining 11 babies required treatment with chlorpromazine for a median of 28 days; the median duration of admission was 31 days (table). There was no correlation between the methadone dose and the duration of treatment. Many mothers said that they had not expected their baby to suffer such prolonged withdrawal effects. Even when clear withdrawal symptoms were no longer apparent, both staff and parents

found these babies demanding, sometimes for several months.

By improving the mother's ability to care for her baby and reducing her exposure to the risks of illicit use of intravenous heroin, a methadone maintenance programme produces many benefits to the baby, and many paediatricians support the continuation of methadone programmes for users of intravenous heroin. For many drug users pregnancy is a stressful time that may not be suitable for active weaning from methadone.

Those involved in running methadone maintenance programmes should warn pregnant drug users that their baby will need to be observed for withdrawal symptoms for at least three days and may develop a withdrawal syndrome lasting for many weeks. This may provide an incentive for further controlled reductions in the dose of methadone. Even when the methadone dose has been reduced to very low levels, drug using mothers must be warned that prolonged admission to hospital is sometimes necessary if their baby develops serious withdrawal.

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Patients on methadone often continue with injected heroin

EDITOR,—The tentativeness of Michael Farrell and colleagues' conclusions in their review of methadone maintenance programmes suggests that the premise and execution of the programmes should be re-examined before the American policy is adopted elsewhere.¹ With reasonable doses of methadone, programmes are plagued by a high rate of early drop outs and frequent and disabling use of non-opiate depressants. With larger doses the use of stimulants is added to the problems. The findings that demand explanation, however, are the frequent continued use of injected heroin by subjects receiving a strong opiate in huge doses and the poor long term results—that is, the failure of subjects to re-enter a life free of the tyranny of compulsive drug use in numbers greater than that predicted by the usual maturation process.

Orally ingested methadone provides the "late," depressant effects of "their" drug but not the "rush." It is the total body orgasm or explosive relief of anxiety at the instant of injection that makes injected heroin so regularly the vehicle of compulsion. With methadone, the patient feels no physical withdrawal but experiences continued anxiety from the withdrawal of the major pharma-

cological reward. Patients, uninformed by dispensers of methadone who are unappreciative of their state, seek relief from their anxiety by negotiating larger and larger doses of methadone or by using alcohol or whatever prescription sedative they can get or, of course, heroin.

Massive doses of methadone will increase the prevalence of heroin free urine, but tolerance is not absolute and the patient will become less and less functional. If the goal of the programme is control of the user—that is, a reduction in real and nominal criminal activity—the course will be judged satisfactory. It cannot, however, be called treatment.

A programme that congregates compulsive drug users is inherently damaging. These patients are often in unending psychological withdrawal and are vulnerable to any clue or suggestion of drug use. Group therapy or the mere sight of some former dealer or companion can be irresistibly pornographic. The car parks and even the waiting rooms where the programmes are run become marketplaces for drugs. Dispersed dispensing is an attractive idea when compared with the centralised treatment required in the United States.

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We don't know whether heroin or methadone produces more withdrawal symptoms in babies

EDITOR,—Minerva summarised the study we performed in infants with neonatal abstinence syndrome.¹ This summary was misleading as it stated that withdrawal symptoms are more likely in infants whose mothers have been taking methadone than in those whose mothers have been taking heroin. This was not a finding in our study, and, although our study can be compared with others in which mothers had been taking heroin, no meaningful comparison can be made about the relative incidence of withdrawal symptoms in infants of mothers who have taken methadone and heroin owing to the small numbers of patients in each of these studies.

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Glasgow has an innovative scheme for encouraging GPs to manage drug misusers

EDITOR,—The Advisory Council for the Misuse of Drugs has concluded that general practitioners should participate more in the care of drug misusers.¹ Michael Farrell and colleagues express pessimism about this occurring owing to general practitioners' resistance to prescribing opiate substitutes,² though they cite a report showing that clinics for such prescribing may be operated successfully in general practice.³ We report an innovative method of more widely implementing this strategy.

During the recent past a number of general practitioners in Glasgow recognised that it was preferable for drug misusers to attend clinics expressly designed for their care. Greater Glasgow Health Board acknowledged and developed this initiative by creating the general practice drug misuse clinic scheme. The scheme, including payments to participating general practitioners, is being funded by the health board through its primary care development fund. The objective of

Maternal drug use immediately before delivery, age of baby at presentation, duration of admission, and duration of chlorpromazine treatment for the 12 babies of drug misusers admitted

Case No	Methadone dose (mg)	Other drugs taken	Age at presentation (days)	Duration of admission (days)	Duration of chlorpromazine treatment (days)
1	5	—	0	16	10
2	5	—	0	7	—
3	10	—	2	29	107
4	10	—	2	13	11
5	10	—	2	34	28
6	10	Diazepam, cocaine	0	47	44
7	38	—	0	60	61
8	45	—	1	31	56
9	60	—	0	37	10
10	—	Crack cocaine	0	16	11
11	—	Pethidine	2	14	12
12	—	Pethidine	2	12	40