Methadone maintenance treatment

Britain has been overcommitted to psychological theories of drug dependence

EDITOR,—Michael Farrell and colleagues' review of maintenance treatment with methadone fails to explain why there is only one British evaluation of such treatment or why there is a "virtual absence of structure and regulation in Britain."¹ I suggest that the lack of research was caused by the dominance of a few individuals and their commitment to psychological, usually behavioural, models of drug dependence.² As they rejected maintenance as a valid treatment for dependence,^{3,4} the directors of British research into drug dependence failed to evaluate it. Rather, they spent nearly 30 years unsuccessfully searching for a cure for dependence on heroin.

The dominance of psychological theories in education about drug dependence and in training, in my opinion, influenced staff of the drug dependence units to refuse to provide maintenance treatment. This meant that people who were dependent on drugs had to go outside the specialist system for maintenance treatment. I consider that the rejection of the public health model of treatment of dependence was also associated with a failure to respond to the threat of HIV and AIDS. Not one of the authors of the initial reports, in 1985-6, of HIV (human T cell leukaemia/lymphoma virus III) infection in British people who were dependent on drugs worked in drug dependence, and in 1985 the Royal College of Psychiatrists failed even to mention AIDS in a lengthy official report on treatment of misuse of drugs.⁵

Farrell and colleagues concluded that "the challenge for researchers and planners is to define clearly the most cost effective method to deliver long term methadone treatment." I argue that such research will not be done, nor its findings implemented, until British researchers, managers, and clinicians abandon psychological theories and return to an eclectic, public health model of drug dependence.

JOHN CAPLEHORN
Research officer

Department of Public Health,
Faculty of Medicine,
A27 University of Sydney,
Sydney 2006,
Australia

1 Farrell M, Ward J, Mattick R, Hall W, Stimson GV, des Jarlais D, et al. Methadone maintenance treatment in opiate dependence: a review. *BMJ* 1994;309:997-1001. (15 October.)

Advice to authors

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- 2 Edwards G. The Addiction Research Unit of the Institute of Psychiatry, University of London—1. The work of the unit's drug and alcohol section, and general issues. *Br J Addict* 1989;84:715-25.
- 3 Edwards G. The British approach to the treatment of heroin addiction. *Lancet* 1969;i:768-72.
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Methadone treatment can reduce mortality

EDITOR,—In their review Michael Farrell and colleagues emphasise the importance of methadone maintenance in the treatment of heroin dependence.¹ They omit, however, an important factor in the evaluation of treatment—namely, mortality. Heroin users have a high mortality compared with the normal population. This increased mortality can be lowered by methadone treatment. In untreated Swedish heroin users Grönladh *et al* noted a mortality 63 times that of the normal population.² During methadone treatment the mortality fell to only eight times that of the normal population. In our methadone project in Göttingen, Germany, we obtained similar results: heroin users had an extremely high mortality when injecting regularly (69 times that of the normal population (table)). In contrast, mortality was much lower when they received methadone. Only three patients died, two of AIDS and one of myocardial infarction.

The decrease in mortality is due to methadone maintenance, since, in the Swedish project, the high mortality returned when the patients were involuntarily discharged from maintenance treatment and returned to injecting heroin: their mortality increased to 55 times that of the normal population. Thus, clearly, many early deaths due to use of heroin can be prevented by methadone treatment.

WOLFGANG POSER
Associate professor

JOHN KOC
Clinical fellow in psychiatry
HANNELORE EHRENREICH
Senior lecturer

Methadone Project,
Department of Psychiatry,
University of Göttingen,
D-37075 Göttingen,
Germany

1 Farrell M, Ward J, Marrick R, Hall W, Stimson GV, des Jarlais D, Gossop M, Strang J. Methadone maintenance treatment in opiate dependence: a review. *BMJ* 1994;309:997-1001. (15 October.)

2 Grönladh L, Öhlund LS, Gunne LM. Mortality in heroin addiction: impact of methadone treatment. *Acta Psychiatr Scand* 1990;82:223-7.

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Standardised mortality ratio in injecting heroin users when injecting and when receiving methadone maintenance: preliminary data from Göttingen methadone project (in Germany methadone maintenance is restricted to injecting heroin users)

	No	Years under observation	Observed deaths	Expected deaths*	Standardised mortality ratio (95% confidence interval)†
Heroin users when injecting	188	167	14	0.203	69.0 (38 to 116)
Patients receiving methadone	151	149	3	0.183	16.4 (3.4 to 47.9)

*Calculated from appropriate tables of the "Statistisches Bundesamt" with consideration for year, age, and sex.

†Confidence intervals calculated according to method of Gardner *et al*.³

Treatment should be tailored for each patient

EDITOR,—Michael Farrell and colleagues note that for successful maintenance treatment of people dependent on opiates high doses of methadone are needed, and they recommend a dose of 70-120 mg a day.¹ High doses are essential for people with chronic dependence, particularly long term injecting misusers, who may use more than one drug, but it is doubtful whether extended treatment with high doses is suitable for people who smoke heroin and who meet the criteria for substitute prescribing. When heroin is smoked or inhaled (rather than injected) the equivalent daily methadone dose can be reduced by roughly one third. In our experience with people who smoke heroin lower doses of methadone (30-60 mg/day) prevent withdrawal symptoms and relapse.

Tailoring treatment to suit the individual person is essential. Providing a suitable dosage schedule is difficult because the patient's reported drug use has to be balanced against a clinical assessment of his or her dependence. A rigid conversion system (illicit heroin versus pharmacologically pure methadone) is not possible because of the fluctuating purity of illicit heroin.

Many variables have been investigated to help assess the efficacy of maintenance treatment with methadone. The usual procedure entails analysis of urine for drugs of misuse. Although important for assessing use of non-prescribed drugs, analysis of urine sheds no light on compliance with methadone maintenance. At present most doctors or agencies who prescribe methadone do not monitor compliance. This is despite the fact that in Britain a substantial quantity of methadone is diverted to illegal sources, with a resultant increased risk of unsupervised or unauthorised consumption of methadone by people who have never used opiates.^{2,3}

We believe that it is essential to know whether patients are taking all of their prescribed treatment, diverting a proportion of it, or supplementing the prescription. Scientific measurements are needed to test compliance; we have reported elsewhere that measurements of plasma methadone concentration meet this need.⁴ In one study we compared consumption of methadone by patients on the site at Leeds Addiction Unit with that by patients obtaining their prescription from a pharmacy. Compliance was assessed by measuring the plasma methadone concentration under steady state conditions. Patients who consumed methadone on site were substantially more compliant than those who consumed it off the site. Those who consumed it off the site did so at times other than those indicated on the prescription or consumed several days' supply at one time. Patients from both groups supplemented their prescription with methadone obtained illicitly.⁵

As a result of our work on compliance we believe

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

KIM WOLFF
Research fellow
ALASTAIR HAY
Reader in chemical pathology

Research School of Medicine,
Leeds University,
Leeds LS2 9TJ

DUNCAN RAISTRICK
Consultant

Leeds Addiction Unit,
Leeds LS2 9NG

- Farrell M, Ward J, Mattick R, Hall W, Stimson GV, Jarlais DD. Methadone maintenance treatment in opiate dependence: a review. *BMJ* 1994;309:997-1102. (15 October.)
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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.

STEVE KEMPLEY
Consultant neonatologist

Royal London Hospital,
London E1 1BB

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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.

FREDERICK H MEYERS
Professor of pharmacology

University of California,
San Francisco, CA 94143, USA

- Farrell M, Ward J, Mattick R, Hall W, Stimson GV, Jarlais D, et al. Methadone maintenance treatment in opiate dependence: a review. *BMJ* 1994;309:997-1001. (15 October.)

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.

N J SHAW
Consultant neonatologist

Fazakerley Hospital,
Liverpool L9 7AL

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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