had had upper abdominal operations, we found that demand reduced quite quickly over the first 24 hours in an apparently exponential manner.¹ Thus overdose can be expected on occasions with Dr Church's technique despite precautions, and indeed in two of his patients the antidote naloxone had to be given.

There is, however, a more fundamental objection to such a system. Only the patient can know when pain relief is sufficient and balance side effects against further requirements. Self-regulation may be because of excessive sedation or nausea, or because relief is then limited by the drug's analgesic potential. Rather than use an onlooker to try to balance such factors at short intervals, it seems more logical to allow the patient himself to initiate each incremental dose, imposing restraints which ensure that the effect of each dose is tested by the patient before another can be obtained. In our experience with such a system, no patients made demands anywhere near the maximum possible—an indication of feedback control. Furthermore, none showed signs of overdose such as respiratory depression or excessive drowsiness. This is in accord with our results from a large group of mothers in labour. It would seem therefore that patients do not voluntarily overdose themselves; it is only when a drug is administered on a preselected basis that this is likely to occur.

Although the average dose of pethidine used by our patients (8.1 mg/kg/24 h) is close to that of Dr Church's group (7.2 mg/kg/24 h), the variation in individual dosage was very substantial, ranging from 2.9 to 23.0 mg/kg/24 h. This wide individual variation was also reported by Professor M Holmdahl, speaking at the Royal Society of Medicine (6 April 1979), who also measured blood levels of pethidine in post-operative patients using the Cardiff apparatus. He found wide variations in the blood levels which afforded pain relief as well as differences similar to ours in the levels of demand.

As in so many fields of medical practice, maximum effectiveness must be balanced by considerations of safety. At present intramuscular administration of drugs provides inadequate pain relief in some patients, but this must inevitably be so if the level of supervision is inadequate. Continuous intravenous infusions obviously improve pain relief but need considerable supervision to make them safe. Close supervision involves mainly consulting the patient frequently—which is a pretty close approximation to self-demand without the built-in feedback safety. The apparent cheapness of the infusion has to be set against the expense of greater supervision. The apparent expense of a sophisticated apparatus must be set against less supervision and could soon be substantially reduced by mass production and developments in micro-electronic technology.

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¹ Chakravarty, K, *et al*, *British Medical Journal*, in press.

Clinical medical officers

SIR,—The problem of clinical medical officers, the large majority of whom are employed in child health, is of great concern to the Joint Paediatric Committee of the three Royal Colleges of Physicians in the United Kingdom and the British Paediatric Association. We feel

strongly that their natural affiliation lies not with community medicine but with clinical paediatrics.

There are, of course, many important matters to be looked at in relation to their training, qualifications, and career structure and in relation to the status of existing clinical medical officers. We intend to consider these in detail in the near future. The decision of the British Paediatric Association to establish a grade of associate membership in this context is welcomed.

The urgent necessity for the present is to establish clinical medical officers firmly as clinical doctors, albeit with important links with community medicine.

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Recent trends in opiate dependence

SIR,—Your timely leading article (7 April, p 911) has rightly raised "... doubts about the efficacy of the prescribing policy." This policy, adopted in the late 1960s, stopped the over-prescribing by a few doctors, probably largely responsible for the heroin-cocaine problem at the time,¹⁻³ but in recent years the numbers of "known" addicts have steadily increased.

The number of notifications of new ("not previously known") narcotic addicts has risen from 711 in 1970 to 1112 in 1977. A comparison of these recent figures with, for example, the total number of narcotic addicts known in the years 1960-5 (437 in 1960, 927 in 1965), or of the heroin addicts among them (94 in 1960, 521 in 1965) hardly supports claims that addiction has been "contained." Moreover, the finding that year by year a sizable and rising number of new addicts becomes "known" (or surfaces) probably reflects a gradually increasing illicit market in preceding years. Many addicts tell one that in recent years "much more stuff is available on the black market, chased by more people than previously." The Home Office explanation of improved notification procedures therefore probably does not account fully for the rising notification figures. Anyway, for various reasons many addicts are "lost" to the notification system.⁴ Similarly, one may doubt that the increased number of new cases is "largely offset by the number of cases removed from notification": of those addicts removed from the index, after admission to prison or because they are "no longer seeking treatment," quite a few are likely to resume drug taking on the illicit market without necessarily reappearing on the index.

Recent Home Office publications concentrate on the numbers of addicts known to receive drugs, as at 31 December of each year: 1426 in 1970, 2023 in 1977. But probably more significant, and more comparable with the statistics of the 1960s, are the numbers of addicts notified during the whole of the year (even if for some of the reasons mentioned above some were subsequently removed from the index): 2881 in 1969, a slight fall to 2661 and 2769 in 1970 and 1971, followed by a steady rise to 3611 in 1977. The 1978 figure seems likely to show a further, considerable increase.

Contrary to a widespread misunderstanding in the United States, no official British body has ever recommended a heroin maintenance programme. The 1926 Rolleston Report—the basis for all later policies—never suggested the possibility of maintenance prescribing without strict safeguards (although these were conveniently overlooked by the overprescribers of the 1960s).^{2,3} In practice, a proportion of addicts under treatment by the treatment centres have been maintained on injectable methadone (as distinct from the American oral methadone maintenance method). Treatment centre doctors originally probably chose injectable methadone rather unwillingly in the hope thereby to get addicts away from the illicit market. A black market in injectable methadone developed shortly after the establishment of the treatment centres. Oral methadone is obviously less risky but, on the other hand, recent trends of centres towards substituting oral for injectable methadone may be not unconnected with increased pressures on GPs (and private practitioners) to prescribe alternative (addictive) drugs such as dipipanone (Diconal) or dextromoramide (Palfium). GPs should be warned against a likely influx of patients asking for alternative drugs whenever centres tighten their prescribing policies; and there may be risks if private practitioners prescribe addictive drugs for purposes other than tiding addicts over the withdrawal period.

Among other evidence of an unsatisfactory state of affairs are cases of sniffing of heroin and cocaine (14 April, p 971) among affluent and "smart set" youngsters coming to one's attention. Moreover, as treatment centres were never set up to deal with the problem of non-narcotic yet addictive drugs (such as the "mainlining" of barbiturates,⁵ amphetamines, etc) or with the prevalent polydrug misuser, no adequate provision exists for tackling these serious and common problems. The time seems ripe for a review of management not only of the opiate problem but of the whole problem of misuse of, and dependence on, all types of addictive drugs.

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¹ Interdepartmental Committee on Drug Addiction, Second Report. London, HMSO, 1965.

² Spear, H B, *John Marshall Journal* (Chicago), 1975, 9, 67.

³ Glatt, M M, *et al*, *The Drug Scene in Great Britain*. London, Edward Arnold, 1967.

⁴ Smart, R D, and Ogborne, A, *British Journal of Addiction*, 1974, 69, 225.

⁵ Glatt, M M, *Lancet*, 1969, 2, 429.

Short dialysis regimens

SIR,—We read with interest the papers of Dr J A P Trafford and others (24 February, p 518) and Dr L Sellars and others (p 520) evaluating shortened haemodialysis regimens, particularly since their conclusions concerning its effects on hypertension differed. We wonder, however, how much the results of the Newcastle group reflected changes in dialysis equipment, frequency of dialysis, patient population, patient management, and the difficulties of retrospective analysis rather than a change in the hours of treatment given.

When studying a cohort of 53 patients in whom treatment hours were decreased from 18-21 to 12-15 h/wk, but without changing the dialyser, dialysate sodium, or frequency of dialysis, we also detected significant increases in systolic ($P<0.01$) and diastolic ($P<0.05$) blood pressure¹; but the degree of change was trivial (mean predialysis blood pressure $\pm$ SEM rose from $139 \pm 3/78 \pm 2$ to $146 \pm 3/81 \pm 2$ mm Hg). Moreover, the proportion of patients taking hypotensive agents did not increase, but fell slightly from 30% to 20%. We