labour should be enabled to do so. If followed, the advice will cause unnecessary hostility between general practitioners and women at this important stage of their life.

The document raises two other points. Firstly, there is no evidence to support the committee's advice. Delivery outside consultant units for women at low risk is safe, and the skills required for safe intrapartum care are well within the scope of the average general practitioner.⁵ Secondly, there is the "slippery slope" argument. If it is accepted that not all general practitioners will be able to undertake every responsibility in the new primary care led NHS, how is the GMSC to decide which skills are core skills and which lie within the domain of subspecialties in general practice that may develop? Will it be the province of every general practitioner to inject joints, give streptokinase, or advise about insulin regimens?

The GMSC's advice may placate those general practitioners who fear that they will be asked to attend home deliveries or supervise midwives. But the committee would answer the needs of pregnant women much better if it were to point out that midwives are professionals in their own right, general practitioners are not accountable for midwives' actions, and general practitioners with ordinary skills are usually capable of performing the tasks likely to be expected of them when attending women in labour.

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Deaths in police custody are being analysed retrospectively

EDITOR,—The Police Complaints Authority has expressed its concern about deaths in police custody to the Home Office,¹ and the Association of Police Surgeons has identified a need for further research to be undertaken into the issues concerned in these deaths. The two organisations are currently conducting a retrospective analysis of those deaths in custody that have already been investigated by the Police Complaints Authority. It is hoped that this study will highlight key issues that can then be considered by a confidential inquiry.

Vinod Patel's support for a prospective confidential inquiry into deaths in police custody is thus welcome, but the arguments that Patel presents in favour of such an inquiry seem misinformed.² Patel states that, according to the national police authorities, 15 such deaths occurred during the past 12 months. There is, however, no national police authority, and it is unclear where Patel obtained this figure. Certainly, it does not seem to accord with those of the Police Complaints Authority, which supervised inquiries into 25 deaths in police stations during the 12 months ending 31 March 1995. More surprising is Patel's

suggestion that there is evidence of a "hitherto unknown clinical syndrome" that predisposes subjects in police custody to forms of natural death. Patel seems to base this hypothesis on the fact that in only one of the 15 cases quoted "is prosecution of the police officer concerned pending." Deaths in police custody are rarely due to criminal activity by the police, and the absence of such criminality hardly lends support to the existence of an unknown clinical syndrome.

In fact, suicide is the most common cause of death in police custody, with deaths from natural causes forming only a small proportion of the overall total. The second most pressing issue of concern, after the suicide rate, is the management of people who have been arrested because they seem incapably drunk. These detainees seem to be at risk of death from alcohol poisoning, concurrent drug overdoses, or masked head injuries (table 1).

Table 1—Cause of deaths in police stations (or in hospital after collapse in police stations) as stated on medical certificate or established at inquest in cases investigated by Police Complaints Authority, 1994

Cause of death	No
Poisoning:	
Due to alcohol	7
Due to drugs	6
Asphyxiation:	
By hanging	12
By other means	1
Cerebral haemorrhage	1
Skull and brain injury	3
Natural causes	2
Total	32

We agree with Patel that the causes of all deaths in police custody should be ascertained and documented. Any confidential inquiry, however, is more likely to reduce the number of these deaths by identifying risk factors for suicide, promoting suicide awareness programmes, and producing guidelines on the management of drunk detainees than by identifying putative unknown clinical syndromes.

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- 1 Police Complaints Authority. *Annual report of the Police Complaints Authority. 1 January 1994-31 March 1995*. London: HMSO, 1995.
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Role of police surgeons is changing

EDITOR,—Graham Moon and colleagues highlight the importance of the further development of Britain's police surgeon service.¹ The work of the forensic physician (this is now the preferred term for a doctor providing medical care and forensic assessment of detainees in police stations) has changed dramatically over recent years. Since the introduction of the Police and Criminal Evidence Act 1984 the traditional role of a doctor (attending the police station to take blood in drink-drive cases) has changed, and further change is likely with increasing specialisation. A clear distinction between the therapeutic and forensic roles is not possible and has already been criticised.²

The management of people detained in police custody because of substance misuse has been

studied by a working party of the Department of Health, and guidelines are now available for doctors.³ Increasingly, the police request the doctor's opinion on whether a detainee is fit to be interviewed, and guidelines for this are being developed by the education and research subcommittee of the Association of Police Surgeons.

The editorial does not mention the role of appropriately trained doctors in the examination of people alleging assault. The examination of adults alleging sexual assault; child victims (usually done in consultation with a paediatrician); and others alleging violent crime, including domestic violence, is a substantial part of the work. The importance of having sympathetic doctors who can provide an accurate interpretation of the examination findings for the medical report and for court purposes cannot be overemphasised.

A group of enthusiastic doctors exists who are interested in the challenging work of clinical forensic medicine. It is our duty to ensure that they are well trained, skilled, and properly qualified to provide independent forensic medical services to anyone who needs them. There are now initial training courses, a national development training programme to update doctors, and specialist advanced tutorial groups to prepare doctors for the examination for the diploma in medical jurisprudence (the South East and London Group and the Forensic Academic Group in the North).

The Association of Police Surgeons is at the forefront of improving the standard of clinical forensic medicine in Britain, and we therefore look forward to the findings of the Home Office working party on the role of police surgeons, set up at the suggestion of the Royal Commission on Criminal Justice.

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Drugs for atrial fibrillation

Measurement of the pulse deficit is unnecessary

EDITOR,—In the article on drugs in atrial fibrillation a chart showing measurements of the pulse deficit is used to show the effect of digoxin.¹ This perpetuates the myth that measurement of the pulse deficit is useful. The measurement is a normal part of practice in Britain, though in North America it seems to have been abandoned (D Pauline, personal communication). It is a time consuming observation for nurses, for they are taught that the apex and radial counts must be made in the same minute and so two nurses are required.² It does not contribute to management, for the important measured effect of digoxin (or any other treatment) in fast atrial fibrillation is the lowering of the ventricular rate, not the radial rate or the apex-radial difference.

The reason that the practice is widespread in Britain is historical: the pulse deficit was a useful sign in diagnosing atrial fibrillation when electrocardiograms were difficult to obtain (the greater the pulse deficit the more likely that the rhythm was atrial fibrillation). Electrocardiograms have

not been difficult to obtain since the 1940s, but doctors have never got round to telling nurses that measurement of the pulse deficit should be abandoned. If this were to happen a considerable amount of nursing time could be saved.

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- 1 Lip YH, Watson RDS, Singh SP. Drugs for atrial fibrillation. *BMJ* 1995;311:1631-4. (16 December.)
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Digoxin comes from *Digitalis lanata*

EDITOR,—Gregory Y H Lip and colleagues say that the purple foxglove, *Digitalis purpurea*, contains digoxin.¹ This is wrong. Digoxin is obtained from the leaf of the woolly or Balkan foxglove, *D lanata*,² from which it was first isolated by Dr Sydney Smith at Burroughs Wellcome in Britain in 1930. It is still extracted from the plant because, although it can be made synthetically, this is a difficult and expensive process. Soon after the war the Dutch realised that plants would still be essential for the production of important drugs, and with funds from the Marshall Plan they cultivated the foxglove on a large scale. By selective breeding of *D lanata* they improved the yield of digoxin, and this drug is currently chiefly obtained from plants grown on a cooperative farm at Elburg in the Netherlands. *D purpurea* yields digitoxin,³ which is now seldom used in Britain.

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- 1 Lip GYH, Watson RDS, Singh SP. Drugs for atrial fibrillation. *BMJ* 1995;311:1631-4. (16 December.)
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Authors' reply

EDITOR,—In response to Tom Snow, our purpose in using as an illustration the ward observation chart showing the apex-radial pulse deficit in a patient with atrial fibrillation was not to condone the routine recording of this. Indeed, we did not even discuss it as part of routine clinical management. However, the pulse deficit is abolished after a return to sinus rhythm, and this may be useful in the clinical examination of patients with paroxysmal atrial fibrillation.

Our illustration shows that oral digoxin is relatively slow in achieving a satisfactory response of the ventricular rate in fast atrial fibrillation; this is a particular problem during exercise, fever, and other states in which catecholamine concentrations are high. In a study of 115 patients with fast atrial fibrillation the median time to achieve a ventricular rate of <100 beats/min was 11.6 hours; at 24 hours the rate had been controlled in only 70% of patients.¹ Although intravenous digoxin begins to work sooner (<30 minutes) than oral digoxin (30-60 minutes or more), it does not work instantaneously. Oral administration of digitalis, with a loading dose of 1 mg, produces peak blood concentrations of >1 µg/l within one to five hours and a maximum effect only after four to six hours; by contrast, an intravenous loading dose of 0.75-1 mg digoxin gives labile initial plasma digoxin concentrations (as high as 95 µg/l, which may be potentially more dangerous).² Thus loading still takes several hours to achieve its maximum effect in slowing the rate, and caution is necessary in elderly patients and those with renal impairment.

Although digoxin is commonly used in Britain, some authorities (especially in North America) have described it as a drug "whose time has gone," as β blockers and calcium antagonists (verapamil, diltiazem) are more efficient alternatives for controlling the rate.³

William Withering described the use of leaves from the purple foxglove (*Digitalis purpurea*) in "treatment of the dropsy"; the leaves were subsequently found to contain various compounds (initially described as "digitalin"), one of the most potent being digitoxin.⁴ Further work on a related plant, *D lanata*, yielded similar glycosides, including digoxin and the natural precursors of digitoxin and digoxin, which were initially referred to as "digitalis glycosides."⁴ As A Hollman states, most commercial digoxin is now obtained from *D lanata*.

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Techniques of vasovasostomy should be improved for men seeking fertility

EDITOR,—Y Khalifa and J G Grudzinskas highlight the recent advances in achieving fertility in azoospermic men with congenital or acquired obstructive problems by means of direct aspiration of sperm from the epididymis or testis and subsequent injection of sperm into the cytoplasm of the ovum.¹ Successful fertilisation can be achieved by these methods even if only just a few sperm are available.

A considerable proportion of men seeking fertility are those who wish to have a vasectomy reversed and those in whom attempted reversal has failed. Most vasovasostomies in Britain entail the insertion of several approximating whole thickness stitches, sometimes over a temporary indwelling splint, without the aid of any magnification; resulting fertility rates are below 50%.² Most failures are due to obstruction at the anastomotic site.³ Microsurgical reoperation can restore sperm in the ejaculate in most cases, but the best results are obtained with meticulous microscopic surgery as the primary operation, when patency of virtually 100% can be achieved, with fertility rates of up to about 70%.^{4,5}

Sperm aspiration and intracytoplasmic sperm injection involve specialised, labour intensive, and expensive techniques, which are unlikely to become available in more than a few selected specialised centres. Moreover, further conception, if desired, requires use of these techniques again, whereas after successful vasovasostomy conception is possible by natural means. Before widely recommending methods of assisted conception for men in whom an operation to reverse a vasectomy has failed, let us improve vasovasostomy by using microsurgical techniques such as those used in the United States, where anything less is considered to be inadequate.

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Prescribing of quinine and drugs that induce cramp

Study did not consider several factors

EDITOR,—Margaret A Mackie and John Davidson imply that general practitioners (particularly those in "high prescribing practices") prescribe quinine too frequently and before considering iatrogenic causes of the symptoms for which it is being used.¹ They also suggest that quinine is of equivocal efficacy.

The authors attempt to draw conclusions about prescribing costs from the cost or number of prescriptions issued per 100 patients. They make no reference to the age-sex profiles of the practices, which obviously influence prescribing and, as we are told anecdotally that "prescriptions for quinine were predominantly issued to women patients over 65," could be an explanation for the findings. In addition, the assumption that practices that prescribe more than 90 items per 100 patients are high volume prescribers fails to take into account the number of tablets issued per prescription. General practitioners who review their patients more regularly and issue fewer drugs per visit are erroneously labelled high volume prescribers.

The authors conclude that "a review of the need for and dosage of current drugs may be all that is required to alleviate the problem." They fail, however, to inform us of the proportion of patients in whom this course of action was considered or tried and in whom it was decided that agents that induce cramp could not safely be stopped (which the authors concede would be an indication for prescribing quinine).

Finally, the authors make no assessment of patients' symptomatic relief or the prevalence of symptoms in the practices that they imply are prescribing inappropriately compared with low prescribing practices. Possibly such practices have a particular interest in their elderly population and therefore detect more problems. In many areas of general practice the simplest way to keep prescribing costs down is to fail to recognise or detect a problem.

While I fully endorse efforts to rationalise prescribing, surely the above factors should have been considered. General practitioners often receive advice about prescribing that attempts to draw conclusions from poor studies. I am amazed that this article was published in its current form.

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- 1 Mackie MA, Davidson J. Prescribing of quinine and cramp inducing drugs in general practice. *BMJ* 1995;311:1541. (9 December.)

GPs should not be deterred from prescribing quinine

EDITOR,—In their paper on the prescribing of quinine and drugs that induce cramp the authors seem to be trying to convey three messages, all in my opinion fallacious.¹ One is that quinine is of doubtful efficacy in nocturnal cramps. Since