authority. I would hope that the consultant would escape involvement in any civil action that a patient might bring against the hospital (and possibly the general practitioner) if it could be shown that preventable damage had occurred because necessary drugs have been withheld.

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1 Wilkie P, Sibbald B, Raftery J, Anderson S, Freeling P. Prescribing at the hospital-general practice interface. 1. Hospital outpatient dispensing policies in England. *BMJ* 1992;304:29-31. (4 January.)

Risk of Down's syndrome and amniocentesis rate

SIR,—Several articles on assessing the risk of Down's syndrome on the basis of maternal age and biochemical markers in maternal serum have emphasised the sensitivity and specificity (that is, true positive and false positive rates) that may be expected by offering amniocentesis to women whose risk of bearing a fetus with the syndrome exceeds a predefined cut off limit.^{1,2} It seems to be assumed, firstly, that all or most obstetricians would be prepared to adopt the same limit for offering amniocentesis and, secondly, that most patients would accept such an offer. This second assumption has recently been questioned.⁴

We examined both these factors in Bristol, where assessment of the risks of Down's syndrome derived from maternal serum α -fetoprotein concentration and maternal age has been available on request for women over 30 (based on the report by Murday and Slack³) since 1985. We examined the figures for 1989 as this was the first year for which results were available on computer, thus facilitating the analysis.

The study was in two parts. The first was a survey of stated policies on offering amniocentesis among the 15 consultant obstetricians practising in Avon. The second was an analysis of the numbers of estimates of risk in various numerical risk groups and the numbers of patients actually proceeding to amniocentesis within each risk group.

Three obstetricians stated that they would offer amniocentesis if the risk was $\geq 1:100$, five if it was $\geq 1:200$, one if it was $\geq 1:250$, and two if it was $\geq 1:300$, while four did not use a fixed figure. Thus most chose a level of risk $\geq 1:200$. The table shows that only 14 (39%) of 36 patients with a reported risk $\geq 1:200$ actually underwent amniocentesis and that only 34 (31%) of 110 with a reported risk $\geq 1:300$ underwent amniocentesis. The reasons for

Rates of amniocentesis associated with different risks of Down's syndrome

Reported risk	No of reports	No (%) of amniocenteses
$\geq 1:100$	8	4 (50)
$< 1:100 \geq 1:200$	28	10 (36)
$< 1:200 \geq 1:300$	74	20 (27)
$< 1:300 \geq 1:400$	87	8 (9)
$\geq 1:400$	642	6 (1)

this low uptake of amniocentesis could include lack of enthusiasm for the procedure among obstetricians and unacceptability to patients. Perusal of the notes of those patients not proceeding to amniocentesis by one of us showed that in most instances the patient had declined the offer of amniocentesis. In a few cases this was related to a history of miscarriage.

If these findings—that less than 40% of patients with a risk of bearing a fetus with Down's syndrome of $\geq 1:200$ and less than a third of those with a risk $\geq 1:300$ proceed to amniocentesis—are representative of the national position they have serious implications for the benefits likely to accrue

from the introduction of population screening for the risk of Down's syndrome.

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Auditing necropsies

SIR,—Lauder highlights the value of necropsy in audits of clinical practice.¹ The purpose and perceived value of necropsy will be different for the pathologist, clinician, relatives, and coroner. Thus the need to audit clinical practice may well be an insufficient reason for relatives to consent to a necropsy while an inadequate necropsy may deter clinicians from making further requests.

Though some pathologists may be reluctant to admit that inadequate necropsies are performed, few attempts have been made to access the quality of necropsies. The most notable exceptions have been the confidential inquiries into maternal deaths and the national confidential enquiry into perioperative deaths, which have identified considerable deficiencies.^{2,3} Perinatal necropsies were audited in the West Midlands regional perinatal mortality survey⁴; only half attained what was a relatively low minimum standard. This is a matter of concern as the findings may influence the reproductive behaviour of the parents or the management of future pregnancies.

The coroner's necropsy raises further problems as there is rarely a perceived need for ancillary investigations. This is not helped by the response of coroners to requests for payments for investigations that may have to be met from laboratory budgets. These vary from no response (because the coroner believes that they are an integral part of the examination) to an arbitrary fee (irrespective of the work entailed) to acceptance of the Home Office rates as published by the BMA. There is also a lack of uniformity in the use of specialist pathologists. The Royal College of Pathologists has notified the Home Office of specialist paediatric pathologists on whom a coroner can call when appropriate. The use of this facility varies. The British Paediatric Pathology Association is surveying its members to assess the extent to which this facility is being used by individual coroners.

If we are to promote necropsy we must ensure that we are providing an adequate standard of service and can show that we are doing so. Although money for audit may be insufficient to fund the cost of ancillary studies for coroners' necropsies, it is adequate to allow the quality of services provided by pathologists to be assessed. Such audits must not be limited to the output of the pathology departments concerned but must also include an assessment by those receiving our reports of their quality and value. If our clinical colleagues are not convinced of the value of necropsy how can we expect to convince our hospital managers that it is worth funding?

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- 1 Lauder I. Auditing necropsies. *BMJ* 1991;303:1214-5. (16 November.)
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Communication of results of necropsies

SIR,—In their paper Paula Whitty and colleagues expose the inadequate provision of results of necropsy to clinicians; we support their recommendations regarding the provision of this information to general practitioners.¹

Necropsy reports are needed to complete the picture of a patient's death, but lack of resources in local pathology departments, the expense of purchasing coroners' reports, and, indeed, the quality of coroners' necropsies (which has been questioned²) may be a serious obstacle. General practitioners should, surely, receive a copy of all relevant reports free of charge. Funding needs to be identified to implement these recommendations in the light of the report *The Autopsy and Audit*.³

Whitty and colleagues' paper concerns necropsies other than those done by coroners; such necropsies are performed after only 3% of all deaths, and the paper therefore addresses only a fraction of the problem faced by general practitioners when trying to obtain information on patients of theirs who have died. Knowledge of the time, place, and cause of death is essential for administrative purposes—for example, for cancelling appointments, following up relatives and carers, and auditing both the quality of care and the quality of death certification.

We know that general practitioners would like to receive this information routinely,⁴ but presently no mechanism exists for its provision. The existing health service information systems do not permit the combination of general practitioner's name, patient's name, and cause of death. In Newcastle upon Tyne, with the help of the district health authority (supplying the patient's name and cause of death) and family health services authority (adding the general practitioner's name), we are preparing to create lists that include over 90% of deaths. We shall shortly circulate such lists to general practitioners and evaluate the benefits of providing them.

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Hormonal manipulation of prostatic cancer

SIR,—In his summary of hormonal management of advanced prostatic cancer Fritz H Schröder urges that the concept of total androgen blockade should be questioned and that enthusiastic claims of

commercially interested parties for the use of expensive drug combinations should be resisted.¹ For many years the standard treatment has been castration by surgical orchidectomy or, more recently, analogues of luteinising hormone releasing hormone.

Oral oestrogen treatment has been largely abandoned because of the thromboembolism and fluid retention that attend the use of conventional doses necessary to suppress testosterone concentrations in all patients to the castrate range. Yet the castrate range of plasma testosterone concentration in the context of subtotal androgen blockade was only arbitrarily chosen, long ago, as the lowest that could be conveniently achieved. A smaller reduction of plasma androgen concentrations may well provide optimal palliation.² As thromboembolic complications are dose dependent a lower dose of oestrogen will often control prostatic cancer with less risk of such complications.

Clinical trials by the Veterans Administration and more recently the European Organisation for Research Against Cancer (trial number 30805) (P Whelan *et al*, personal communication) have shown that survival statistics for treatment with 1 mg stilboestrol daily are similar to those for treatment with a larger dose or surgical orchidectomy. In a recent study I found that only 30% of patients taking 1 mg stilboestrol had mean testosterone concentrations in the castrate range. Sustained tumour suppression was frequently achieved with testosterone concentrations near to or within normal limits (unpublished findings). This raises the possibility of a direct effect of oestrogen on the prostatic tumour.

With newer, more accurate markers for prostatic cancer it may be possible to tailor the dose of oestrogen to achieve maximum control in individual patients; if cardiovascular risk factors can be identified, use of oestrogen can be avoided in specified groups of patients. It therefore seems foolish to reject a cheap and well established treatment that will be safe and effective in most cases. For those clinicians who cannot resist the lure of expensive drugs which are no more effective, a lower, more cost effective dose may be feasible if castration is not necessarily the goal of treatment.

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Vision screening in preschool children

SIR,—P G Bolger and colleagues raise several important points in their paper on vision screening in preschool children.¹ It is no surprise that orthoptists, by virtue of their training, are more sensitive at vision screening than clinical medical officers. By an intellectual sleight of hand, however, the authors go on to suggest that this in itself justifies preschool vision screening by orthoptists. Indeed, the burden of proof is reversed by the authors, who suggest that in the absence of controlled trials to show any improvement in visual outcome from screening and subsequent treatment a programme should be implemented anyway and, by implication, halted or removed only if a subsequent trial fails to show any clear benefit.

Even judged by the more limited conclusion that orthoptists were more efficient screeners, this study is seriously flawed. The authors do not state whether the same orthoptists staffed primary and secondary centres; if they did they would be less

likely to find many false positive referrals. Though the measurement of binocular function is quoted as one of the advantages of screening by orthoptists compared with screening by clinical medical officers, no data are provided. Did many of the children with 6/9 and 6/12 vision have good binocular function? Were they amblyopic at all?

Many of the children we see who have been referred with 6/9 or 6/12 vision turn out to have only slight ametropia. In the absence of good longitudinal studies of such children the parents cannot be counselled properly, and it may not be true to say that these children inevitably become amblyopic.

The economic analysis provided is too simple. In most areas patients are referred to consultant ophthalmologists for further assessment, and in a cash limited service this means that fewer patients from other sources of referral can be seen. In addition, it ignores the additional cost to the parents of a further screening visit to see the orthoptist.

Most screening programmes have to satisfy the following criteria: the disease should be economically important, early detection should be possible, and an effective form of treatment should be available. These criteria have not yet been satisfied for preschool vision screening. Given the serious underprovision of resources in ophthalmology we cannot support considerable investment in a national programme for orthoptic vision screening until the existing programmes have been properly evaluated.

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SIR,—In their article on vision screening in preschool children P G Bolger and colleagues did not make any reference to the experience or training in detecting visual problems that clinical medical officers in Weston-super-Mare district had.¹ The authors tried, however, to compare the clinical medical officers' results with those of orthoptists, whose main job and training are to detect visual problems. The two groups did not use identical methods: the orthoptists used two more tests, the prism test and the three dimensional visual perception (Frisby test), although the authors tried to play down the benefits of these two methods.

In my view the study would have been more meaningful if the comparison had been made after the clinical medical officers had received appropriate training in vision screening and it was then found that their results were significantly inferior to those of the orthoptists.

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SIR,—It is not surprising that P G Bolger and colleagues found that orthoptists are better at vision screening in preschool children than clinical medical officers.¹ I imagine that they would be more effective than health visitors as well.

The real question is whether it should be the policy of individual districts to perform vision screening in preschool children. There is indeed doubt about the effectiveness of treating amblyopia

or squint identified by programmes to screen children's vision before they start school.² Bolger and colleagues rightly suggest that the effectiveness of treatment should be assessed by a randomised controlled trial. I suggest that very many children would have to be entered into such a trial to have any hope of clarifying this issue in a reasonable time and that a multicentre trial would be necessary. As some form of preschool vision screening is, unfortunately, already being carried out in some districts, would it not be sensible for some official body, such as the British Orthoptic Society, to coordinate collection of the results of treatment in the form of a randomised trial?

Bolger and colleagues report false positive referrals, but their study did not extend to identifying false negative referrals—that is, children who, having "passed" their preschool test, present after school entry with amblyopia and squint. These children undoubtedly exist,³ and it will be necessary for any trial to take account of them.

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AUTHORS' REPLY.—P G Griffiths and M Clarke misrepresent some of our views. They are incorrect in asserting that we stated that assessment of binocular function was an advantage of screening by orthoptists. The point we raised was that binocular vision testing by orthoptists may have biased the results towards them but that the effect was unlikely to have been significant enough to alter the conclusions. Griffiths and Clarke ask whether the children were amblyopic at all. We consider that they were, and we emphasise that those with straightforward refractive errors were regarded as false positives and were not included as having amblyopia.

Orthoptists in primary screening clinics do work in the secondary clinics. We believe that if this had caused serious bias the results would have shown a higher proportion of children screened by orthoptists to have mild amblyopia. This was not found and was commented on in our discussion.

Griffiths and Clarke put words in our mouths by saying that we call for a national preschool vision screening programme based on orthoptists. We consider that districts will have to decide for themselves the priority they give to such a service, though we have advised Southmead to retain its service. In making the decision districts will have to use the evidence available. The suggestion that only services fully evaluated by controlled trials can be provided by the health service is simplistic and would exclude many if not most of those provided currently.

We agree with M M Madlom that the most likely reason for the differences in the performance of screening between the two areas was the training and experience of orthoptists. In the Bristol area (including Weston-super-Mare) clinical medical officers attend courses on preschool vision testing at the eye hospital and most spend time observing practice in the orthoptic department. Whether and how clinical medical officers' performance could be boosted to that of orthoptists would require study.

Finally, we agree with R M Ingram that the only way of resolving many of the questions that remain would be to carry out a randomised control trial. This would be a major undertaking and require the support of a large funding body. Meanwhile, the balance of evidence is that treatment of amblyopia