ment is important. If the treatment is inexpensive and safe then the test must be relatively cheap and very accurate to justify treatment not being given to everyone.

Measurement of blood pressure, although a relatively inaccurate predictor of risk for an individual,² is used cost effectively to guide decisions about treatment.³ This is because it is cheap and because the subsequent treatment (for example, with thiazide) is effective and inexpensive, while the averted disease is expensive and serious.

With regard to the prevention of osteoporosis, although the test is more expensive than measurement of blood pressure, many of the treatments are much more expensive. For example, alendronate costs about £335 per patient per year, whereas a thiazide costs less than £10. If Sheldon and colleagues' arguments were followed bone physicians could prescribe alendronate or a similar compound to women with other, weaker risk factors for fracture, such as a family history or early menopause. This, however, might result in more women taking relatively expensive pharmaceutical products. Using a bone scan to target the use of alendronate or other compounds might reduce the overall cost of treatment by preventing the treatment of some women who have clinical risk factors but high bone density.

Finally, the Aberdeen trial of screening for osteoporosis did not lead to the recommendation that half of postmenopausal women should take hormone replacement therapy. It found that half of the postmenopausal women with low bone density were taking such therapy one year after screening.⁴

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High potency parenteral B complex vitamin preparation is still available

EDITOR,—H Seehra and colleagues report that they successfully treated Wernicke's encephalopathy after vertical banded gastroplasty for morbid obesity by giving the patient intravenous Parentrovite.¹ Unfortunately, this product was withdrawn (and subsequently discontinued worldwide) in November 1992 as a result of manufacturing difficulties. Its withdrawal (and lack of awareness of the availability of a high potency replacement parenteral B complex vitamin preparation) has led to a considerable increase in the use of oral B complex vitamins in cases in which parenteral treatment is considered to be essential—that is, in actual or suspected Wernicke's encephalopathy, malnourished patients with alcohol dependence, and patients undergoing alcohol detoxification in hospital.^{2,3}

Clinicians should be aware that oral and parenteral B complex vitamins are not substitutable for each other in these patients as oral vitamin absorption is low and variable.⁴ In addition, a high gradient between plasma and central nervous system vitamin concentrations is required to restore B vitamin concentrations in the central

nervous system as rapidly as possible and to prevent irreversible organic brain damage.⁵

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Managing the increased workload in anticoagulant clinics

Computerised decision support is valuable

EDITOR,—F C Taylor and colleagues describe a method of managing the increasing number of patients seen in anticoagulant clinics by reducing the number of contacts with medical staff by using a screening process.¹ They show no improvements in clinical care in terms of the percentage of time for which patients' international normalised ratio is within the target range yet conclude that this is "a suitable method for managing the increasing numbers of patients without incurring additional costs, such as buying computer dosing systems or by shifting anticoagulant services to primary care."

As it has been shown that the percentage of time for which patients' international normalised ratio is within the therapeutic range can be consistently improved by use of computer dosage support^{2,3} it could be argued that improved control resulting in fewer attendances at the clinic would be a cheaper and more effective method of managing the increasing number of patients. Computer dosing also allows rapid identification of patients whose condition is poorly controlled and whose treatment requires medical input. For example, the 50 patients with the worst results identified by computer in south Warwickshire included 15 with recurrent deep vein thrombosis, 14 of whom were taking warfarin at the time of the recurrence. Such valuable clinical information would not be routinely available to anticoagulant clinics that did not use computer support.

A multicentre study is currently being undertaken in Birmingham to assess the usefulness of computerised decision support in association with near patient testing to manage patients being treated with warfarin. Far from leading to an increase in costs as suggested by Taylor and colleagues, this method of management could lead to a considerable cost saving, and it is much preferred by patients. Taylor and colleagues suggest that adequate clinical control can be achieved with reduced medical contact. The logical conclusion from this is that clinical control can be achieved with minimal if any medical contact, and, indeed, in south Birmingham patients attending the hospital based anticoagulant clinic see a doctor only on their first visit.

Several models of care will need to be available for patients receiving warfarin, and these will include traditional hospital based clinics, computerised decision support, and primary care clinics incorporating new technologies. It is important that these services are developed in partnership so that patients can receive person-

alised care that is suitable to both their physical health and their social environment.

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Clinics led by nurse practitioners can work well

EDITOR,—F C Taylor and colleagues' solution to managing the considerable increase in workload that all anticoagulant clinics have experienced over the past few years is not radical enough.¹ Most district general hospitals do not have sufficient medical staff to contemplate consultant led or registrar led anticoagulant clinics, and the use of junior medical staff is inappropriate.²

Seven years ago we introduced a similar system to the authors', with health care assistants using a form to document changes in patients' circumstances, but we also introduced a computer system for dosing the patients. This allowed the follow up clinics to become postal clinics, which considerably reduced the medical hours required. Computerisation can work well for most patients taking warfarin. The proportion of our patients whose international normalised ratio was in the appropriate target range after these changes was 96.5%, the average interval for patients between clinics was 44 days, and only 2% of patients needed to see the clinical assistant; these figures compare favourably with those reported by Taylor and colleagues.

Two years ago the rate of referral of new patients (up to 15 a week) became impossible to cope with within existing resources. We trained nurse practitioners to manage the clinics, and doubled the number of clinics for new and problem cases, within existing financial constraints. The plan was to remove routine medical input from the clinics, except for advice on particular problem patients.

With the benefit of 18 months' experience and audit, the nurse practitioners have been an unqualified success, greatly improving the standard of service to the patients. The average interval between visits for new as well as follow up patients has improved further to 56 days, while the high percentage of patients whose international normalised ratio is within the target range has been maintained. The nurse practitioner now sees up to 20 new referrals every week and, additionally, assesses and gives guidance to some elderly patients before they leave hospital. The nurse specialists find the anticoagulant clinics rewarding³ because they are in charge of their own clinic, seeking medical advice only for problems outside their experience. With training, nurse specialists can run anticoagulant clinics as well as haematologists can.

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False positive findings of mammography will have psychological consequences

EDITOR,—We applaud E Lidbrink and colleagues' attempts to quantify the substantial disadvantages of false positive findings in patients invited to attend for breast screening.¹ Clearly, a financial cost of over £250 000 from a single round of screening at a well organised centre in Stockholm represents a huge sum that could have been better spent, though to us the more important feature of the report relates to the adverse psychological events. The authors state that they did not study the "possible adverse psychological consequences of the false positive mammograms in these women," but experience from daily life teaches us that nothing is so corrosive and enervating as a persisting uncertainty about the possibility of serious illness or upset. After six months only two thirds of the women (219/342) had been declared free of cancer, so one third must have spent even longer under the sword of Damocles.

Many of the malignant lesions proved ultimately to be non-invasive—23% and 29% in the first and second rounds respectively. Since we do not know that identification and early treatment of these tumours lead to a worthwhile survival benefit, the true value of the screening must have been correspondingly reduced.

Finally, we are forced to wonder whether some of the centres that pride themselves on having low ratios of benign to malignant findings on biopsy in Britain might be those with the worst record for prolonging the period before declaring patients free of cancer so that they increase their specificity ranking.

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Seasonal variation in deep vein thrombosis

Fatal pulmonary embolism is increased in both autumn and winter

EDITOR,—Henri Bounameaux and colleagues state that "two previous reports...suggested an increased incidence in winter of fatal pulmonary embolism...but the conclusions were derived from small numbers."¹ In fact, however, there have been at least 23 reports,²⁻⁵ comprising nearly 11 000 cases.

Figure 1 shows the data from these reports. In all four sets of series more cases occurred in one or both of the quarters October to December and January to March than in either of the other quarters. In addition, however, there were in total as many cases in October to December (2893) as in the mostly colder months of January to March (2898), and in July to September (2646) as in the mostly less warm months of April to June (2651).

If these results were found to recur then the role of temperature might prove to be indirect.

Fig 1—Number of cases of fatal pulmonary embolism in various series by quarter of occurrence, standardized to 31 day month

One possibility is that in autumn the steep but irregular fall in temperature interacts adversely, conceivably through melatonin, with the irregular fall in the hours of sunlight and the steady fall in the length of daylight.

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Daily measurements of temperature should have been used

EDITOR,—Although Henri Bounameaux and colleagues admit that their study has limitations, they do not mention the potential problems associated with grouping events into monthly or arbitrary seasonal periods.¹ The months of the year are not of equal length, and wide variations in weather conditions may occur within any given month; this is a particular problem in Britain.

Studies that have shown a relation between ambient temperature and, for example, risk factors for ischaemic heart disease² or epistaxis³ have used daily recordings of temperature. If Bounameaux and colleagues had access to similar meteorological data for Geneva it would be interesting to know whether the negative findings of their present study were confirmed.

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Author's reply

EDITOR,—T M Allan and A S Douglas's additional data on the increased risk of fatal pulmonary embolism in the cold months are interesting. As we stated in our paper, however, these data do not necessarily contradict our observation of a lack of seasonal variation in deep vein thrombosis, the source of pulmonary embolism. Indeed, comorbidities related to the winter might contribute to a reduced tolerance to small emboli. Alun Tomkinson questions our crude grouping of events by monthly or arbitrary seasonal periods, though this makes sense in a study that aimed at assessing monthly and seasonal variations. Admittedly, our data do not exclude the possibility of daily variations in the occurrence of deep vein thrombosis related to changes in ambient temperature (or barometric pressure or humidity). Since we had no access to these meteorological data, we are unable to study this interesting hypothesis.

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Stridor in rheumatoid arthritis may be caused by laryngeal amyloidosis

EDITOR,—I agree with D H Bossingham and F G Simpson that the investigation of dyspnoea and stridor (even when intermittent) in a patient with rheumatoid arthritis should routinely include laryngoscopy.¹ The authors state that cricoarytenoid fixation may cause such symptoms, but in addition stridor may be caused or compounded by laryngeal amyloidosis, which can occur as a complication of rheumatoid arthritis. The surgical resection of troublesome foci of laryngeal amyloidosis may be warranted in selected cases.²

Such symptoms also occur in other connective tissue disorders, and I have one patient with severe ankylosing spondylitis and mild stridor that is due to unilateral cricoarytenoid fixation and supraglottic amyloid.

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Waist circumference remains useful predictor of coronary heart disease

EDITOR,—Margaret Ashwell and colleagues¹ have produced evidence from the 1992 health survey for England to support our suggestion that waist circumference is a good predictor of risk of cardiovascular disease.² We are puzzled, however, by their suggestion that the ratio of waist circumference to height may be a better predictor of risk than waist circumference alone. In fact, after adjustment for age their data show that correlations of the waist circumference with the calculated risk of coronary heart disease are, if anything, slightly higher than correlations of the ratio of the waist circumference to height with the calculated risk.