LETTER

Patients' knowledge of warfarin treatment

We previously reported an evaluation of advice given to 50 newly referred patients to an anticoagulant clinic and of patients' knowledge of anticoagulant treatment.¹ Many patients reported not having received clear advice from hospital clinicians and doctors in the anticoagulant clinic on five aspects of anticoagulant treatment: the calendar method, how warfarin works, potential complications, drugs to avoid, and safe levels of alcohol consumption. When questioned on four aspects patients' knowledge was also found to be poor. These aspects cover items of advice in the Department of Health's booklet on anticoagulant treatment for patients which were thought to be the most important to minimise the risks of anticoagulant treatment.²

To improve advice given to patients specific guidelines on counselling patients about these five aspects of anticoagulant treatment were widely disseminated among hospital clinicians.³ For doctors in the anticoagulant clinic, a counselling checklist on these and other aspects of anticoagulant treatment was incorporated into the anticoagulant clinic records. To improve patient knowledge an information leaflet was made available to patients and a poster was displayed within the clinic. Both were based on information in the Department of Health's booklet. To reinforce the advice given healthcare assistants within the anticoagulant clinic were instructed to ensure that the leaflet was understood by patients and were trained to ask them five key questions on potential complications at each clinic visit (change in treatment,

hospital admission, bleeding or bruising, attendance at the accident and emergency department, and forthcoming surgery).

We performed a second evaluation of 52 newly referred patients, using the same methods as in the first evaluation. There were no significant sociodemographic or clinical differences between the two study populations. Overall, more patients reported receiving clear advice from hospital doctors and doctors in the anticoagulant clinic on three or more aspects compared with the first evaluation (77%, 40/52 *v* 60%, 30/50 respectively). Slight improvements were reported in three aspects of advice given: the calendar method, how warfarin works, and drugs to avoid, but these were not significant (table). Improvements in patient knowledge were also small, but the proportion of patients identifying two potential complications – namely, one type of drug to avoid and (although fewer patients reporting having received clear advice) safe levels of alcohol consumption – increased significantly. The proportion of patients identifying aspirin as a drug to avoid decreased, but not significantly. In addition, fewer patients expressed concern about anticoagulant treatment in the second evaluation than the first (44%, 23/52 *v* 68%, 34/50; treatment *p* < 0.001). The reduction in anxiety may reflect better communication between patients and healthcare professionals, leading to enhanced patient knowledge and therefore better understanding of safe anticoagulant treatment.

The second evaluation showed overall improvements in doctors giving patients advice on anticoagulation and an increase in patients' knowledge of their treatment. We recommend a multiple strategy of wider dissemination of guidelines and the incorporation of counselling checklists in anticoagulant record cards to ensure that comprehensive advice is given initially. In addition, reinforcing this advice with

written educational guides and active inquiry about potential complications will contribute to improving patient knowledge.

Studies evaluating the relation of giving patients' advice and improved clinical outcome showed variable results and we therefore suggest that better patient education in anticoagulation is part of an overall programme in improving effective anticoagulant control.

The counselling checklist and patient information leaflet are available on request.

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- 1 Taylor F, Ramsay M, Tan G, Gabbay J, Cohen J. An evaluation of patients' knowledge about anticoagulation. *Quality in Health Care* 1994; 3:79-85.
- 2 Taylor F, Ramsay M, Renton A, Cohen H. Guidelines on anticoagulation. *BMJ* 1994; 307:197.
- 3 Department of Health. *Anticoagulant treatment*. London: HMSO, 1985. (Dd 8933025.)

BOOK REVIEWS

Quality Assurance in Medical Care. I Boucher, J Beck, I Russell, eds. Royal Society of Edinburgh. (pp 388; £48). Edinburgh: RSMEd, 1993. ISBN 0308-2113.

Quality Assurance in Medical Care is a volume of essay chapters by different authors. Five general chapters are devoted to the principles of quality assurance as they apply particularly to health care, including chapters on information technology, patient outcomes, a perspective of health economics from Alan Williams, and a thoughtful contribution on scientific and methodological issues in quality assurance from Ian Russell and his colleagues. There are five chapters on quality assurance in laboratory specialties – blood transfusion, clinical biochemistry, histopathology, laboratory haematology, and medical microbiology – which have a longer tradition of quality control and quality assurance than does clinical practice, and to complete the review of diagnostic services there is a chapter on quality assurance in radiology. Eight chapters are set aside for quality assurance in different aspects of health care – for example, nursing practice, general practice, and hospital practice; within hospital specialties management of chronic disease, surgery, and maternity are highlighted. Two chapters deal with prescribing drug treatment, one the control and standardisation of biological medicines

Comparison of advice given on warfarin treatment and patients' knowledge of treatment. Figures are numbers (percentages) of patients

Aspect of treatment evaluated	First evaluation (n = 50)	Second evaluation (n = 52)
Patients receiving clear advice on:		
Calendar method	22(44)	31(60)
How warfarin works	38(76)	45(87)
Problems with warfarin treatment	31(62)	33(63)
What drugs to avoid	37(74)	46(88)
Safe levels of alcohol consumption	41(82)	41(79)
Potential complications identified:		
Nose bleeds	26(52)	28(54)
Prolonged bleeds following minor injury	30(60)	37(71)*
Bruising	23(46)	37(71)*
Blood in urine	18(36)	30(58)
Blood clots	18(36)	23(44)
Drugs to avoid identified:		
Aspirin	40(80)	41(79)
Cough medicine	9(18)	13(25)
Health shop remedies	7(14)	19(37)*
Starting and changing medication:		
Starting new medication may affect warfarin treatment	33(66)	42(81)
Changing medication may affect warfarin treatment	26(52)	32(62)
Alcohol:		
Eight units of alcohol a day affects warfarin treatment	26(52)	40(77)*

**p* < 0.001.

and the other drug compliance. The two final chapters are on quality assurance in biomedical and health services research by Moir and Bouchier of the chief scientist's office of the Scottish Home and Health Department and in medical publication by Stephen Lock.

Quality Assurance in Medical Care provides a useful reference document for quality assurance in health care in the United Kingdom and its chapters have comprehensive reviews of the literature. As in almost all publications of quality assurance in health care, its main weakness is its emphasis on theory and methods; very few examples are given of ways in which quality assurance has actually improved quality of care. In the chapter on quality assurance in general practice, of the 92 references, only eight seem from their titles to be concerned with actual improvement in patient care. In that on nursing practice the number is only five of the 153 references. The chapter by Ian Russell and his colleagues explains some of the reasons for this difficulty but not all of them.

The time has surely come to publish articles which show how quality assurance techniques are improving care. Of course "quality assurance" may be too broad a term to allow the effect of its implementation to be adequately assessed, and we therefore need more detailed studies of different interventions such as continuing medical education and clinical audit. At any rate this book reflects the fact that few practical examples of improvement are available.

Anyone interested in quality assurance in health care in the United Kingdom, from a purchaser or provider perspectives will find this a useful review. It would have been strengthened by contributions from more outsiders, for those working within a system are not necessarily best equipped to identify its weaknesses; thus those who have seen quality assurance only in health care may often be greatly helped by people who have been responsible for improving quality in other aspects of public service or industry.

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The Textbook of Total Quality in Healthcare. Al-Assaf AF, Schmele JA, eds. (pp 301, £35.00). United States: St Lucie, 1993. ISBN 0 9634030 4 4.

At a small meeting about continuous quality improvement and total quality management at the King's Fund Centre, London, in 1992, a speaker from the West Paces Ferry Hospital in Atlanta opened his talk by stating enthusiastically that "CQI/TQM is about boot strapping the differential." Time, territory, tradition, and trust have been listed as the main obstacles to increasing physician participation in managing quality, but the barrier of comprehension is surely more fundamental. Although we supposedly share a common language, the linguistic divisions between those immersed in this field in the United States and interested parties in Britain are sufficiently wide as to impair understanding and limit communication.

However, if these obstacles can be overcome the ideas of continuous quality improvement and total quality management in health care are pretty simple. Few people could argue with the notion of continuous improvement in health care, or with the idea that such an approach needs to be placed within an organisational culture in which quality improvement is a serious priority which receives top level management support and adequate resources. But beyond the obstacle of language lies a more serious barrier related to the manner in which these ideas are presented. A common complaint is that proponents of total quality management are not engaged in an exercise in convincing the sceptical by scientific argument but are seeking to convert the unbelieving to a movement that has much in common with a proselytising religious sect, characterised by philosophical rules (Deming's 14 points), an appeal to authoritative experts or gurus (for example, Juran, Deming, and Shewhart), and an assumption that scepticism equates with opposition.

Any text on total quality management should be judged on the extent to which these major barriers to comprehension are overcome. The *Textbook of Total Quality in Healthcare* is a mixture of multiauthor chapters on the origins and development of total quality, together with reproductions of previously published papers on the theme. Some of these are valuable contributions, particularly Berwick's "Continuous improvement as an ideal in health care" and the article by Laffel and Blumenthal on the case for using industrial quality management science in healthcare organisations. But the original chapters are patchy and repetitive; there are at least three separate explanations of the origins of quality improvement in health care. Overall the language of the text is not too obscure to those who understand the complexity of the United States' healthcare system. However the greater problem lies in its evangelical tone. Although anecdotal evidence reporting success has been reported from the first healthcare organisations to embrace these concepts, we should perhaps be wary of generalising from these institutions which are inherently atypical as shown by their approach to innovation. The final chapter, a case study from the Veterans Administration, demonstrates the true timescale of the processes of change in more typical organisations. It is anticipated that total quality management will be implemented by the middle of 1996 and it is therefore unlikely that any formal evaluation will take place until well into the next century. Until such time as definitive evidence becomes available, we should expect to hear more evangelism.

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AUDIT TOOLS

Charting the Way to Excellence: Indicators of Ward Learning Climate. Helen D Orton, Julie Prowse, Charles Millen. Sheffield: Health Research Centre, Hallam University, 1993. ISBN 0 86339 419 1.

Regardless of professional affiliation, a hospital ward is a major source of experiential learning opportunities. This report describes a three year study which developed an audit tool for appraising the quality of the learning climate experienced by students studying for their Diploma in Nursing during their institutional placements.

The study was carried out in two stages using various research methods. The first stage lasted two years and resulted in the identification of six key factors which formed the basis for the ward learning climate indicators: orientation of the placement, the student's mentor, supernumerary status, theory and practice, progressive assessment, and staff attitudes and behaviour. The second stage adopted an "action research" approach in which ward staff and members of the research team worked in partnership to analyse the learning climates of wards and simultaneously to test and refine the indicators. Furthermore, groups of students, nurse teachers, and hospital staff undertook an assessment of the value and effectiveness of the tool.

The results showed that the research participants believed the audit tool to be a valid and reliable instrument for assessing the ward learning climate. It also held the promise of being a catalyst for the promotion of better working relationships between teachers, managers, and practising staff.

The report's final chapter is particularly interesting in that it raises issues that have a detrimental effect on the quality of the learning environment but over which individual teachers, students, or practitioners, have little jurisdiction. These include having responsibility without control, the lack of role clarity, and the pace of change. The resolution of these issues lies with the system rather than with staff. Readers with a knowledge of the principles of continuous quality improvement will recognise the problem and its possible solutions.

In conclusion, the attraction of this report is that it provides readers with an audit instrument that can be used to assess the quality of the ward learning environment. The bonus is that not only is the tool research based but it has also been validated in practice settings. If I have a concern it relates to the restricted scope of the research data, which focus almost exclusively on nursing within the Sheffield area. None the less the document makes a valuable contribution to the growing literature on the evaluation of learning environments.

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