

Medical Education

Doctors accept a challenge: self-assessment exercises in continuing medical education

R M HARDEN, W R DUNN, T S MURRAY, JILL ROGERS, CYNTHIA STOANE

British Medical Journal, 1979, 2, 652-653

Summary and conclusions

A new approach to continuing medical education by distance learning has been implemented. A series of six patient-management problems or challenges were posted to 20 000 doctors throughout Britain. Each doctor had to decide on the diagnosis, investigations, and treatment of the patients described. The challenges covered problems that were important in the doctor's day-to-day work and were designed so that he could obtain immediate feedback about his decisions and compare his own responses with those of a specialist and those of his colleagues. Additional information was available by telephone and by post on request. The series has been well received and is being widely used.

Introduction

The problems of traditional courses in continuing medical education are well recognised—poor attendance, lack of relevance to every-day practice, and insufficient feedback to participants. The report *Competence to Practise*¹ advocated that "further research is needed into methods of continuing medical education" and also advised, "it is a necessary part of a doctor's professional responsibility to assess his own work regularly in association with his colleagues." We report a new approach to continuing medical education that allows doctors to continue their education at a distance from the training centre, to assess their own competence in managing practical problems, and to compare their decisions with those of their colleagues.

Methods

A series of six patient-management problems or challenges, each dealing with one patient and the decisions that had to be made about the patient's diagnosis, investigations, and management, was posted to about 20 000 general practitioners throughout Britain. The problems included were a diabetic patient who had collapsed, hypertension

in a middle-aged woman, a patient with cirrhosis of the liver, a young man with chest pain, a problem of bereavement, and a patient with a myocardial infarction and an arrhythmia. In each problem the physical setting, the resources available, and sufficient background information about the patient and his family to allow the reader to answer subsequent sections of the problem were given. We give the case history of the young man with chest pain as an example.

Case history

He is a 45-year-old local bank manager and has been your patient for five years. At seven o'clock in the evening he was reading a book at home when he suddenly developed severe central chest pain. You are called to see him, and when you arrive he has had the pain for one and a half hours. This pain radiates into his neck and down both arms and is accompanied by nausea, sweating, and dyspnoea. On examination he is pale and vasoconstricted. His pulse is 54/min, regular. His blood pressure is 90/60. Jugular vein pulse is raised and there are crepitations at the lung bases with a triple rhythm at the apex. He has xanthelasma. You do an ECG, and this shows acute ischaemia in the inferior leads.

He and his wife live in a large detached house with the bathroom and bedrooms on the same level. They have no family, and both have enjoyed good health. Fifteen years ago the patient's father died suddenly, aged 50, from a heart attack.

The doctor was asked to decide on the clinical findings, diagnosis, further investigations, and management (figure). He was asked to rate the relevance or importance of each decision on a one-to-five scale, where one was something that was certainly wrong, or should not be done, and five was something that was certainly correct, or needed doing.

Having recorded on paper his own decisions, the doctor could then compare his own ratings with those of a specialist and with the ratings of 100 general practitioners. These 100 GPs were selected as doctors whose judgment other doctors had indicated they respected and to whom they would refer their families for primary medical care. They were distributed throughout Britain in urban and rural prac-

1 = BY THE TIME YOU SEE HIM HE HAS HAD THE PAIN FOR ONE AND A HALF HOURS AND IS VERY WORRIED. GRADE THE DESIRABILITY OF USING THE FOLLOWING DRUGS TO RELIEVE HIS PAIN.

	5	4	3	2	1	Feedback to left of dotted line
(a) Pentazocine (eg, 60 mg IM)						
(b) Pethidine (eg, 100 mg IM)						
(c) Diclofenol (eg, 75 tablets orally)						
(d) Morphine (eg, 15 mg IM)						
(e) Cyclamorphine (eg, 15 mg IM)						
(f) Diamorphine (eg, 10 mg IM)						

2 = THERE IS DISCUSSION AT PRESENT AS TO WHETHER A PATIENT WITH MYOCARDIAL INFARCTION SHOULD BE MANAGED AT HOME OR IN HOSPITAL. NOW IMPORTANT IS EACH OF THE FOLLOWING FACTORS WHEN DECIDING WHETHER TO ADMIT THIS MAN TO HOSPITAL?

	5	4	3	2	1	Feedback to left of dotted line
(a) He is aged 45						
(b) His pulse rate is 54/min						
(c) His blood pressure is 90/60						
(d) He has had chest pain for 1½ hours						
(e) The standard of facilities at home						
(f) He lives ten miles from the hospital which has a coronary care unit						
(g) His father died of a coronary thrombosis						
(h) His wife is keen that he stays at home						

Two of the questions used with the case history of the man with chest pain.

Centre for Medical Education, the University, Dundee DD1 9SY

R M HARDEN, MD, FRCP, director
 JILL ROGERS, BA, formerly research assistant
 CYNTHIA STOANE, DIPCE, DIPEDTECH, research assistant

Department of Education, University of Glasgow, Glasgow
 W R DUNN, DMED, senior lecturer
 T S MURRAY, PHD, MRCP, senior lecturer

tices. So that the ratings of the specialist and of the 100 GPs were not immediately visible, they were printed in invisible ink using a latent image process.² Supplied with the challenges was a special pen which, when used to mark the paper, disclosed the specialist's and the practitioners' ratings.

Alongside the ratings a short feedback message was printed using a latent image process. If a practitioner using the challenge found that his ratings disagreed with the specialist or with the 100 GPs, he could, by using his pen, obtain the feedback message, which attempted to explain the discrepancy. Two other forms of feedback were available. A more detailed discussion of the patient, produced jointly by the hospital specialist and the general-practitioner author of the challenge, was sent on request. This review also discussed the ratings that had been given by the specialist and by the group of 100 GPs. Doctors could also hear a two-to-three-minute recorded commentary on the general issues raised by the challenge, by telephoning a number noted on the challenge. The message was relayed through a telephone answering machine, and at the end of the recorded message doctors could record on tape any comments they had or questions they wished to raise.

The general practitioners to whom the challenge was sent were asked to return to Dundee a postcard on which they had noted the ratings for the various decisions they had taken about the patient.

Results

We have tried to assess the number of doctors who have been using the challenge, the uses to which they have put it, and their attitudes to it. Altogether 3620 doctors returned cards to Dundee with their ratings and with comments about the challenge; 3065 doctors requested reviews of the patient and 306 made use of the recorded telephone message. One hundred GPs randomly chosen from the *Medical Directory* were telephoned to ascertain whether they had used the challenges. Forty-five had, of whom 23 indicated that they had returned the cards to Dundee with a note of their ratings and comments about the series. This number agreed with the overall number returning ratings cards and suggested that about the same number again had used the challenge but had not returned their ratings cards.

The comments received about the series were, with only a few exceptions, favourable. Typical general comments were, "Extremely interesting and novel presentation," "Enjoyable," "Very useful way of keeping in touch," "Good fun and interesting way to revise and learn," and "Pleasantly painless way of studying." Some participants entered into the spirit of the ratings scheme—"I positively like the method and give it a '5'" and "I make you grade 5." The recurring theme in the comments was that doctors had learnt from the presentation and found it interesting and enjoyable. Several practitioners offered to pay for a further series. Participants welcomed the opportunity to assess their own competence: "Very interesting form of self-analysis," "Very useful and satisfying method of self-assessment," "Very educational and chastening," and "Instant feedback is an excellent idea." Doctors also welcomed the opportunity to compare their own decisions with those of their colleagues: "A comparison with colleagues particularly interesting," "Useful to compare with other general practitioners," and "Very clever, non-threatening method of peer GP assessment." Some readers, however, found it difficult at times to reconcile the views of a specialist with the views of the 100 GPs: "Who is supposed to be right, the hospital consultant or the GPs?" and one reader was concerned about some of 100 "good" general practitioners—"Your 100 respected GPs contained some highly dangerous ones!"

One interesting feature was the differences of opinion that emerged in relation to the patients' management. Thus the decisions by the authors that the patient with a myocardial infarction should be kept at home rather than be admitted to a general medical ward caused considerable comment: "If the writer were himself a patient I'd wager he would go to a medical ward rather than stay at home"; "I think admission, even to a general ward, is indicated. They have a defibrillator"; "Unhappy treating arrhythmia at home"; "Try convincing a patient to stay at home rather than go into a general medical ward"; "I feel a general medical ward would have advantages over home, twenty-four-hour care by nurses and proper control of the pulse"; and "I have GP general beds and would have admitted him to the local cottage hospital."

Doctors reported that they used the challenges in several different ways. Many doctors worked through the challenge on their own comparing, as they did so, their responses with those of the specialist

and the 100 GPs. Others worked through the challenge with their colleagues at group practice meetings. Some used it as training material with their trainees, sometimes ending up by listening along with the trainee to the telephone message. One doctor considered the challenges "an excellent method for postgraduate rehabilitation," and another "great fun for all the family."

Discussion

While a longer term follow-up remains to be carried out, the response so far to this approach to continuing medical education is encouraging. Doctors appear to have used it and to have considered that they learnt from it. Most found the approach stimulating and thought-provoking.

The reasons for the favourable response to the challenges will, it is hoped, emerge from a more detailed study. Probably, however, the following factors contributed to the success of the project:

- (1) The series was produced jointly by a hospital specialist and a general practitioner. It was aimed primarily at the general practitioner and was orientated towards general practice rather than to hospital practice.
- (2) The challenges were concerned with issues of practical importance rather than with theory. The physical, psychological, and social aspects of the patient's care were considered, and discussions about which there could be speculation were included as well as matters of fact. An example of this was the decision whether the patient with a myocardial infarction should be admitted to a general hospital ward or kept at home.
- (3) The doctor could assess his own competence and compare his performance both with a specialist and with his peers.
- (4) Immediate feedback was available using the latent image process, and further more detailed feedback was offered by post or by telephone as required.
- (5) The challenges constituted a distance-learning approach to continuing medical education in which the practitioner could use the challenges and obtain feedback at a time and place convenient to him when separated by a distance from the originators of the challenges.

While the results to date are encouraging, further work is needed to evaluate this approach and to study ways in which it can be developed further for the continuing education of doctors. It has been clearly shown, however, that such a programme can provide a useful addition to continuing medical education programmes based on a postgraduate centre.

We thank Searle Laboratories for financial support and the specialists and general practitioners throughout Britain who contributed to the development of the problems.

References

- ¹ Committee of Enquiry into Competence to Practise, *Competence to Practise*. London, HMSO, 1976. (Alment Report.)
- ² Rogers, Jill, et al, *Journal of Audiovisual Media in Medicine*, 1979, 2, 27.

(Accepted 4 July 1979)

What is the latest treatment for cysticercosis?

The treatment for cysticercosis continues to be that of the symptoms that it causes. No drug is effective in killing the cysts, and indeed it might be better to allow them to die slowly rather than to hasten their death, for it is after death of the cysts that their contained fluid is liberated, surrounding inflammation provoked, and, if the cysts are invading the brain, epilepsy may result. The symptomatic treatment consists in controlling the allergic manifestations that may occur and also controlling the epilepsy, should this develop. The signs of allergy usually respond to an antihistamine, such as promethazine (Phenergan), 10 mg twice daily. The epilepsy will respond to standard anticonvulsant treatment.