Moneymed: a game to develop management skills in general practice

B. ESSEX, MB, MRCGP
General Practitioner, Sydenham

R. N. JACKSON, MB, MRCGP
General Practitioner, Sydenham

SUMMARY. A game has been developed to train people in the financial and administrative skills needed for effective general practice management. These skills cover a wide range of legal, economic, administrative and personnel problems encountered in general practice. Thirty-four trainees and six trainers showed a highly significant improvement in knowledge and problem-solving skills after playing the game. The format and design of the game allow the problem type, complexity and solution to vary and to be readily updated. So far, this seems to be one of the most effective instruments yet developed for learning these skills.

Introduction

MANAGEMENT and administrative skills are essential for general practice. In our experience many vocational training programmes neglect these skills, an important omission in the eyes of trainees. Trainers may recognize administrative needs but find general practice administration difficult to teach because it is a diffuse and often ill-understood subject. The statement of fees and allowances (the 'Red Book') is difficult to read and complicated to interpret. Most conventional texts on practice finance and management are not problem-oriented. It was felt that here was an important educational need for which no appropriate method of training was available.

Aim

The hypothesis to be tested was whether or not a game could be a cost-effective, feasible and acceptable way of meeting this educational need. The specific aim of Moneymed is that, after playing the game, the participants should be able to:

1. Identify sources of income (salary elements, items of service, extra payments).
2. Define criteria for these sources.
3. List regulations which govern the management of common financial, legal, administrative and personnel problems.
4. Apply knowledge of criteria and regulations to solve management problems.
5. Identify the most common causes of inefficient practice management.
6. Plan cost-effective solutions to a wide range of practice problems.
7. Acquire a high level of competence in these areas through a problem-oriented method which is self-taught and independent of individual trainers.

Method

Identifying problems

Our first step was to identify the major financial, management and administrative problems which arose in a group practice of five doctors during a 12-month period. These problems included those connected with a planned and now completed move to a health centre. Other doctors with a special interest in the field were asked to identify problems which the authors had overlooked. A literature survey was conducted, but little of value was available. The best source of data was general practitioners with relevant expertise. The 30 problems finally selected for inclusion in the game were chosen because solving them would reinforce the learning objectives outlined above.

Finding solutions

We had to do extensive research to ensure that the problems were solved according to the NHS rules and regulations in operation up until December 1980. An up-to-date 'Red Book' of NHS fees was the most

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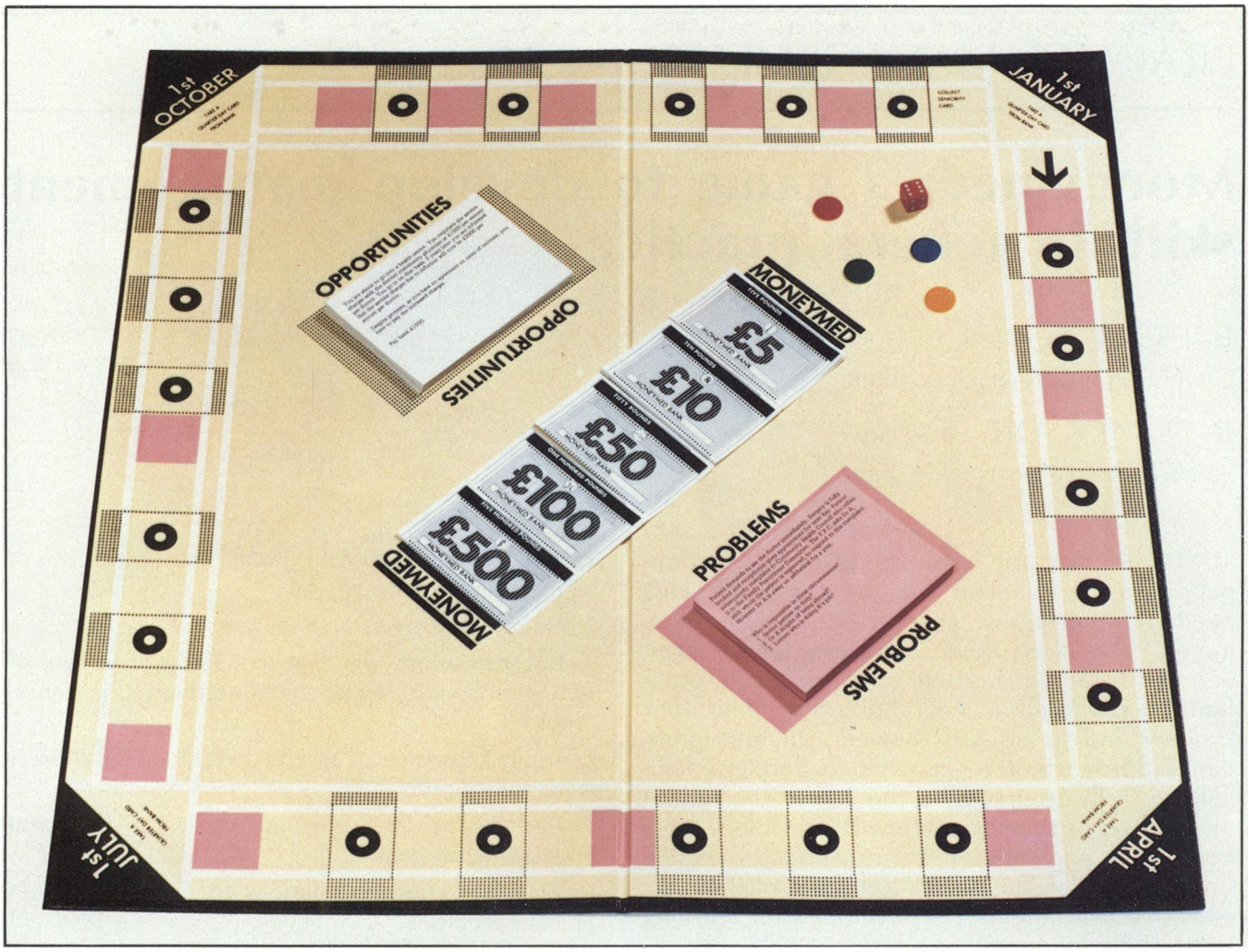

Moneymed: the board, problem cards, opportunity cards, money, die and counters.

frequently used source. Many of the solutions to more difficult problems were circulated to a few experienced colleagues for critical comments, and amended accordingly. Some problems had to be excluded because their solutions were too complex to be detailed on one side of a small card. To this extent the form of the game limited the final selection of problems.

Selecting chance events

In everyday practice, a large number of things occur which are not problems, but rather chance events or opportunities. These arise as a result of providing certain services, for example insurance examinations, or from making management decisions which have financial rewards or penalties. These penalties include the implications of failing to check, update or review the economic aspects of practice, and of poor administration and ignorance of rules and regulations which have serious economic consequences. These chance events are incorporated in a set of 25 opportunity cards.

Determining rewards and penalties

In the game, financial rewards and penalties are collected from or paid to the bank and reflect the true cost at the time of producing the game (December 1980). Other forms of rewards and penalties affect the rate of play.

The game

The game, illustrated in the Figure, consists of a board, a pack of 30 problem cards, a pack of 25 opportunity cards, four quarter day and two seniority cards, a bank of money, a set of rules, a die and counters. Each player is provided with £2,500 from the bank. When a player lands on a problem square, a problem card is taken and the problem is read out to the other players. The player who drew this card then makes his or her decision alone, and states what this is. The card is then turned over and the correct solution read out. Each answer states what the correct solution is, why this is correct and what the appropriate reward or penalty is. When the player lands on an opportunity square an opportunity card is taken,

Table 1. Pre- and post-test scores, correct answers. (Percentages are given in italics.)

Questions (65)	Trainees (34)	Trainers (6)
Pre-test (mean correct score)	19.7 *(30)*	32.5 *(50)*
Post-test (mean correct score)	43.5 *(67)*	49.6 *(76.3)*
Don't know pre-test	*27.4*	*5.4*
Don't know post-test	*8.8*	*1.5*

$p < 0.01$

Table 2. Comparison of performance between trainees with lowest and highest pre-test scores. (Percentages are given in italics.)

Trainees	Lowest third (7)	Top third (7)
Pre-test (mean correct score)	9.4 *(14.5)*	31.4 *(48.4)*
Post-test (mean correct score)	40.8 *(63)*	48.7 *(75)*

$p < 0.01$

read out to everyone and the reward is collected or penalty paid. Seniority cards are collected on passing the seniority square on the board. Quarter day cards are collected on landing on the January, April, July and October corner squares. All players must complete two circuits and the player who finishes first gets a bonus of £1,000. The winner is the player who has most money at the end of the game. The game is designed so that:

1. The board does not need modification as NHS rules and regulations change.
2. Separate problem and opportunity cards can be readily changed and updated.
3. New problems can be added if desired.
4. There is maximum participation and shared learning.
5. Knowledge is acquired only through individual problems.
6. Learning is independent of the instructor.

Results

The instrument we used to evaluate the effectiveness of this game is shown in the Appendix. It consisted of 65 questions which could be answered as 'true', 'false', or 'don't know'. A wide range of financial and administrative knowledge is needed to answer these questions correctly. It is important to note that certain kinds of management and financial problems which are incorporated in the game do not lend themselves to the MCQ format. These aspects of learning were excluded from the evaluation. The 65 questions were given to a group of 34 trainees and six trainers before and after playing the game.

Table 1 shows the pre- and post-test results. There was a highly significant increase ($p < 0.01$) in learning in both trainees and trainers as a result of playing the game. It is interesting to note that the trainers initially admitted to not knowing only 5.4 per cent of the questions, but that they answered 50 per cent incorrectly. The game shows that what we think we know is not the same as what we actually know.

One of the objectives of the game is to achieve high-level learning independent of an instructor. This aim was achieved, but can the trainees who start off with the lowest competence in this field reach comparable skill with those who start with the highest level of competence? Table 2 compares the post-test scores of the seven trainees with the lowest pre-test scores with those of the seven trainees with the highest pre-test scores. The post-test results of the groups were comparable.

Table 3. Subjective evaluation rating.

	Minimum 1	2	3	4	Maximum 5
As a method of learning				●	
Previous interest		●			
Present interest			●		
As a method of problem solving			●		
As a method of teaching practice management				●	
Relevance to vocational training				●	
Fulfils unmet educational need				●	

Subjective rating scores are shown in Table 3, which presents the mean scores of 40 players on seven different items. It was highly rated as a method of learning and of teaching practice management, and was thought to be very relevant to vocational training and to fulfil an unmet educational need. It has also increased the players' interest in this topic.

A test done immediately after playing a game cannot find out whether knowledge is retained. To measure this a further test was given to a group of trainees one month after playing the game. Results of this showed that there was no reduction in scores when the same post-test was repeated one month after playing the game.

Discussion

Evaluation studies have shown that Moneymed fulfils the objectives outlined in this paper. The problem and opportunity cards will need to be updated as NHS rules and regulations change, but the game is designed so that this can be done easily and cheaply. As all the changing variables are on the cards, the board will not need modification. It was remarkable how over 40 complex

rules and regulations were absorbed by players when faced with financial, management, legal and personnel problems. A problem-solving approach creates a strong incentive to learning. Two of the reasons why the game is so effective are that it deals with real problems of general practice management and that its financial rewards and penalties closely mirror reality. Administration is an area in which many trainers are not skilled. Therefore few trainees gain the necessary competence in this important but neglected field. The value of Moneymed is that it ensures high-level learning which is independent of the instructor. The evaluation studies have shown that the game is an effective educational instrument for trainers as well as trainees. We also think that it would be valuable in training programmes for practice managers.

Moneymed can be obtained through the Central Information Service of the Royal College of General Practitioners, where there is a copy available for examination.

Appendix: Questions used in evaluation

1. A full-time GP is entitled to the following extra payments:
   a) A first seniority payment after 7 years as a principal and 11 years on the register. T F D
   b) A second seniority payment 7 years after the first, only on application to the Family Practitioner Committee (FPC). T F D
   c) A leave payment of £945 as an interest-free loan from the FPC. T F D
   d) A vocational training allowance, if vocationally trained and not in receipt of a seniority award. T F D
   e) A post-graduate training allowance only payable if you do not qualify for a seniority or vocational training allowance. T F D
2. A GP is entitled to the following payments:
   a) A night service fee in addition to a temporary resident fee when a night visit is made on a temporary resident. T F D
   b) A fee for contraceptive advice although not prescribing the pill. T F D
   c) A miscarriage fee for a patient who has been booked for maternity services, but later decides to have a termination. T F D
   d) A dispensing fee for vaccines you provide, dispense and administer. T F D
   e) A fee for providing advice and a prescription for malaria prophylaxis. T F D
3. The salary elements for a partner with a list of 1,000 working in a group after 25 years includes:
   a) Basic practice allowance. T F D
   b) Group practice allowance. T F D
   c) Seniority payment. T F D
   d) Supplementary practice allowance. T F D
   e) Supplementary capitation fee of 0.85p for every patient over 1,000 on list. T F D
4. To qualify for the full basic practice allowance a GP must:
   a) Have completed one year as a trainee if appointed as a principal after 1981. T F D
   b) Provide general medical services for at least 1,000 patients. T F D
   c) Work for at least 20 hours per week in practice. T F D
   d) Agree to hold at least one antenatal clinic per week. T F D
   e) Cover his/her own night calls. T F D
5. The following are allowed against tax as a practice expense:
   a) RAC or AA membership. T F D
   b) Subscription to medical journals. T F D
   c) Car maintenance and running costs. T F D
   d) Replacement of practice equipment. T F D
   e) Sickness insurance premiums. T F D
6. Maternity service regulations state that:
   a) Only a doctor on the obstetric list may provide maternity services. T F D
   b) A doctor who has done a 6-month obstetric job less than 10 years ago qualifies for admission to the obstetric list. T F D
   c) Admission to the obstetric list carries a higher level of payment for items of maternity service. T F D
   d) Only a doctor on the obstetric list is qualified to fit IUDs. T F D
   e) A doctor cannot claim for both antenatal care and a miscarriage fee if the patient aborts. T F D
7. On taking up appointment as a trainee, the following payments are allowable:
   a) Motorcycle allowance equivalent to one third of car allowance. T F D
   b) House removal and storage expenses when transferring from another NHS job. T F D
   c) Cost of telephone extension to trainee's bedroom. T F D
   d) Full salary and allowances are paid without deductions for up to two weeks' sickness. T F D
   e) Expenses of attending a postgraduate examination. T F D
8. A valid cytology claim may be made:
   a) If patient is 35 and you claim every 5 years. T F D
   b) If patient is under 35 but has had three children. T F D
   c) If laboratory requests follow-up smear. T F D
   d) If laboratory requests repeat for unsatisfactory smear. T F D
   e) If patient comes for first smear aged over 60. T F D
9. You practise from a health centre. The following are paid by the FPC:
   a) Rent and rates. T F D
   b) 70% of ancillary staff payments. T F D
   c) Service charges of telephone, lighting, heating, cleaning. T F D
   d) 70% of cost of a caretaker. T F D
   e) A group practice allowance of £825 per doctor if you go into partnership with at least two other doctors in the health centre. T F D
10. A GP is paid:
   a) For each post-natal visit up to a maximum of 5. T F D
   b) A special fee for perineal repair. T F D
   c) A post-natal fee only if he or she completes a post-natal examination at about 6 weeks. T F D
   d) A full post-natal fee only if a cervical smear is done at the post-natal examination. T F D
   e) A fee if the doctor submits a claim for post-natal services 12 weeks after delivery. T F D
11. Your wife is not a nurse, and has no income, but spends some time answering the phone at home:
   a) You are allowed to pay her for services to the practice. T F D
   b) She pays tax on an income less than £1,195. T F D
   c) She has to do a minimum of 10 hours per week to qualify for payment. T F D
   d) She is liable for national insurance contributions whatever her salary. T F D
   e) 70% of the salary paid by the practice is reimbursable by the FPC. T F D
12. A GP is reimbursed 70% of the cost of practice staff:
   a) If the doctor employs 2 full-time staff or less per principal. T F D
   b) If the doctor is in receipt of a full Basic Practice Allowance. T F D
   c) For a part-time filing clerk working 4 hours per week. T F D
   d) For a practice nurse. T F D
   e) For a surgery cleaner. T F D
13. The following items of service attract a fee:
   a) Arrest of dental haemorrhage. T F D
   b) Minor operations on your patients. T F D

	T	F	D
c) Informal admission of a voluntary patient to mental hospital.	T	F	D
d) Attending a miscarriage.	T	F	D
e) Attending a case conference on one of your patients, called by the Social Service Dept.	T	F	D

	YES	NO
Are you a trainer?	☐	☐
Are you a principal in general practice?	☐	☐
Are you a trainee in a vocational training scheme?	☐	☐
If a trainee, how much general practice have you done?		
1-3 months		☐
4-6 months		☐
7-9 months		☐
10-12 months		☐

PLEASE RATE THIS GAME AFTER PLAYING:

	Minimum 1	2	3	4	Maximum 5
As a method of learning					
Previous interest in this topic					
Present interest in this topic					
As a method of problem-solving					
As a method of teaching practice management					
Relevance to vocational training					
Extent to which this game fulfils an unmet educational need					

Acknowledgements

The production and evaluation of this game was made possible by a generous grant from the Royal College of General Practitioners. We would like to acknowledge the outstanding contributions of Mr Geoff Fowle and Mr Michael Robbins (of the Department of Graphic Design, St Martins School of Art) in the design and production of the game itself. We are grateful to all the trainees who came to play the game and to the following trainers who participated in the evaluation studies: Dr John Woodward, Dr Michael Courtenay, Dr Luke Zander and Dr Robert Galvan.

Address for reprints

Dr B. Essex, Sydenham Green Health Centre, 26 Holmshaw Close, London SE26.

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