PRACTICE OBSERVED

Research in General Practice

Managing thyroid illness: a trainee group project

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One of the agreed objectives of a general practice training year is to introduce research.¹ It is hoped that the trainee will see the contribution that research makes to both patient care and teaching and will appreciate some of the opportunities and difficulties faced in planning a project. Some teaching in research is incorporated in most release courses for trainees, and many trainees carry out projects in their own practices. The results of some of these have been published.² It has been suggested that a group research project should be built into all trainee courses.³ We describe such a project.

Why we selected the project

Interest in audit in general practice has resulted in several useful studies of the management of patients with continuing illnesses, and the possibility of studying the supervision of patients with hypothyroidism was being discussed locally. In Scotland the computer-assisted Scottish Automated Follow-up Register has been introduced to help in the care of thyroid patients, and is used more extensively in some areas than others. In south-east Scotland we were attracted by the opportunity to see whether patients who were maintained on a fixed tablet rather than those who were not registered in it. As the project reached its pilot stage there was, coincidentally, renewed discussion on how best to introduce trainees to research during the session 1981-2, the local university department of general practice, the research committee of the Royal College of General Practitioners, and the course organisers for the training scheme agreed to link this idea to an educational opportunity.

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What we did

The trainees had from October to May to see their project through to a conclusion. Three stages were identified for the three university terms. The first stage was to identify patients for study; the second was to study the clinical records of these patients and make a biochemical assessment; and the third was to analyse and (most important) feed back the results. To ensure the maximum recruitment of patients for the minimum work, the study was carried out on women patients aged 50 to 59 years. Each participating trainee was invited after discussion with his trainer to review 100 unselected records from this age group of women and note the names of all patients who had been diagnosed as having had any form of thyroid disease at any time. These patients formed the initial study population. During stage two the trainees abstracted details about the original illness and its treatment, about subsequent management, and about present thyroid status. If no thyroid concentration had been measured for more than a year the trainee was requested to provide one; this apart, no clinical interviewing was asked for. Stage three (analysis and feedback) was carried out by the organisers, using all data returned by the final "deadline" as the final study population. Feedback was provided quickly, and the trainees asked to complete an anonymous questionnaire on their reactions to the project. The results were presented "live" to a meeting of trainees and trainers eight months after the first invitation to take part was made.

What we found

THYROID AUDIT

Twenty-seven out of 74 trainees agreed to take part: one left the course prematurely and his trainer took his place; two others estimated no patients. Of the 25 trainees who survived to round two, 24 contributed information on 136 patients by the deadline. Estimates of thyroxine concentrations were available for 125 patients, on whom further analyses were made.

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The number of patients identified from the 100 records that were reviewed ranged from one to nine, with seven per 100 as the mode, and three practices at three per 100 or below. Of the 125 patients, 62 were on thyroxine treatment (30 for primary hypothyroidism and 32 for secondary hypothyroidism); (63) were not on thyroxine treatment (35 had had drug-treated thyrotoxicosis and 28 had had other forms of thyroid disease—mainly "non-toxic" thyroid surgery); 10 patients had thyroxine concentrations below 70 nmol/l (5.4 µg/100 ml). The accepted "normal" value varied among the three laboratories that did the estimations and these 10 patients were categorised as "falling in the area where suspicion of under-treatment exists" rather than as "abnormal."

Only four patients were registered on the Scottish Automated Follow-up Register. Twenty-seven still attended hospital regularly and 40 attended their general practitioner for regular review, which included estimation of thyroxine concentrations. These 71 patients comprised 56% of all patients studied and in only two of the 71 (3%) was the thyroxine concentration considered "low." In contrast, six patients under regular review in general practice had not had the thyroxine concentration estimated for five years, 23 had no follow-up for over five years in either general practice or in hospital, and 25 had been lost to follow-up during the last five years. These 54 patients were 44% of the patients studied, and in eight of 54 (15%) the thyroxine concentration was "low."

The following conclusions were offered in the feedback letter: (i) The number of patients known to have thyroid problems ranges widely among practices and raises the possibility that thyroid disease is under-recognised in some practices.

(ii) Patients seem to be as satisfactorily followed-up in either hospital or in general practice, provided a regular system of recall is built in and periodic estimations of thyroxine concentration are included in this system.

(iii) A large number of patients are, however, known to suffer—or have suffered—from thyroid disorder but for one reason or another have slipped out of a routine pattern of assessment. Among these patients are the majority who have thyroxine concentrations at the borderline of normal or frankly below normal.

RESPONSE TO FEEDBACK BY TRAINEES

Eighteen of the 23 trainees who received the "feedback" letter returned the (genuinely) anonymous questionnaire. The following replies were received:

	Yes	Uncertain	No
Was taking part enjoyable?	13	3	2
Was taking part instructive?	13	3	2
Will the results influence future clinical work?	13	3	2
Should similar projects be run for future trainees?	13	3	2

Many respondents added comments. Several felt that participants had been "used" to gather data for someone else to publish. One felt that the scheme was a "below the belt" way of checking up on training practices. Several criticised the absence of opportunity to participate more actively in designing the study. At the same time, many were wholly positive about the exercise and regretted that more trainees had not participated to allow more meaningful results to be collected.

When the results were presented "live," further criticisms were made of our feedback letter. Some were mutually exclusive, but most reflected the relative dislike that trainees and general practitioners have of handling numbers as against the conclusions drawn from them. Many of the written criticisms were discussed and misunderstandings cleared. It was generally agreed that the oral presentation had been as valuable as the written one had been inconclusive, and the final views were substantially in favour of the value of the project.

What we have learnt

ABOUT THYROID DISEASE

The clinical conclusions seem a sufficient return for having carried out the study. They have already resulted in a further review of thyroid patients in at least two of the practices with "under-notification" of patients at risk, and, already, patients who had been overlooked have been found. Several trainees have decided to change their reviewing policy, and a more generally empathetic view of the concept of audit can be felt.

The very low number of patients on the Scottish Automated Follow-up Register (the starting point of the study) is a reminder of how often research projects are based on an overestimate of the incidence of the issue to be studied—and also may disappoint those who administer the register.

ABOUT TRAINEES AND RESEARCH

As a rule, research is most enjoyed by those who plan to answer questions they have asked themselves. By the time a trainee has settled in to a practice and before he is distracted by thinking of leaving it, only six months are available to plan and complete a study. If adequate care is given to planning too little time may be available to complete, analyse, and interpret the work. If, on the other hand, the trainee proceeds too rapidly he has no feedback: the results may be of insufficient quality to support valid analysis.

Group studies that are prepared for the trainee are probably necessary to allow more than the occasional trainee to sense the whole process of research. Studies that are prepared by groups of trainees on their own or with the help of an adviser after their practice year has started are probably the ideal but may demand committing a disproportionate amount of the training year to the project to complete it properly. Taking a small part in a longer study that will not be completed during the trainee's year has been suggested as an alternative, and it would be interesting to know how trainees would feel about participating in research when they can only hope to contribute to one part of the completed project. Above all, however, care must be taken both to provide feedback and to see that the feedback is constructed to interest, inform, and, above all, stimulate those who have taken part.

The potential benefits of a well done study are substantial but are clearly outweighed by the potential for harm that projects that are poorly designed and inadequately carried out have. Those who promote group studies for trainees must have the time and ability to see them through to a satisfactory conclusion. In the end attendance at a well constructed lecture/demonstration may satisfy the immediate needs of most trainees, and for all except the more enthusiastic ones practical experience is best gained after settling in to a longer-term career post.

It is a pleasure to acknowledge the participation of the following trainees in this project: Dr M M Anglin, Dr R Ayres, Dr T Brown, Dr B G Chakravarty, Dr H A Daly, Dr G E Edwards, Dr J Hastie, Dr W Joffe, Dr Helen Lang, Dr Virginia Legatt, Dr Ruth Liddle, Dr A J Merry, Dr Fiona McCusker, Dr I M McDonald, Dr Lesley McDonald, Dr B McGalloway, Dr D L McIntosh, Dr G Richmond, Dr A W Rigg, Dr C N Saran, Dr D Syne, Dr Jean Turner, Dr Hilary Watkinson, Dr P D Wilson, Dr W Basset also provided information on patients from his practice.

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Practising Prevention

Prevention: who needs it?

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We begin with definition and end with speculation, for our topic is the possible social consequences of a massive extension of preventive medicine at the clinical level—a topic of considerable importance yet on which there is little definite knowledge. There are, of course, two sorts of preventive medicine. "Direct prevention" is concerned with the intention, choice, will, and responsibility of the individual. By contrast, through the judicious use of structural regulations and administrative measures, "indirect prevention"—though it still requires the consent of the politically influential—may be achieved without the assent or perhaps even the knowledge of major sections of the population.

The great programme of preventive medicine initiated by the Victorians and currently attracting renewed support in community medicine,¹ has operated mostly, though not entirely, at the indirect level. The new preventive medicine has a different emphasis.² Fiscal and legislative measures are certainly part of it, but its most distinctive thrust is direct action at the individual. Since this is its novel aspect, and since it is here that general practitioners are now being urged to play a major part, it is on this that we shall concentrate.

Any comment must necessarily be speculative. Nevertheless, since space is limited, things must be said without qualification. Where we say typically, we do not mean universally. Moreover, there are many general practitioners who do not fit our model of current practice. Even so, the consequences of adopting direct, systematic prevention may well apply to all.

Prevention and the general practitioner

We begin with a highly simplified model. At present the standard consultation looks very crudely something like this: curative and palliative medicine are practiced, preventive medicine is avoided; the biological side is stressed, while the social is played down; the organic is preferred to the psychiatric, and the patient's or, indeed, the doctor's personal responsibility is glossed over.³ Put another way, doctor and patient both conspire to cast disease firmly into the natural realm, the realms of the body and of pure chance. Moral matters, on the surface, at least, are systematically avoided. How patients choose to live is entirely up to them. It is entirely their business, not their doctor's. Direct prevention, however, if pursued systematically would sweep all this away. This could result in the following consequences for medical practice.

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A FOCUS ON MEN

Women are significantly more dependent on medicine than men; they are the principal lay carers; they are more vulnerable to diagnosis in psychiatric rather than organic terms;⁴ above all, if they are also young mothers they are the only important group in the population on whom systems of direct preventive medicine has been aimed. Mothers are, of course, particularly receptive or vulnerable to this approach. Extending it to men seems a much tougher proposition, though so far this has not been put to the test. If it can be achieved a central part of the traditional male image will have gone. To help them in this doctors may appeal to women, thus reinforcing their traditional role.⁵

A RE-EMPHASIS ON SOCIAL CLASS

The working classes have appreciably higher rates of mortality and morbidity,⁶ their uptake of preventive services is lower, and their orientation to prevention in general is definitely less, particularly among the lower working class.⁷ Yet, at the same time, studies of general practice consultations suggest that doctors, far from attempting to do more with their working class patients, actually offer them less medical information.⁸ General practitioners now leave detailed modification of the lifestyle of the lower classes to others, such as health visitors. They will no longer be able to do so.

CHANGES IN THE RELATIONSHIP BETWEEN THE GP AND THE PATIENT

Direct prevention is likely to modify drastically the standard doctor-patient relationship. Two effects in particular stand out. Whatever their actual knowledge patients typically play dumb and doctors play wise. More crucially perhaps, doctors commonly invest their individual clinical opinion with the authority of agreed professional judgment.⁹ They can do so because in both curative medicine and public health medical knowledge remains, by and large, the property of professionals. Any credible and long-term concern of patients in prevention, however, may teach them the uncertainties as well as the certainties of medicine, about the diversity of professional opinion,¹⁰ and about the continually changing nature of "scientific truth."

Medicine is also one of the professions in which the policeman and prosecuting counsel are obliged to be systematically rude. Doctors, however, have no need of this so long as they conspire with their patients to naturalise all disease and cast it into the realm of chance and the organic. All that will change with the onset of detailed and direct prevention. Medical work would become moral work, and patients might insist on a much greater freedom to choose and change their practitioner. This would be good for general practice, but it would be strengthened by any weakening of individual clinical authority.

Attempts to counteract some of these effects may lead some

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general practitioners to restrict themselves to their traditional organic and curative role and leave direct prevention to other health professionals. By carefully segregating themselves they may thus avoid any challenge to their individual authority, the necessity of being rude occasionally, and the danger of scaring away sick patients who they might cure. Direct prevention is, at an extremely time-consuming business. To be effective, current lay health beliefs and practices must be understood, something which few doctors and social scientists currently investigate.¹¹ In addition, in such a sensitive moral area the successful reformer must often move slowly and delicately. Six minutes for consultations is hardly likely to prove long enough for many patients.

FINANCE AND LIBERTY

Direct prevention seems to give the possibility of an appreciable reduction of costs which are presently borne by the state and the individual. To the general public it offers a chance of less disease, to the radical middle class it offers the promise of ideals of self-help; to Government it offers the possibility of reduced expenditure.¹² Yet direct prevention itself will have costs, and these too must be accounted for. The following questions need some consideration.

Will more preventive medicine reduce overall health costs, given both the power of the traditional health sector and the increasing salience of medicine that it may foster?

In the knowledge that some preventive strategies turn out to cost more¹³ how much more are we prepared to pay?

What can be done to minimise the deleterious effects of direct prevention—guilt and anxiety on the part of the patient, victimisation on the part of the doctor?

Is the marked extension of the medical empire compatible with the liberty of the individual? Is that liberty any more compatible with indirect than direct prevention?

Having successfully taken control of people's bodies¹⁴ should medicine now attempt the exploration of their minds?

For a profession that has prized its own independence status so highly does any interest in direct prevention represent a rather different valuation of the patient's independence?

All this can be put more dramatically by invoking one possible future scenario.

THE SPECTRE OF UNIVERSAL CHRONIC STATUS

Curative and palliative medicine is now marginal to the lives of most adults. It is salutary only to elderly people, to children,

to chronically sick people, and to medical personnel. The advent, however, of preventive medicine which is scientifically based, armed with detailed knowledge of the individual's biochemistry, genetic structure, and social situation, might render it central to everyone. In such a world all of us would have chronic disease status, all of us would live "the life-of-the-diabetic" or be under great pressure to do so. In such a world the words of Goethe,¹⁵ written close to the beginning of the scientific revolution, would finally have come true.

"... I think it is actually true that humanity will win eventually. However, I am afraid at the same time the world will be a huge hospital and one will be the humane nurse of the other."

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THE STETHOSCOPE Here, in 1826, the reviewer is skeptical of the value of this new instrument—[SL: L.] Laennec is always referred to, and his extraordinary skill in thoracic complaints triumphantly quoted—(but it is to be remembered that Laennec was a great pathologist before his instrument was heard of, and instead of the stethoscope giving him the knowledge he now possesses, he gave it to the reputation derived from thirty years' assiduous and successful cultivation of pathology, and all the diagnostic acumen necessarily resulting therefrom. Not long ago, a physician in this metropolis, who patronises the stethoscope, mentioned a case of hydrothorax, in which he had discovered the effusion by means of this instrument. He was asked: Had the patient any difficulty in breathing? Yes—Could she lie flat in bed? No—Any purpura of the lips? Yes—Then, required the quiver, the only difference between us is that I should have found the same conclusion without the stethoscope which you did with it. (*London Medical and Physical Journal* 1826; 55: 114, 418.)