than one month was interviewed by the practice drug monitor, a State-registered nurse. She had been trained to evaluate problems associated with drug treatment and to identify drug-related morbidity occurring in elderly patients on long-term treatment. Of 167 patients so identified, 36% were thought to be suffering from unwanted effects of drugs at the time of the interview. When appropriate, measures were taken to reduce the incidence of iatrogenic disease in such patients.

I thank Hilda Mellor for her help as drug monitor in the survey, and Ann Morton for typing this article. I am grateful to my wife Shirley for help with proofreading and artwork, and to the staff of Chesterfield Hospital laboratories for the analysis of haematological and biochemical samples.

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Research in General Practice

A nurse's experience in the MRC's hypertension trial

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My introduction to general practice research coincided with the pilot study of the Medical Research Council's trial for mild hypertension[1] nine years ago, before any participants had been recruited. Over half a million people have now been screened, trial recruitment is complete, and 176 group practices have provided 16 415 (95%) of the 17 362[2] trial participants.

Why I started

Initially, doctors were going to carry out the research, with perhaps a little help from a practice nurse or secretary. Detailed trial methods were left to individual centres but had to include screening, a medical examination including electrocardiogram, blood and urine tests, randomisation to active or placebo treatment, and follow-up visits every two weeks for three months, three monthly for the rest of the first year, and at least six monthly thereafter for five years, with full medical examinations yearly.

Doctors in a group practice from Stratford-upon-Avon who were interested in taking part were somewhat perturbed at the extra work load that the trial would entail for an already busy practice unless they employed someone specifically for the trial. I was asked at a social occasion by a friend who was one of the GPs whether I was prepared to be involved. My interest was aroused because I would be given, or rather I was expected to have, total responsibility for the planning and organisation of the study in the practice. In return for this I could plan my hours to fit around the needs of my three young children. Also, although all the partners had agreed to participate in the study, one of them was known to be enthusiastic about treating hypertension, and I therefore was assured of support. I recollect, though, that it was the whole concept of research and its potential in general practice that appealed to me.

What I did

For every step forward I seemed to take two back, but eventually a screening programme was set up in the practice and over 15 months all patients aged between 35 and 64 were invited to be screened. Those who fulfilled the trial criteria were given a medical examination by the doctor and were entered into the trial.

During the expansion of the pilot trial, Dr W E Miall, the trial co-ordinator at Northwick Park Hospital, asked me if I would develop and teach screening, trial organisation, and research methods to clinics new to the trial. By this time I was

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aware that our screening programme had been far too slow for research purposes and that if the main trial was sanctioned a much quicker and more efficient screening method was needed. I began to realise the importance of standardising all trial procedures and the necessity for a structured training programme for nurses, as it was evident that with training the nurse was well able to play a major role in the trial.

All GPs who were considering joining the study visited me at Stratford-upon-Avon before fully committing themselves to collaboration to learn more about how the trial would be run at the clinic level. The potential pitfalls and problems of setting up a research clinic in general practice were discussed, and particular reference was paid to the MRC trial logistics and the necessity of employing an intelligent, motivated nurse who had administrative and organisational abilities.

In the early days I visited each new clinic to teach screening and trial procedures, but when the main trial was underway it was not possible to do this as there were so many clinics and they were so widespread. I chose and trained five nurses who had been particularly competent in their own clinics and who had the teaching qualities necessary to train others.[2] The trainers lived in selected parts of the country and taught in their own geographical area.

What I found

I found that most practices were unable to carry out a fast screening programme owing to lack of space, and mobile screening facilities were assessed and found to be an efficient method of screening.[2] The trial nurse at each clinic was the leader of the team of locally recruited screening nurses, and a practice with 10 000 patients could screen their defined population in 28 days. It was thought appropriate that I should co-ordinate the screening programme, and this was carried out from an office at my home. My responsibilities included scheduling six mobile units, publicity for the screening programme, overseeing the training of screening nurses, analysing screening data, and providing screening equipment. Our field provided a site for the units each year during the summer break when maintenance, spring-cleaning, and restocking took place.

I discovered that it was extremely important to devise teaching methods that would leave little room for error, and therefore, although verbal training was given by the training nurse, the nurses were always asked to follow the comprehensive written instructions. To avoid confusion two separate training days were held for each practice, one for learning screening techniques, which included the standardisation of observers with the blood pressure training tapes,[3] standardisation in blood pressure measurement, and screening administration, and the other for trial procedures, which included advice on ECG recording techniques, venepuncture, centrifugation, and titration of drug dosages.

A programme of follow-up and quality control was found to be necessary, and clinics that have not yet completed the trial are visited at least yearly by the training nurse so trial techniques and data may be monitored. We hope that these visits allay the feeling of isolation experienced by clinic nurses and help to make them aware of belonging to an organisation. Undoubtedly the most successful clinics are those where both the doctor and nurse are enthusiastic. Clinics, however, can be very satisfactory as long as the nurse is motivated, but if she lacks interest then the clinic tends to be less good. On the whole, nurses who were 30 to 45 years old were the most successful, and 95%, of them were married with children since the hours of work can be manipulated during school holidays. Recruitment of suitable nurses was not a problem.

Perhaps the most important and refreshing aspect of the whole trial was the amount of enthusiasm and good will shown by most of the doctors for both the trial and for the part of the co-ordination for which I was responsible. Here was a largely untapped pool of motivated practices who, when provided with adequate help, finance, and facilities, enjoyed and successfully contributed to a multicentre trial.

Problems I experienced

Maintaining motivation and standardisation is probably the biggest problem of any large trial of long duration. Good clinics seem to cope well, but less good ones often require more frequent visits from the training nurse. I have found it necessary to be aware wherever possible of internal problems in clinics and to be available to give encouragement and advice. Annual conferences for all the participating clinics at which trial progress reports are given and scientific issues presented and discussed have proved stimulating and have done much to maintain enthusiasm in the clinics.

Inevitably, co-ordinating a screening programme for half a million people has not been without its problems. The programme had to be tight, fast, efficient, and as economical as possible, and, apart from disorganised clinics, which was rare, the biggest problem initially was ensuring that the sphygmomanometers were always accurate and in good working order.

The doctors as well as the nurses needed to be standardised in blood pressure measurement, and for all trial purposes a Hawksley Random Zero sphygmomanometer was used to remove observer bias. Phase V had been chosen as the diastolic end-point, which was fortunate as it made agreement less difficult. It was not always easy, however, for a doctor to be tested by a nurse (teaching stethoscopes were used for this purpose). It was noticeable that the less enthusiastic doctors were least keen on being standardised by a nurse, and a combination of tact, charm, and toughness was required by the training nurse.

Over the first few years there were occasional periods of underwork as a result of the delay in the authorisation of funds for the main trial, followed by periods of excessive work once the trial was sanctioned. The doctors and reception staff at the Stratford practice have been very tolerant of my work in piloting sub-studies and new projects. Unfortunately—but understandably—much of the effort has been to no avail.

I have found it a little frustrating that there is no career structure for someone in my position; apparently I have a "one off" job. I am no longer a nurse in the usual sense, but I am not MRC scientific staff either. An unexpected problem has been the necessity to develop confidence in public speaking at symposiums and scientific meetings. I have also had to learn to put the point of view of the research nurses and trial clinics to fellow members of the MRC trial working party, which sometimes has not been the easiest of tasks.

The conclusions I was able to draw

Given the right conditions, general practice can undoubtedly be an extremely rewarding and successful area in which to carry out clinical research and need not necessarily overload the doctor. A research nurse can be successfully integrated into the practice team and be given responsibility for the organisation and running of a project or projects, provided at least one of the GPs is interested and motivated and is prepared to give her support and advice. Equally important is the necessity to establish that the other partners consider the project worth while and ethically justifiable, even though their involvement need be minimal.

It is probable that adhering to a trial protocol comes more easily to a nurse than a doctor, as a nurse is trained to follow directions and a doctor to issue them. It is worth noting that by keeping strictly to a structured drug schedule nurses, under medical supervision, are well able to titrate drug dosages to achieve good control of blood pressure for patients randomised to active treatment.

The patients seem to enjoy their participation in the MRC trial and the extra care they receive. Most of them identify the research programme with their own practice rather than with the MRC, and their sense of loyalty might explain the high level of compliance found in the trial clinics.

Lessons I learnt

Probably the most important lesson I learnt was to be objective and critical of my own trial methods so others could benefit and learn from my mistakes and experience. I also had to appreciate that all doctors were different and what would please one would not necessarily please another. Although overall standardisation was required it was sometimes difficult for some of the doctors and nurses to accept and achieve this.

About 1200 nurses worked in the screening units during the screening programme, and while screening was in progress I compiled a register of those nurses who were good and wished to be considered for future research programmes. This turned out to be very valuable, not only for the hypertension screening programme, but also for an MRC national survey based at Bristol University.

Advice for others undertaking such research

The MRC trial is the largest therapeutic trial ever to be mounted in Britain but undoubtedly in the future other working parties will contemplate further large scale projects. Establishing a widely representative working party is essential, but perhaps of greater importance is the necessity to convey to all the participating clinics that the success of the trial depends on the major part they play in a collaborative venture. From the point of view of the MRC trial of course it would have been easier to mount the trial knowing what we know now, and others contemplating similar co-operative projects would do well to contact groups nationally and internationally with the right experience.

Present opportunities for research

A large-scale framework for research in general practice has been provided by the MRC trial, and in the view of many should not be dispersed when the trial has been completed. The feasibility of other projects is now being assessed and piloted within that structure with a view to providing answers to other important questions. Many nurses have shown that they have an aptitude for carrying out research procedures, and though it will always be up to the medical profession to identify the most promising fields for medical research the experience of the MRC hypertension trial suggests that there is a definite place for the research-minded nurse in general practice.

I am grateful to Dr W E Miall for his helpful advice and to Mrs J Cater for her support. My thanks are also due to the trial field-workers and the co-ordinating team at Northwick Park Hospital, and particularly to Dr M H F Coigley and his partners and staff at Bridge House Medical Centre, Stratford-upon-Avon.

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Plus Ça Change . . .

Graves Medical Audiovisual Library: 1957-82

VALERIE GRAVES

In the *BMJ* of 10 July 1982 Dr G B Taylor[1] wrote about discussion groups. Twenty-five years ago my husband John and I were helping general practitioners to teach one another in groups. 1957 was the year in which Harold Macmillan became prime minister, and a little dog called Laika circled the earth in Sputnik. TV licences had gone up to £4 and prescription charges to one shilling. There were polio epidemics and angry questions in Parliament about vaccine shortages. Smallpox broke out in Tottenham, and tetanus immunisation was not yet routine. Syringes were made of glass, but plastic tubing was coming in for infusions. New drugs included nystatin, tolbutamide, paracetamol, and synthetic penicillin V. Chlorthiazide was beginning to replace mercurials, but the new tranquillisers, such as meprobamate, were regarded with suspicion. Prednisolone became available for general practitioners' use.

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General practitioners felt the need to prove themselves. They were very unhappy, not only about money (arguments about low pay nearly resulted in mass resignation) but also about low status (dropouts from the consultant ladder). Refresher courses were few and hospital-oriented. We were among the enthusiasts who had started the College of General Practitioners in 1952. John was a principal in a semirural practice; I joined him later, but was then temporarily retired with four small children. Having been a preclinical lecturer, my knowledge of research methodology was useful to the infant college in handling data such as their 1955 measles survey and 1956 questionnaire about the needs of members. This showed such a desire for better learning facilities for general practitioners that we were encouraged to start some kind of do-it-yourself courses. We decided to record good speakers on tape and send tapes round to volunteers picked from the replies to the questionnaire.

Some of our speakers were general practitioners, some specialists. Some of the topics seem naive today, but they were burning issues then. The response astonished us. We must have picked a crucial moment when general practice consciousness was waiting to express itself, for within five years 450 groups were meeting regularly to hear and discuss recordings. We had started an avalanche.

In an article we wrote for the *BMJ* in 1961[2] we looked at the 308 general practitioners who were running discussion groups at that time. They were an interesting selection: mostly fairly young (averaging 16 years from registration); 86 had higher qualifications, including 22 MDs, seven MRCPs, two FRCSs, and one FRCP. Being a member of a study group, then as now, meant self-examination. (We call it audit now.) Many of these GPs went on to start departments of general practice and vocational training schemes and to set up local postgraduate centres. The tape groups, having played their part in fermenting this enthusiasm and activity, gradually became less important.

Twenty-five years later we see the wheel turning round again: Dr Taylor's article describes the same principles and aspirations. There is no shortage of courses now, but many general practitioners again find that self-education in small groups is more rewarding. Dr Taylor's article appeared under the title "Overcoming Isolation." In our day we talked about academic isolation. Even in urban areas general practitioners could feel cut off and were reluctant to expose their ignorance to bright young registrars. A tape brought friendly personal teaching—you could criticise the speaker and admit your shortcomings without anxiety. Perhaps the new wave of audit groups will produce another generation of young general practitioners who will effect great changes.

Developing a library

The scheme which we called the Medical Recording Service might well have faded away with its discussion groups, but to our surprise it did not. By the mid 'sixties it was developing into a lending library. It continued to grow from a part-time hobby to a cottage industry. It spread from room to room of our house, to a prefabricated building in the garden, and then to its own premises in nearby Chelmsford. The idea of tape-slide teaching spread to hospital doctors, to nurses, students, remedial therapists, social workers, first-aiders, and people in many different types of training courses. From the beginning doctors overseas wanted to use our tapes. By the mid 'seventies we were sending out on loan or for sale roughly 20 000 tapes a year; about a fifth of these went overseas, especially to new medical schools in the developing world. Correspondence and visitors from all over the world have added colour to the sometimes humdrum life of a rural general practitioner, in which capacity we both still earned our living.

What was the appeal of tape-slide teaching?—for it is still popular in spite of the encroaching videocassette. Probably its simplicity and cheapness, using only what we called "High Street technology"—that is, playback equipment that everyone has at home. Video recorders are High Street technology now, and so may one day take over many educational functions. A good teacher on tape-slide can make difficult concepts more real and easy to understand.

We had a lot of fun in our time, meeting hundreds of celebrities and getting lost in countless medical schools and institutes. We have sat in on real Balint groups, and Alcoholic Anonymous meetings in St Martin's crypt, exchanged scurrilous doggerel on tape with the immortal Richard Asher, and sweated over currency problems with Arab banks. We had a lot of fun, too, recording annual clinical meetings with the *BMJ*. Our tapes have travelled on llama-back in Peru, in submarines, and in lifeboats, and taught nuns in Nigeria and medical aides in Fiji. Our visitor's book and stamp collection are a geographical Aladdin's cave.

Independent charity

It stopped being fun when John died of cancer in 1980 at the early age of 57. But the work has gone on. In 1977 the service became an independent charity, Graves Medical Audiovisual Library. As well as making tapes of our own commissioned material we make tapes for the Royal Colleges of Surgeons and of Physicians, for organisations such as the British Orthopaedic Association and the Association of Clinical Pathologists, and distribute programmes made in many medical schools. We provide funds to assist new productions and research.

In 1957 people thought we were a little mad; but imitation is flattery and nowadays we have many commercial competitors. We are proud to have been concerned in our small way in broadcasting the best of British teaching for 25 years, and we hope to continue for many more.

I thank Mrs Jean Judd for typing this manuscript.

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SHOULD A DRUGGIST PRESCRIBE? Now the question is, what restrictions should be affixed to the business of a druggist. Some of our members say, "he should not be allowed to practise at all, not even give a dose of medicine"; and looking only to their own interest are very anxious upon this point. But it appears to me, that it is impossible to do this consistently with the advantages that the public derive from the druggists. I shall take the liberty of stating a thing that happened to a friend of mine, a gentleman, a Member of this House. Going home at night he finds himself unwell, goes into the shop of Mr Grindle, the druggist in Pall Mall, and says, "Mr Grindle, I have a pain in my stomach and should like a dose of medicine." Mr Grindle says, "I cannot give it to you, because you have not been prescribed for by a physician or surgeon; and the Act of Parliament will not allow me to do it." My friend replies, "Have you not got the very prescription which Mr So-and-so gave me last week?" Mr Grindle answers, "Yes, I have Sir, here it is." "Well, give me that." "No, that was not for this complaint, and the Act of Parliament says I must not give a dose of physic.—GEORGE JAMES GUTHRIE, FRCS. (Select Committee on Medical Education. *Parliamentary Papers* 1834.)