PRACTICE OBSERVED

Practice Research

Audit of computerised recall scheme for cervical cytology

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Screening for cervical cancer has been much discussed recently in the face of the imminent closure of the national recall system for cervical cytology based at Southport. When this national register closes at the end of 1982 health authorities and general practitioners will have to devise their own system of recall.¹

The Avon Area Health Authority has operated a computer system for cervical cytology since August 1977. When a cervical smear examination is performed information from the laboratory request form is entered into the computer, with suitable precautions taken to avoid duplication of information and to reduce errors owing to changes of name. When a repeat cervical smear examination is due (the interval being determined by the laboratory) the patient's name is checked with the family practitioners committee (FPC) for correct details of name, address, and registration with a general practitioner. The area health authority will then send a reminder card either to the patient or to the GP, who may wish to remind patients personally to attend for examination. The National Health Service Central Register is notified about patients who have moved from Avon so that they may be contacted by their new health authority.

We assessed the accuracy of the Avon scheme in relation to one general practice, and compared the computer scheme with a recall system based on an age/sex register compiled by the FPC.

Method

The practice had 2754 patients on its list in July 1981. Women who had been born between 1917 and 1946 were studied. The age range was thus restricted to 35-64 years in line with the current recommendations of the Department of Health and Social Security.

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that scheduled population screening of otherwise normal women should begin at age 35 and stop at age 65.²

Avon Area Health Authority provided a list of all women registered with the practice who could be identified in the computer system as having had cervical smear examinations in the 48 months before July 1981. The age/sex register, which had been recently compiled by the FPC, was then checked and all patients aged 35 to 64 identified. The notes of these patients were examined for a record of a cervical smear examination in the same period. The two lists of patients were compared.

Results

The computer listed 145 women aged between 35 and 64 who had received cervical smear examinations since August 1977, but 30 of these patients did not appear on the age/sex register. Of these, 15 patients had moved to other doctors, and their new registration would have been noticed by the FPC at the time of recall. One patient was registered with the practice but had not been entered in the age/sex register. Eight women were not registered as patients despite being well known to the practice, which held their records. Their registration status was altered. Six patients on the computer list could not be identified, though one was known to have died and her recall would have been intercepted by the GP.

The age/sex register identified 421 women in the same age group. This total was altered to 430 to include the nine women identified by the computer as belonging to the practice. A total of 149 women had had cervical smear examinations recorded in the preceding 48 months, 25 of whom did not appear on the computer list. Of these, 11 had had examinations in the previous few weeks, and their names were in fact "within the system" and subsequently appeared on the computer list without further action from the practice. Two women had been examined by their previous Avon GP with whom they were notified by the computer, but this would have been noticed by the FPC at the time of recall. The computer list was amended to account for these 13 patients. Twelve women who were recorded as having had cervical smears since 1977 did not appear on the computer list. Five of these had had examinations outside the area.

Altogether 149 women had received cervical smear examinations in the 48 months, of whom 137 (92%) were identifiable by the computer for recall for a cervical smear, including the nine patients who could have been missed by a check of the age/sex register alone.

Discussion

This survey was an audit of the effectiveness of a computerised recall system for cervical cytology. By identifying 137 patients and failing in only 12 (8%) the scheme seems highly successful. An alternative system of recall could be based on the GP's records. Nine patients (6%) would not have been identified by this method.

The major drawback of the system is that only those women who have received a smear examination will be recalled for another. Furthermore, most clinically invasive cervical cancers occur in the unscreened population, and the women who are most at risk of developing these are least likely to attend for preventive screening.³

A comparison of the list of women on a computerised recall scheme with an age/sex list (from individual GPs or the FPC) will identify most, but not all, women who have not had a recent smear examination. These women can then be contacted and invited to attend for screening. This would be a relatively inexpensive way of identifying the population at greatest risk of developing a preventable disease.

Conclusions

A survey was made of the cervical smear examinations made on the patients in one general practice during 48 months between August 1977 and July 1981 inclusive. A list of patients

who had received cervical smear examinations was provided by a computerised recall scheme run by an area health authority, and this was compared with the general practice records.

Of 149 examinations recorded, 137 (92%) were correctly identified by the computer. The computer identified nine women who did not appear on the general practice records, but 12 patients who had recent smear examinations recorded in the practice notes did not appear on the computer list. The study confirms the validity and accuracy of an area health authority computerised recall scheme.

We are grateful to Mr Donald Simpson, systems development officer at the Avon Area Health Authority, for his help and advice.

References

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Teaching and learning

My first patient at the branch surgery on a recent Wednesday was a fact I remembered well. It belonged to a student who had been seconded to us from another practice while her training was temporarily and unexpectedly out of the United Kingdom. I suppose we were doing him a favour. She had sat at my feet in this very room only the week before. I felt distinctly flattered. My instruction must have been so lucid, my manner so impressive, that she'd come back for a second dose. But no. It was more than that. This time she had come to see me. I could hardly believe my ears. I must be a better doctor than I had thought I was. It is always agreeable when a colleague consults one professionally. This student from a famous teaching hospital where consultant neurologists are 10 a penny had come to ask my opinion about her case. I listened most intently.

Four years before she had suffered pain behind her eyes that had lasted several hours. A year later her left leg had suddenly and unexpectedly gone numb when she was working in Israel in a kibbutz. Last month she had had a short but worrying episode of double vision. A near relative had died of multiple sclerosis.

"Oh, you have not consulted your own doctor?" I asked lamely. "Why, it's no good seeing him. All he does is give me tranquillisers. It seemed an adequate excuse."

So I examined her central nervous system as thoroughly as I could remember how to. It was a case of multiple sclerosis, there was absolutely no sign of it. There seemed no point in making a gloomy prognosis of a disease for which there is no treatment anyway. "I think you are extremely well and I can find no evidence of the thing you are frightened of. But if you have any further symptoms you should certainly consult somebody." She smiled. "Thank you very much. I feel much better now. You have reassured me completely."

Somewhat I must have said the right thing. That was a bit of luck, I thought. Then she added, "Please don't say anything about this consultation."

"You know that this temporary resident form must eventually reach your own doctor?" "I'd rather it didn't." I tore it up conspiratorially and dropped it into the bucket. What else could one do for a colleague who had asked so persuasively and with such charm?

Three hours later, back at the main surgery, the phone rang. It was my trainee colleague. "Did you see my student at the surgery this morning? I feel absolutely awful about this—it's all a spoof. I am afraid I put her up to it." Then I learned the truth—that she had been to four doctors that morning and told each one of them exactly the same story. It was all part of an exercise in "learning what it feels like

being a patient." My first reaction after getting over the initial shock was one of annoyance. My time had been wasted, and I had been made a fool of. I wrote stiffly and testily to the trainer who was responsible saying, "Please include me out of your next round of medical games."

Was I overreacting? My partners all thought it was a huge joke. It is an exercise that inevitably wastes so much of the doctor's time ever justified? What rules, if any, govern the consultation with a surrogate patient? If we are going to see in the future, as training really gets under way, more of these single-blind medical charades should the unqualified participants be attached to Equity or the Medical Defence Union? These and many other questions remain unanswered.

For his part, the trainer was highly delighted with his morning's work. His trainee had learned more in a few hours than she had in a fortnight of more traditional teaching. She had learned how a general practitioner sees about examining his patient. I had to admit that he had been a marvellous actress and had fooled me completely—*as a novice, general practitioner, Stratford upon Avon.*

We will be pleased to consider for publication other interesting observations from general practice. Ed, BMJ.

ONE HUNDRED YEARS AGO At a recent discussion at one of the American medical societies, there was a statement made that, for delicate women, horseback exercise was a most good practice as a rule. Another statement was quoted by one of the speakers to the effect that no woman ought to ride on horseback. American physicians may take heart of grace from the latter experience in this respect of English practitioners. In this country, happily, equestrian exercise is the happy privilege and daily practice of thousands of all ages, and of delicate as well as robust constitutions. It is impossible for anyone who has seen the healthy glow spread over the cheeks, pale just before, of some lady after half an hour's exercise on horseback, to agree with the above assertions. Ladies take far too little exercise in the fresh air. It is rather the duty of the medical man to seek to encourage athletic exercise of all kinds, than to deprive it from fanciful fear. Americans will gain health, and lose nothing in grace or refinement, by emulating the accomplishments of their English sisters at horsewomen. (*British Medical Journal*, 1882.)

Organising a Practice

Organising time

CLIVE FROGGATT

"Father Time is not always a hard parent, and, though he tires for none of his children, often lays his hand lightly on those who have used him well." Charles Dickens, *Barnaby Rudge*, chapter II.

The effective use of time is central to the organisation of anyone's working day. The repercussions for a family doctor who fails to organise his practice effectively are profound, and are for his patients. Rarely, however, is organisation as important as reorganisation: most practices are already functioning. How doctors reorganise their practice depends on the objectives they use to assess the efficiency of the service that they already provide. Even this presupposes that reorganisation is contemplated at all.

Most family doctors are entrenched in the day-to-day commitment to provide health care. Although more and more doctors are prepared to review their own practice of medicine, most perceive no particular problems. Occasionally the introduction of an eager young partner into the practice results in a temporary reappraisal of policy. All too soon, however, the enthusiasm is dissipated by tackling other more pressing problems. Both the established general practitioner and the new partner should pause and consider the words quoted from Dickens. Time spent in considering how the practice is organised may have a considerable effect on patient care and on the doctor's personal health and well-being.

Some averages

Over the past 25 years, many studies have been done on the work of the family doctor: the volume of work, the content, and the quality have been scrutinised, and statistics are available to those who are interested in comparing themselves with the average. Such comparisons may have limited validity, and we should remember the words of Andrew Lang: "He uses statistics as a drunken man uses lamp-posts—for support rather than for illumination."

In 1966 Eimerl and Pearson reported that the average length of a surgery consultation was 5.5 minutes and that of the average home visit 15.3 minutes.¹ More recent studies have given details of the variation in the amount of time spent at consultations with different doctors and between consultations for different illnesses. Other studies have concentrated on factors leading to variations in the amount of time spent in consultations. The way in which the doctor spends the time during a consultation has also been studied comprehensively.

The average annual consultation rate for each patient depends on definition of what constitutes a consultation but is between

two and four for two episodes of illness per patient. Two further items of service per patient per year are also offered in addition to the direct consultation. One in six direct consultations take place in the patient's home. Each consultation lasts between five and six minutes, and most include a restricted physical examination. The average list size is around 2300, and the use of deputising services is now widely established.²

The danger of giving too much attention to the "averages" is that in these figures are concealed widely different extremes. All practising family doctors are well aware of the fact that few consultations last exactly 5.5 minutes. For most doctors the average list size is a critical factor in determining the consultation rate and the quality of service they provide, though the work load does vary from one individual to another. There are widely differing opinions on the optimum number of patients for which each doctor should be responsible. In 1972 Fry wrote that he believed that it was possible to reduce by a half the patient consultation rate.³ Within a year Buchan and Richardson stated that the 10-minute consultation was an ideal, that list sizes should be reduced, and that there should be more general practitioners.⁴ Clearly, the holders of such widely differing opinions on such fundamental issues must have completely different definitions of good family medicine.

Over the past 20 years a new concept of primary health care has been developed with the introduction of a team of health workers. This has altered dramatically the content of the family doctor's work. Some practices, however, have not followed this trend, which accounts for some of the variations seen in patient care. There is no conclusive evidence that the changes that have occurred have resulted in improved patient care. The quality of care eludes precise definition, which makes critical comparisons between practices hard to validate.

The formation of group practices and the formation of primary health care teams are closely linked. These have involved if general practitioners were to respond to the incentives written into their terms of service. Since 1963 the number of groups with three or more principals has increased from one-fifth to two-thirds of all practices, and the number of practices with five or more principals has increased from 3% to 20% of the total number of practices.

With the increased number and size of group practices, the size of the primary care team and the range of services it can provide has also grown. Each member of the team possesses certain skills that are useful in patient care. Many of these skills were formerly used by the doctor, but are now delegated, with consequent changes in the nature of patient care. The result thus brings justifiably careful study by doctors, since they fundamentally affect the practice of family medicine.

Some suggestions

So far this commentary on organising time has concentrated on the presence (or absence) of hard statistics. It will have achieved nothing if the reader is not moved at least to consider

whether his time is as well organised as it might be. But how can the use of time be evaluated and is it worth doing?

I want to give a few examples of what happened when we looked at our practice. One partner had always ended his surgeries an hour late despite the appointment system. By keeping the numbers of patients constant and booking three patients instead of four every 20 minutes, he found the surgeries much more relaxed. He did not have to deal with patients who were angry or frustrated about being kept waiting, which was more pleasant for both the doctor and the patient.

Revising the arrangements for repeat prescriptions was also a valuable exercise. We found that occasionally patients were receiving repeat prescriptions without being seen regularly. By identifying the records where the patient should be seen, and the receptionist was able to control this particular problem and save the doctor having to check the record each time a prescription was repeated.

A value of delegating to various members of the ancillary staff was also made apparent by reviewing the various tasks undertaken by the doctors. We increased the number of nurses employed by the practice to provide a comprehensive back-up service. Blood pressure and weight checks, ear syringing, and injections can now be done at any time of the day, which means that these routine measures are done while the doctor is free to give the time in surgery to other more specialised skills.

When we reviewed the arrangements for Sunday on-call duties the number of visits was reduced dramatically by introducing a short emergency surgery on Sunday morning. This was achieved without an increased consultation rate, and the surgery was timed to coincide with the local pharmacist opening his premises.

Every aspect of the doctor's work is time-consuming, and any evaluation must look at the different tasks undertaken or services provided. All aspects will need to be looked at in turn. The objectives for such studies should be clear and simple. Each study needs to be worked out separately and tailored for the practice. It is most important to keep the size and scale of the study to workable proportions and within the defined objectives.

Reference to published studies is most useful in preparing protocols. Although the results of other studies may not be directly applicable to the doctor's own study, the way in which they are interpreted will be helpful. For those doctors who find the thought of developing their own protocols too daunting, the Practice Activity Analysis Unit, attached to the Birmingham Research Unit of the Royal College of General Practitioners, are prepared to help all doctors whether they are members of the

college or not. This facility is provided for doctors to measure commonly occurring events in practice and relate them to those obtained by other professional colleagues. Aspects that have been analysed are chemotherapy, investigations, psychotropic drugs, referrals, and visiting profiles. The series is expanding and these underlined now include prescribing—number of items, National Insurance Certificates, repeat prescriptions, work load review, duration of consultation, and a record review analysing preventive measures.

Most of the analyses are undertaken during a continuous period of two weeks. Once they have been completed they may be returned to the PAA Unit and the doctor will be given an analysis that indicates how he performs relative to others. This will often produce surprise, but the doctor can then improve the way he uses his time. This exercise may not result in the doctor working fewer hours but should result in improved care for his patients.

Buchan⁵ pointed out that efficiency should not be equated with good medicine and suggested that they are probably variables which operate independently of each other. He said that one of the drawbacks of work study is that of reductionism—in other words, a doctor-patient contact is reduced to components that appear to illuminate yet may miss the heart of the matter.

The objectives of any self-assessment must be remembered when the results of the analysis are being evaluated. The purpose of any work study in general practice should be primarily to improve patient care. Furthermore, the profession's known propensity for alcoholism, marital breakdowns, and suicide underlines the value of using time appropriately to avoid unnecessary stress.

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Clinical Curio: Should leukaemic children visit the zoo?

A recent case of *Listeria monocytogenes* septicaemia in a leukaemic child shortly after a visit to a zoological garden with a pet's corner prompted us to wonder if such children should visit the zoo.

A 7-year-old boy presented with acute myeloblastic leukaemia of his blood type. He was treated at that time with Oncovin, prednisolone, and later with proflavins for the central nervous system in the form of intrathecal methotrexate and radiotherapy. Remission was easily obtained, but he unfortunately relapsed 18 months later. This relapse was successfully treated. One year later a further relapse occurred, and treatment was started with Oncovin, adriamycin, and prednisolone. A few weeks after starting this treatment he visited a zoo with a popular pet's corner. Six days later he presented with a 12-hour history of fever and headache but was otherwise unusually healthy. His haemoglobin was 10.5 g/dl, granulocytes with a total white cell count of about 1000. 10¹¹ L. A sepsis work-up was performed and sepsis treatment started. Blood cultures showed growth of *L. monocytogenes* sero type 4 B, in all three cultures, but no growth from the cerebrospinal fluid. His intra-sepsis was successfully treated with ampicillin and gentamycin. Unfortunately, he succumbed to his leukaemia some months later.

Listeria was first described by Murray et al in 1926¹ and has for a long time been a well-known infection in veterinary medicine.

Animals are thought to be the prime reservoir of *Listeria*, which has been isolated from numerous wild and domestic animals—for example, cattle, sheep, dogs, chickens, ducks, geese, turkeys, gerbils, rabbits, and guinea pigs.²

Outside the neonatal period *Listeria monocytogenes* is most commonly seen in patients with underlying disease—for example, malignancy, autoimmune disease, and those who are immunosuppressed with corticosteroids and cytotoxic drugs. *Listeria* causes sepsis and meningitis in immunosuppressed patients.³ In view of the intimate association between animals, their faeces, and children in many of today's zoos the advisability of exposing severely immunocompromised children to this risk should be questioned. We strive after as normal a life as possible for these children, but, alas, this, I wonder, includes visits to the zoo?—G A J. Ayrans, Department of Paediatrics, Sundsvall County Hospital, Sundsvall, Sweden.

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