

PRACTICE OBSERVED

Essays on Practice

The practice nurse: is history repeating itself?

K J BOLDEN, S BOLDEN

General practice depends more and more on the skills of practice nurses. It therefore becomes general practitioners to help nurses to find their true place in their own profession and give them the support which general practitioners needed 20 years ago. We think that looking at the historical development of general practice since the beginning of the National Health Service may provide some lessons that might help speed up the process for practice nurses.

During the first decade of the NHS general practitioners were poorly organised, worked in professional isolation, had no formal training, and were considered by their hospital consultant colleagues to have "fallen off the rung" of the career ladder. General practice has developed in stages to its present state where over half of medical students choose it as a career and it is recognised as a discipline with its own body of knowledge, research and publications. Essential to this development was the Royal College of General Practitioners in pursuing educational aims, the 1966 GPs Charter in improving pay and working conditions, and the introduction of formal vocational training in 1973 and the Vocational Training Act in 1981.

Thus for general practice to become a discipline in its own right required that it was recognised as having equal status with other branches of the profession. This was brought about by defining the knowledge, skills, and attitudes required for general practice, formal training to meet these requirements, and an attractive career structure with satisfactory pay and conditions of service.

We believe that practice nurses are embarking on this long path towards recognition, with all that this implies in terms of professional development and training needs. Practice nurses, however, have specific problems of their own: the method of employment, no funds earmarked for training, and, not least, professional leaders few of whom have been practice nurses.

The role

It took several decades for general practitioners to decide upon their role, and even now differences of opinion exist about it. Should general practitioners just filter patients through to available services, for secondary and tertiary care? Were the skills taught in medical school appropriate for general practice? Are general practitioners businessmen and workers, and where does competence in business overlap with professionalism? Should the epidemiological consequences of working with an identifiable patient population be capitalised on by the general practitioner or left to others, including hospitals? Such questions have not been satisfactorily answered.

A practice nurse was defined in a Royal College of Nursing report, *Training Needs of Practice Nurses*, as a registered general nurse who is employed by a general practitioner or other nurses working in the treatment room and employed by health authorities.¹ The definition is concerned more with the employer and place of work than with the job to be done. The role of the practice nurse needs to be clearly defined, because until it is possible to design a training course to meet the requirements of the role, which ranges from a spare pair of hands to a full nurse practitioner.

The hierarchy

As a breed, general practitioners do not take kindly to hierarchical structures and prefer to organise their own way of working, maintaining professional independence and, to some extent, professional isolation. Much more peer exchange takes place now than it did 20 years ago, but nevertheless the independent contractor status is fiercely defended.

Like general practitioners, the practice nurse works on her own in professional isolation and makes her own decisions about standards of care. Some will have been forced into this working out to circumstances, but, for many, personality and preference dictate this independent style over working in a hierarchy such as that in hospital or community nursing. And here lies another difficulty because the other branches of the nursing profession are not clear about their relationship with the practice nurse, even when working in the primary health care team.

Department of General Practice, Exeter Postgraduate Medical Centre, Exeter EX2 5DW.
K J BOLDEN, MR, FRGP, senior lecturer.
S BOLDEN, MR, FRGP, Exeter and District practice nurse group.

frequency of a variety of parameters a time probe sampling technique was adopted. Direct measurement of the quality of primary consultation tasks, history taking, diagnosis, and management was used by Brownbridge et al to show "a minor negative effect of computer use on the doctor's clinical performance."² Such measures offer a judgment of the consultation as a whole, but the direct measurement of the duration of primary tasks is meaningful—whom to say that a longer history taking phase is better than a short one, and so on?

Time Interval Medical Event Recorder (Timer) was developed, therefore, to measure the frequency of physical activities and to measure and of certain secondary tasks (exploring the patient's concept, education, sharing in management, and prevention) which could be more reasonably related to the concept of quality without sacrificing objectivity.

Method

The hundred patients who attended the normal morning, afternoon, and evening surgeries of the three primary health centres were chosen from the appointment book according to a random selection of appointment numbers from 1 to 12. Seven patients declined, giving 93 participants, 44 men and 49 women.

A similar sample of patients who attended surgeries during which a computer terminal was available to the doctor to prompt preventive care approached 180 patients who agreed to participate, the computer was used with 49 patients, 21 men and 28 women.

All the participating patients were told that the doctor whom they had arranged to see would have a computer terminal available in consultation with a research project. Although the doctors were told which consultations to video record, and therefore knew which consultations were in the experimental sample, they were unaware of how these recordings would be studied.

Timer was applied to these video recordings. It requires coding at five second intervals in each of four events—the primary, physical activity, verbal activity, and secondary task activity. Since each consultation was initially viewed to assess the general content, the complete application of Timer requires five viewings of the consultation, which takes about one hour, depending on the duration of the consultation.

The categories were coded according to the Timer rules (see appendix for a summary) onto a score sheet. The total interceptors for each activity were then added up for each consultation and used for statistical analysis. The percentage of each consultation used for each activity was calculated and used to generate the pie charts (figs 1-6). Copies of the score sheets, total sheets, and the full Timer rules are available from the authors.

Results

A sample of 20 consultations, which included 81 problems, gave intraclass reliability of between 0.85 and 0.95, and interclass reliability of between 0.71 and 0.95. Pearson product-moment correlation for the four events covered by Timer. In the control consultations the modal number of problem dealt with was one, compared with three for the computer consultations, reflecting the increase in doctor initiated health topics. Analysis of the duration of the consultation into three minute intervals shows the modal duration to be three and six minutes for controls, compared with average duration 6 minutes 58 seconds, to between six and nine minutes for the computer group—average 7 minutes 46 seconds.

The proportion of the consultation that was spent on the different physical activities by doctors in the two groups is shown in fig 1 and by patients in fig 2. The proportion of the consultation that was spent on administration rises from 8% in the controls to 40% in the computer group ($p < 0.01$) using a Mann-Whitney U test on the number of interceptions recorded. Also, there was significant increase ($p < 0.001$) in the time during which the doctor was with the patient as well. The number of consultations in which an examination was carried out increased from 81% to 96% when the computer was used.

Since the categories for verbal activity are mutually exclusive fig 3 shows the proportions of verbal activities for doctors and patients in the two groups. The significant increase in social discussion by the doctors when the computer was used ($p < 0.001$) was accompanied by an increase in the time in which the doctors were talking—43% to 48%—whereas the patients spoke less—36% to 27%.

The speech content was initially divided into patient centred (doctor questioning, patient information, and patient questioning) and doctor centred (doctor information and instruction). The patient centred speech

fell from 36% for the controls to 28% on computer use, but doctor centred speech rose from 30% to 34%. The changes in the durations of these two categories of speech were not significant.

Secondary task activity (fig 4) occupied 28% of the control consultations and increased to 40% in the computer ones. This was mainly due to the increase in prevention ($p < 0.001$) as prompted by the computer. The number of consultations featuring some sharing of management was higher in the computer prompted group ($p < 0.05$).

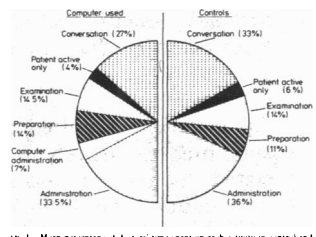


Fig 1—Mean percentage of doctor's time spent on each activity in control and computer assisted consultations.

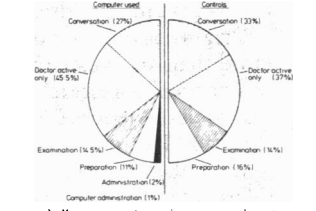


Fig 2—Mean percentage of patients' time spent on each activity in control and computer assisted consultations.

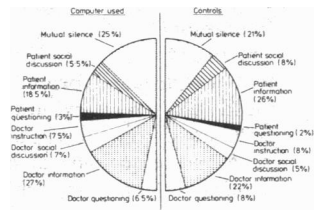


Fig 3—Mean percentage of time spent by doctor and patients on each verbal activity in control and computer assisted consultations.

Professional leaders

Like the general practitioner the nurse is tied to the practice and has no one to delegate work to. Pay arrangements are such that money is earned only when at work and there is no spare time for committee and professional development during the working day. General practitioners found most of their professional negotiations being carried out by colleagues who were not general practitioners or by a few doctors who were able to leave their practices. Practice nurses are in a similar situation, most of their professional leaders being drawn from hospital or community nursing with no experience of the problems and needs of practice nurses. Discussions have focused on bringing practice nurses within the orbit of the other nursing hierarchies and have had no regard for the developments in practice nursing or of the professional independence.

Training

General practitioners struggled with other branches of the profession for recognition as equals until they organised their own training, negotiated suitable funds, and demonstrated that peer teaching and learning are the most effective ways of meeting their

educational needs. This philosophy of peer group learning was introduced into the first training course for practice nurses, run as an external course, in the department of general practice in Exeter in 1964. There were 10 one-day sessions with a break between the first and second modules during which projects were undertaken in the practice. The content was based on the outline syllabus in *Training Needs of Practice Nurses*, as one of us had served on the working party.

The enthusiasm of the participants resulted in several practice nurse groups being set up in Devon. These aimed at providing continuing education. Thus the first principle of encouraging the nurses to take responsibility for their own training was achieved and a peer support group established. But the long term outlook is rather bleak, as the terms and conditions of service of general practitioners, who are the main employers, are written in such a way that it is not possible to obtain funding for courses for the nurses, only part reimbursement of travelling and subsistence costs.

Reference

1. *Training Needs of Practice Nurses*. London: Royal College of Nursing, 1984.

Practice Research

Timer: a new objective measure of consultation content and its application to computer assisted consultations

MIKE PRINGLE, SALLY ROBINS, GEORGE BROWN

Abstract

As part of the research into the effect in the consultation of the use of a computer to prompt opportunistic preventive care a valid, objective, and practical measure of the consultation process was required. After a review of the alternative methods the Time Interval Medical Event Recorder (Timer) was developed, its reliability tested, and applied to 93 control consultations and 49 computer assisted consultations. Timer records, every five seconds, four consultation events: the problems being dealt with, the physical activity, the verbal activity, and the secondary tasks being attempted.

Timer showed that control consultations lasted an average of 6 minutes 58 seconds. The doctors spent 35% of their time on administration, and patients and doctors were both conversational for just 33% of the consultation. Giving information was the most common verbal activity (48% of the duration of the consultation) with silence accounting for 21% of the time.

When the computer was used the average consultation was longer, at 7 minutes and 46 seconds. The doctor's contribution to

the consultation appeared to have increased. Patient centred speech fell from 36% in controls to 28% of the duration of the consultation when the computer was used, while doctor centred speech rose from 30% to 34%.

Secondary tasks (exploring patient concepts, education, management sharing, and prevention) were increased by 28% of the control consultations and 40% of the computer consultations. This was accounted for by the increase in prevention ($p < 0.001$). Timer is a reliable and practical tool for researching the consultations and though it has shown validity in detecting differences between consultations that use a computer and those that do not, further applications are required to establish its full value.

Introduction

After developing of the mood adjective checklist and topic analysis to elucidate the effect that a computer terminal, used to prompt preventive care, might have on patients' anxiety and their propensity to present problems we wanted to examine further the effects on the consultation.

Though descriptive studies have a clear role in interpreting the content of the consultation, they are not designed to quantify their parameters.¹ Basic rating scales are adequate for reflecting consultation skills, but to allow reproducibility of results more structured evaluation is required. An examination of these alternatives showed them to be either not relevant to our needs² or too complex to apply to multiple consultations by relatively untrained users.

Since we had decided to measure both the occurrence and the

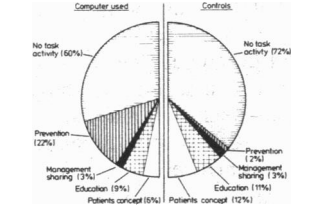


Fig 4—Percentage of consultation duration spent on each secondary task in control and computer assisted consultations.

Discussion

In normal consultations the observed doctors spend over a third of their time doing administration (looking at notes, writing forms, etc.) and exhibit a low duration of examination (14%), although some examining did occur in four fifths of the consultations. Only one third of the duration of the consultation entailed doctors and patients in mutual conversational contact where eye contact and body language should be most facilitating.

A fifth of the consultation was silent, which might be interpreted as demonstrating a thoughtful, reflective consultation style. It usually, however, indicated that one person was occupied with another task, such as reading the notes, listening to the chest, or getting dressed.

The computer affects the consultation by increasing the percentage of doctor speech with a decrease in patient speech and by changing the emphasis from patient centred to doctor centred speech, by increasing doctor administration, by increasing the number of consultations with some examination, and by increasing the time in which the doctor only is active. All these features imply medicalisation of the consultation, which may be seen as a laudable increase in the doctor's workload or an undesirable erosion of the doctor-patient relationship.

The increase in administration is largely due to computer use, however, and the increase in the time that the doctor only was active is due to both the computer use and the increased preventive care. The computer consultations were longer and dealt with twice as many problems as the control, and doctors spent significantly more time in social discussion in the computer consultations and effected more sharing in management.

This evidence supports the contention that the extra time and tasks prompted by the computer occur not at the expense of, but in addition to, the usual consultation interchange. Overall, the conclusion may be drawn that a computer terminal dedicated to reminding the doctor of appropriate preventive activities is effective in its task. The only major reservation lies with the increase in the length of the consultation by an average of 48 seconds (12%) and the increase in the modal consultation length.

When applied to a group of consultations such as these, Timer is a descriptive tool that provides an objective audit of the particular doctors concerned and of the specific change, computer use, measured in this study. Without the results of comparative studies it is impossible to know how these results reflect consultations in general practice as a whole. It will be interesting to widen the application of Timer and study a larger group of doctors.

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References

1. Pringle M, Robins S, Brown G. Assessing the consultation process in 2000 general practices. *Br Med J* 1984; 289: 1065-9.
2. Pringle M, Robins S, Brown G. A comparison of methods of assessing practice in general practice. *Br Med J* 1984; 289: 1069-70.
3. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1071-2.
4. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1073-4.
5. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1075-6.
6. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1077-8.
7. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1079-80.
8. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1081-2.
9. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1083-4.
10. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1085-6.
11. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1087-8.
12. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1089-90.
13. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1091-2.
14. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1093-4.
15. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1095-6.
16. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1097-8.
17. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1099-100.
18. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1101-2.
19. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1103-4.
20. Pringle M, Robins S, Brown G. Computer assisted consulting: effect on the practice and on the consultation. *Br Med J* 1984; 289: 1105-6.

Appendix

- Summary of the rules for Timer**
- Now These rules are included as a guide to the interpretation of the results. To apply Timer the full rules would be required and they are available from the authors.
- A. Problem identification**
- The number of each problem encountered is entered on the score sheet, the words being the primary source. If a statement refers to two problems the sheet is marked with the number of both problems and if a questioned equals between them both.
- Primary problem**—Any problem which arises as a new problem. If the context causes doubts this category is used.
- Continuing problem**—Any patient related problem which has been presented at a previous consultation, initiated by either the doctor or the patient.
- Doctor initiated health topic**—A general problem or discussion of an educational nature which is clearly initiated by the doctor and not presenting as a problem currently.
- B. Physical activity**
- This is coded on patient alone. Doctor activity is coded "D" and patient activity "P", either, both, or neither being recorded at each 5 second interval.
- Administration**—Includes any reading, writing, telephoning, etc. relating to the presenting patient.
- Preparation**—Any activity which is preliminary to or following on another activity, usually examination procedure or preparing to leave.
- Examination or treatment**—Self evident and occurring mutually for both doctor and patient.
- C. Verbal activity**
- Unconversational**—A default category which occurs when neither doctor nor patient is doing anything else.
- D. Verbal activity**
- This is coded on patient alone. "D" or "P" is entered for each time interval, never both, and if both are speaking at once it is coded according to who started first.
- Medical questioning**—Any questioning by doctor or patient relating to any aspect of the presenting patient's health.
- Medical information**—Any information relating to the presenting patient's health.
- Verbal discussion**—No medical reference to the health of the presenting patient's health.
- Informal**—Extends beyond information in actually giving some direction such as asking the patient to take breathers or saving how to take medication.
- Value**—Has these verbal categories cover all utterances that is the default category.
- E. Secondary task activity**
- Generally the doctor will be responsible for taking the initiative to fulfil tasks, although patient volunteered information may fulfil a task with no input from the doctor. The tasks are marked "D" or "P" on the sheet, but no two tasks can be coded to occur simultaneously.
- History**—Refers to information from the patient which his illness, and discussion of the effects that he thinks his illness or its treatment has on him and attempts by the doctor to elicit this information.
- Education explanation**—Any input from the doctor which increases the patient's understanding (not just the name of illness and/or prevention).
- Management decision sharing**—Includes any involvement of the patient in management of the presenting, continuing or opportunistic problem.
- Prevention**—Is any reference to a procedure, arrangement, or information intended to procure an arrangement to screen for or prevent disease.

Health Centre, Cullingham, Nr Newark, Nottinghamshire
MIKE PRINGLE, MRCP, general practitioner and part time lecturer, Department of General Practice, Nottingham University Medical School, SALLY ROBINS, MRCP, research assistant.
Nottingham University
GEORGE BROWN, MRCP, reader in educational methods.
Correspondence to Dr Pringle.