

Factors associated with achieving continuity of care in general practice

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SUMMARY. *The continuity of care received by 128 patients in four Bristol group practices over a two-year period was measured. A high standard of continuity of care was found for many patients, even though they were registered with large training practices. Patients registered with practices operating personal lists received much better continuity of care than those registered with practices operating combined lists.*

Patients in the study regarded continuity of care as important, especially if they were registered with practices operating personal lists.

All the doctors in the study appeared to regard continuity of care as important, although those operating personal lists were more positive in this view.

Introduction

CONTINUITY of care is an important feature of general practice. Good continuity and the identification of patients with an individual doctor have been associated with improved compliance with medication,^{1,3} improved control of hypertension⁴ and improved satisfaction on the part of the doctor.⁵ There is, however, evidence that standards of continuity of care have declined,⁶ and this may be in part related to changes in the organization of general practice.

For the purpose of this study, continuity of care was defined as the identification of one doctor as the provider of primary care for an individual patient over a long period of time. This concept, also known as provider continuity, is sometimes called longitudinality in the American literature.^{7,8}

In order to study the effect of practice organization on continuity of care, the sample for this study was selected from four group practices, two of which were known to operate personal lists, in which patients were encouraged to consult their own doctor, and two of which operated combined lists, in which patients were free to consult any doctor. Associations were sought between the degree of continuity of care achieved by patients, the type of practice (combined or personal list), and the doctors' and patients' views on the importance of continuity of care.

Method

The study was carried out in four Bristol group practices. The two practices which operated combined lists each had four partners. Of the two practices which operated personal lists, one had seven partners and one had four partners. All four practices were training practices. Two doctors were selected from each practice and a random sample of patients aged between 16 and 65

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years on the list of each doctor was generated from the computerized register held by the Bristol Family Practitioner Committee. Patients were only included in the study if they had been continuously registered with the same practice for more than two years and had consulted the doctor on more than three occasions during that period. The records of patients from the random list supplied by the Bristol Family Practitioner Committee were examined sequentially until eight men and eight women had been found to be eligible for the study from the lists of the two doctors in each practice (16 patients x 2 doctors x 4 practices = 128 patients).

The medical records of all 128 patients were reviewed by a medical student (V.M.). On the basis of the handwriting of the doctors in the medical records, the number of doctors that each patient had seen over a two-year period was estimated, together with the number of consultations with each doctor. If there was doubt about the handwriting, one of the practice receptionists was consulted.

A continuity score was calculated for each patient — the number of consultations with the doctor seen most frequently during the two-year period, divided by the total number of consultations during the period. This method is a slight modification of the continuity score described by Pereira Gray.⁵

A random sample of one in two patients was selected to include equal numbers of patients from each of the four practices and these patients were invited for interview. Fourteen patients could not be contacted or refused to be interviewed. Either three or four of these 14 excluded patients came from each of the four practices. The 50 patients interviewed and the total sample of 128 patients were similar in terms of age, sex, number of consultations and continuity score. The questions asked at this interview are shown on Table 1.

The eight doctors with whom the study patients were registered all replied to a postal questionnaire which included questions about the importance which they attached to continuity of care.

Because of the design of the study, comparisons between types of practice had to take into account the variation in the two practices within each type and the variation in the two doctors within each practice. Since equal numbers of patients from each doctor provided data on continuity of care, it was possible to compare mean values in the four practices.⁹ Where responses from the doctors were concerned, similar principles applied although the doctor, rather than the patient, formed the unit of observation.

Results

The patients from the four practices were similar in terms of mean age and mean number of recorded consultations in the two-year study period. The mean continuity score was similar for men and for women, was not affected by the age of the patient, and was independent of the number of consultations recorded for each patient.

Relationship between practice organization and continuity scores

The patients in the personal list practices had much higher continuity scores (mean 0.82) than those in the combined list practices (mean 0.52). For example, it can be seen from Figure 1 that approximately 30% of patients in the personal list practices had

seen the same doctor at every consultation (continuity score = 1.0); this was true for only one of the 64 patients in the combined list practices. The difference in mean scores, tested by the ratio of variance between types of practice to residual variance between practices within types, was highly significant ($P < 0.001$).

Although continuity scores in the seven-partner personal list practice were lower than in the four-partner personal list practice, they were substantially higher than in either of the four-partner combined list practices.

Table 1. Patients' responses to questionnaire ($n = 50$ patients).

	Number of responses	
	Personal list practices	Combined list practices
1. Preference for a particular doctor		
Prefer particular doctor	21	13
Don't mind which doctor seen	4	11
Don't know	0	1
2. Ease of obtaining appointment at time required		
Very easy	5	3
Fairly easy	12	11
Fairly difficult	5	8
Very difficult	3	3
3. Expectation of what receptionist should do if own doctor busy		
Fit patient in with own doctor	7	7
Ask patient to see another doctor	15	17
Don't know	3	3
4. Preference for seeing own doctor if		
half-hour wait necessary		
Prefer to wait for own doctor	19	14
Prefer to see another doctor straight away	6	11
5. Willingness to discuss a personal problem that is not strictly medical with doctor		
Yes, would discuss	13	14
No, would not discuss	11	11
Don't know	1	0
6. Relationship with doctor		
Friendly	13	9
Businesslike	12	14
Don't know	0	2

Relationship between doctor's views and type of practice

Of the eight doctors, four 'strongly agreed' and three 'agreed' with the statements: 'Patients should nearly always be able to see the doctor of their choice' and 'Patients should be encouraged to stick to the same doctor'. In each case, three of the four doctors who 'strongly' agreed with the statements were from the personal list practices. No doctor disagreed with either of these statements.

The doctors were then asked to score the importance that they attached to continuity of care in five clinical situations — long-term management of diabetes, acute tonsillitis, depression following bereavement, oral contraception and antenatal care — using a five-point scale. Out of a maximum possible score of 25, the four doctors from the personal list practices scored a mean of 21.5, compared with a mean of 16.3 for the doctors from the combined list practices. The appropriate variance ratio

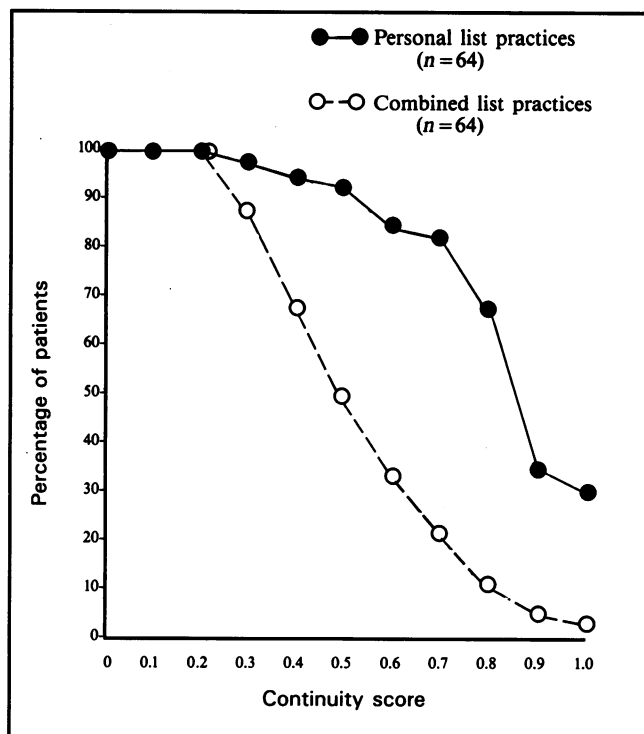


Figure 1. Cumulative frequency distribution of continuity score for patients in personal and combined list practices; that is, percentage of patients having at least the given value of continuity score.

demonstrated this difference to be highly significant ($P < 0.001$). However, the doctors from combined list practices appeared to hold positive views towards continuity of care; all of them assigned a score of four or five (very important) to at least two of the five clinical situations.

Relationship between patients' views and continuity of care

The relationship between patients' views (dichotomous variables) and continuity scores was investigated for patients registered with each particular doctor and the results pooled for the eight doctors. This analysis was carried out using stratified logistic regression. In addition, the proportions of patients holding certain views in the two types of practice were compared using a chi-square test as a simple guide to statistical significance. The response to the first question of the questionnaire (Table 1) showed that a significantly higher proportion of patients in the personal list practices said that they preferred to see a particular doctor ($P = 0.05$). For each doctor the continuity scores of those who said that they preferred a particular doctor were similar to the scores of those who said that they did not mind.

Patients from the personal list practices were more likely to say that they would tolerate a half-hour wait to see their own doctor (Table 1), and slightly more likely to regard him as a personal friend, but they were no more likely to be prepared to discuss a personal matter with him, when compared with patients from the combined list practices. These differences were not statistically significant and there were no significant associations between these views and continuity scores.

Discussion

The results of this study should be interpreted with some caution. Although the patients selected represented a random sample from the selected age band for each practice, the number of patients from each practice was relatively small. In addition, it was

not possible to validate the method used to measure continuity scores, and systematic bias could have arisen if certain doctors consistently failed to record consultations in the notes.

The results obtained show that it is possible for patients to receive excellent continuity of care, even within a large group practice. Patients in both personal list practices were much more likely to receive good continuity of care than those in the combined list practices. It seems likely that the method of booking at the reception desk had a direct effect on the level of continuity achieved.

All the doctors in the study appeared to regard continuity of care as important, although those in the personal list practices gave it greater weight. There was a disparity between the views of the doctors in the combined list practices and what actually happened to their patients. For example, none of the doctors in the combined list practices disagreed with the statement that 'Patients should be encouraged to stick to the same doctor', yet 'sticking to the same doctor' appeared a relatively rare event in their practices as only half of their patients had seen the same doctor on more than 50% of visits. It is only possible to speculate on the reasons for this disparity. It may be that these doctors did not know that their patients were receiving relatively poor continuity of care, or that they found other aspects of the practice organization more important when deciding how patients should be booked into surgeries.

Over two-thirds of the patients interviewed said that they preferred to book an appointment with a particular doctor, and a similar proportion would prefer to wait half-an-hour to see that doctor than see another doctor straight away. Patients in the personal list practices were more positive in these views than those from the combined list practices. Some patients had received good continuity of care from a doctor other than the doctor with whom they were registered. It was not always clear whether

their views were expressed about the doctor with whom they were registered or about the doctor whom they usually saw.

The conclusions from this limited study appear clear — patients value continuity of care, and doctors say that it is important. Practices can be organized to provide continuity of care, but if they are not so organized, the level of continuity of care will fall.

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