

# General practitioners' knowledge about patients and use of medical records in out of hours calls

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**SUMMARY.** *The medical record is an established adjunct to good care and this paper describes the extent to which general practitioners use patients' records in out of hours calls and how their previous knowledge of their patients affects the decision to visit. Seven general practitioners from three group practices in Cambridge and Newmarket each operating a separate out of hours rota recorded details of out of hours telephone calls. Of 368 calls recorded, 293 (80%) resulted in a visit. In 51% of calls the patient was known to the doctor but the doctors were just as likely to visit patients they knew as those unknown to them. In 41% of the calls the doctors were able to recall a degree of clinically relevant information about the patient. In 47 of the calls (13%) recalled information concerning the patient was an influence in the decision whether to visit. The patient's record was collected before the visit in 30% of visits to the elderly compared with 17% for all age groups. The most often quoted reasons for not collecting the medical record were that it was likely to be unhelpful and/or it was geographically inconvenient. Although doctors who collected the record found it useful in 84% of cases, obtaining the record either before or after the visit rarely changed the management of the patient. On the occasions when it did affect management it was of importance both clinically and medico-legally.*

*A postal questionnaire sent to all general practitioners in Cambridge and Newmarket indicated that the behaviour of the study group was similar to a wider sample in terms of the proportion of visits in which the medical record was collected before visiting the patient.*

## Introduction

GENERAL practitioners who undertake to cover 'out of hours' duties for their own practice differ from doctors working for deputizing services in two important respects: the general practitioner has existing knowledge of many of the patients and has access to their medical records. However, the extent to which such general practitioners have knowledge of the patients contacting them and the frequency with which they collect the medical record prior to visiting patients are not documented.

Knowledge about a patient may enable the general practitioner to give appropriate telephone advice, whereas the deputy, knowing nothing of the patient or family, must carry out the visit. Having access to the medical record may mean that the general practitioner will be better equipped to deal with the problems for which a knowledge of medical history is important, for example possible admission to hospital or suspected drug allergy.

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Prior knowledge of a patient's history may negate the need to obtain the medical record before the visit.

The aims of the study were: (1) to record details of out of hours calls and to assess the general practitioner's knowledge of patients making the calls, (2) to investigate the factors affecting decisions about visiting and collecting the medical record out of hours and (3) to record the use made of the medical record before and after visiting. In addition to this study of a sample of seven doctors, data is presented on the use of the medical records out of hours by a larger group of doctors in the same district.

## Method

Seven male general practitioners participated from three group practices, each operating their own within-practice rota. Two of the practices were in mixed social class areas of urban Cambridge and the third was a mixed social class semi-rural Newmarket practice dispensing to 40% of its patients. The list sizes of the practices were 9000, 11 500 and 15 500, with five, seven and eight partners respectively, giving an average list per full-time equivalent principal of 2195. The age distribution of the practice populations were very similar to the general population except for the over 75 year old group (8.1% compared with the national 6.0%) and the 0-4 years group (4.1% compared with 6.1%).

The doctors were on call only for patients from their own practice and therefore had access to all the medical records. They were asked to continue their normal behaviour in managing out of hours work. Out of hours telephone calls were defined as any request for advice or a visit received by the doctors after they had left their surgery at the end of weekday, evening surgery, or after Saturday morning surgery, and before their return to work at the beginning of the next normal working day.

## Data recording

A proforma was used to record details of consecutive out of hours telephone calls and visits over a three month period. For all calls the doctors recorded the name, sex and age of the patient, and the time, day and date of the call. Night calls were defined as those received between 23.00 and 07.00 hours. On receiving the call the doctor assessed his knowledge of the patient in terms of physical, psychological and social characteristics, rating the extent of this recalled information in each category as 'none', 'some' or 'detailed'. The factors influencing the decision whether or not to visit were recorded under the headings: recalled information, symptoms described, decision to revisit or other.

The remaining sections of the proforma were completed only in those cases resulting in a visit. If the medical record was obtained before the visit the doctor was required to record one or more reasons from: information needed, admission possible, something the caller said, recently seen by another doctor, already at or going to the surgery, already in possession of the medical record and other. Having acquired the medical record the general practitioner was asked to note whether he had read it and if so, whether it had proved useful. In those instances where the medical record was not obtained before the visit, the reasons were recorded as one or more of: urgency of visit, existing knowledge of patient, likely to be unhelpful, temporary resident, unobtainable, geographical inconvenience, other inconvenience.

The doctor was asked to record what proved to be the predominant reason for the patient requesting a visit, choosing between: physical disease, mental disease, social problem, disproportionate anxiety, thoughtlessness.

Where the doctor obtained and read the medical record within 48 hours after the visit he recorded whether anything in the records led him immediately to alter his management of the patient, whether he would have managed the patient differently at the time of the visit had he known what was in the medical record and whether what he had read would affect the future management of the patient.

### Questionnaire survey

In order to gain some idea of how the behaviour of the seven general practitioners in the study compared with that of a wider population, a separate questionnaire was sent to all general practitioners in the towns of Cambridge and Newmarket. This requested them to estimate how often they collected the medical record before visiting patients out of hours, on a scale ranging from 'never' to 'nearly always'. They were also asked the year of their qualification, the number of doctors sharing the on call rota, whether all the doctors were in the same partnership, the total number of patients for whom they were on call and whether they had access to all the medical records.

### Analysis

Differences between outcome groups and associations between doctor/practice characteristics and frequency of use of medical records were assessed using the chi-squared test for contingency tables with Yates correction.

### Results

Over the period of data collection 368 out of hours telephone calls were recorded by the seven general practitioners, one of whom provided data on only 19 calls before embarking on a year's sabbatical leave.

### Telephone calls resulting in visits

The number of telephone calls resulting in a visit was 293 (80%) with a range for the seven general practitioners of 66–89%. The proportion of telephone calls resulting in visits was not affected by whether the telephone call was received on a weekday or at the weekend.

The highest number of telephone calls and visits related to children in the 0–4 years age group (Table 1). The highest visit to call ratio was in the 75 years and over age group with 98% of their telephone calls resulting in the doctor visiting. The difference between the over 75 year olds and the other age groups was statistically significant ( $P < 0.01$ ). More of the telephone calls (58%) were from or on behalf of women patients but the doctor's response in terms of proportion visited was the same for both sexes (78% for men, 81% for women).

Table 1. Out of hours calls and proportion of visits made.

Age group of patients (years)	Number of telephone calls (n = 332)	Number of visits (n = 266)	% of calls visited
0–4	74	53	72
5–16	45	29	64
17–24	36	30	83
25–44	53	45	85
45–64	44	34	77
65–74	36	32	89
75+	44	43	98

Missing observations = 36.

The majority (74%) of the telephone calls came from patients not registered with the on-duty doctors but of those who were on their lists, 93% were known to them. Just over half (51%) of all the patients were known to the doctors. The doctors were just as likely to visit patients they knew (148/187, 79%) as those unknown to them (145/181, 80%) but slightly less likely to visit patients on their own list (78% versus 83%).

The proportion of telephone calls in which the doctors could recall physical, psychological and social information about the patient in the different age groups is shown in Figure 1. Overall, the doctors recorded a level of clinically relevant information for 41% of calls. The doctors' level of recall of physical and social information was highest in the 0–4 years and 65–74 years age groups, whereas for psychological characteristics the doctors' assessment of their recall was highest in the middle age groups. The doctors' level of recall was poorer in all three aspects in the 17–24 years and the 75+ years age groups.

Doctors were more likely to visit patients for whom they could recall 'some' psychological information; 90% of these calls

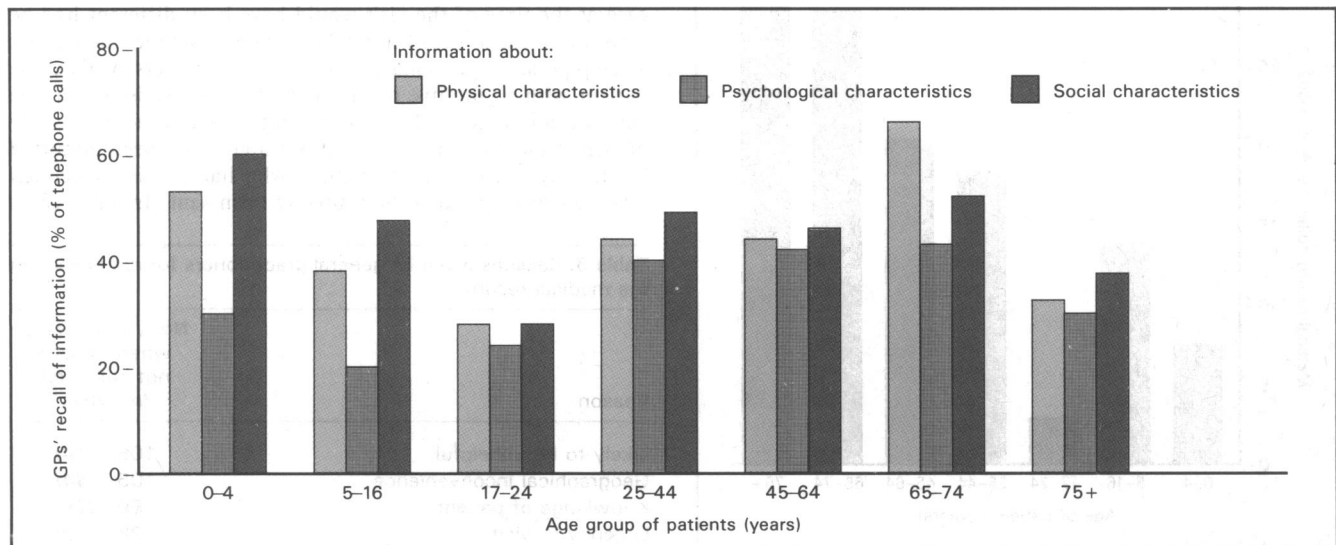


Figure 1. Percentage of telephone calls in each age group for which general practitioners recalled information about patients (see Table 1 for number of calls).

resulted in a visit compared with the mean for all calls of 80% ( $P < 0.05$ ). In 329 telephone calls (89%) the doctors recorded that the symptoms described by the caller influenced the decision to visit, with 271 of these resulting in a visit. In 47 calls 'recalled information' concerning the patient was recorded as an influence with 29 (62%) of these calls resulting in visits compared with 263 of 320 calls (82%) resulting in visits when recalled information was not an influence in the decision making (data missing for one call). The difference between these two groups was statistically significant ( $P < 0.01$ ).

In 74% of visits the predominant reason for calling the doctor, as assessed by the general practitioner after the visit, was physical disease. Mental and social problems were mentioned infrequently and visits resulting from 'thoughtlessness' on the part of the caller occurred in only two cases. 'Disproportionate anxiety' was given as the reason in 42 (14%) visits and of these, 29% were to children in the 0-4 years age group.

### Medical record collected before the visit

In 49 of the total 293 visits (17%) the doctor collected the medical record before arriving at the patient's home, the range for the seven general practitioners being 12-25%. The medical record was more likely to be collected if the patient was 65 years or older, with the difference between these age groups and the under 65 year olds being statistically significant ( $P < 0.01$ ). In almost 30% of the visits to the 65-74 and 75+ years age groups the doctor collected the medical record, compared with 8% of the visits to 0-4 year olds and 3% of the visits to the 17-24 year olds (Figure 2). It was collected in five of the 50 night visits (10%) compared with 44 of the 239 daytime visits (18%) (data missing for four visits) but the difference did not reach statistical significance ( $P = 0.217$ ).

The various reasons that general practitioners gave for collecting the medical record in the 49 cases where it was collected are shown in Table 2 (more than one reason was given for some cases). 'Information needed' was quoted as a reason in 71% of cases, and the 'possible admission to hospital' in 33%. In 39% of cases the doctor was already at or going to the surgery and therefore did not have to make a special journey to collect the

**Table 2.** Reasons given by general practitioners for collecting the medical record.

Reason	No. (%) of visits where record collected (n = 49)
Information needed	35 (71)
GP already at surgery	19 (39)
Admission possible	16 (33)
Seen by other doctor	8 (16)
Other reasons	5 (10)

medical record. In 6% of cases the doctor was already in possession of the patient's record.

The doctor found the medical record useful in 84% of the cases in which it had been collected, the reason most frequently mentioned being the need to check on details of the history of a current problem.

### Medical record not collected before the visit

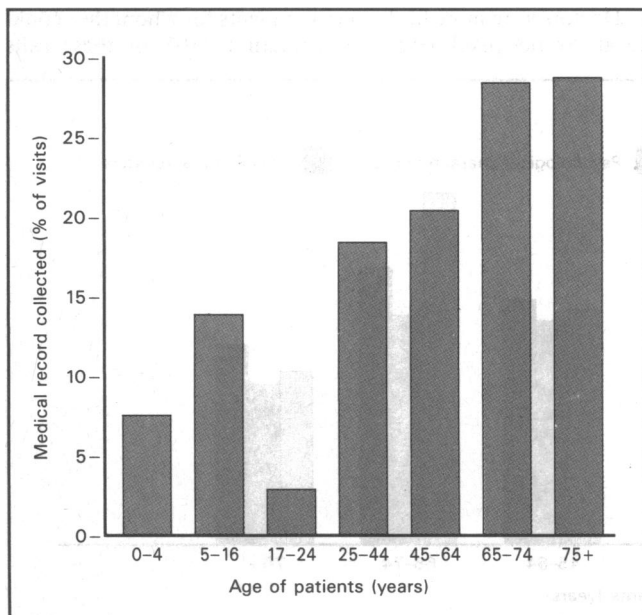
The medical record was not collected before the visit in 240 cases (82%) (data missing for four visits). Reasons were given by the doctors in 239 cases and these are shown in Table 3; the most commonly quoted were 'likely to be unhelpful' (44%) and 'geographical inconvenience' (44%). In 29% of visits the doctor gave 'knowledge of the patient' as a reason for not collecting the medical record. In 135 of the 239 visits a single reason was given, the two most common being 'geographical inconvenience', and the doctors judgement that the medical record was 'likely to be unhelpful'. In 39% of the 104 cases where geographical inconvenience was given as a reason, it was the only reason and not, therefore, a minor consideration.

The medical record was not collected beforehand but was obtained within 48 hours after the event in 128 (44%) of the 293 cases visited. In two cases reading the record led to an immediate change in the management of the patient's condition. In one case this related to the patient's previous history of asthma and in the other the patient had given an incomplete history in relation to previous surgery, information which was of immediate relevance to the admitting surgeon.

In four cases the doctor judged that his management of the case at the time of the visit would have been different had he read the medical record in advance. These include one patient given piperazine phosphate to which he was hypersensitive, one patient with a tentative diagnosis of Mallory Weiss syndrome who was admitted by the surgeons but in view of a past history of peptic ulcer might more appropriately have been admitted by the physicians and one patient who had a urine specimen taken when a specimen had already been sent. In eight cases

**Table 3.** Reasons given by general practitioners for not collecting the medical record.

Reason	No. (%) of visits where record not collected (n = 239)
Likely to be unhelpful	106 (44)
Geographical inconvenience	105 (44)
Knowledge of patient	69 (29)
Urgency of visit	28 (12)
Other inconvenience	27 (11)
Other reasons	16 (7)



**Figure 2.** Proportion of visits in each age group for which the medical record was collected (see Table 1 for number of visits).

the future management of the patients concerned was affected by reading the medical record.

### Questionnaire survey of local general practitioners

The postal questionnaire was sent to 140 doctors and 104 (74%) replied. Eighty six of the respondents had access to all the medical records when on call. No relationship could be found between any of the characteristics of the doctors or their practices contained in the questionnaire, and the frequency with which they used medical records on out of hours visits. Their estimates of how often they collected the medical record before visiting a patient are shown in Table 4. Over half said they collected the medical record 'rarely' or 'sometimes' which corresponded well with the behaviour of the doctors in the main study.

**Table 4.** General practitioners' estimates of frequency with which they collected the medical record before a visit.

Frequency of collecting the medical record	No. (%) of respondents (n = 104)
Never (0%)	5 (5)
Rarely (1-5%)	27 (26)
Sometimes (6-20%)	31 (30)
Frequently (21-40%)	10 (10)
Usually (41-90%)	16 (15)
Nearly always (91-100%)	15 (14)

### Discussion

Out of hours work represents only 1-3% of total general practice consultations.<sup>1-3</sup> However, it consumes a disproportionate amount of time and energy and probably generates more aggravation for the doctor and his family than any other aspect of primary care. Most general practitioners choose to limit their availability out of hours by using rota systems and increasingly by the use of deputizing services. That this choice may deprive patients of a doctor who knows them is inevitable.

Use of a deputizing service leads to more visits being made,<sup>4</sup> partly owing to the obligation upon them to visit all callers who request a visit. In this study the general practitioners responded to 20% of callers with telephone advice alone. This contrasts with the 59% managed by Marsh and colleagues by telephone advice.<sup>5</sup> Which response represents optimum care is not known, yet most general practitioners aim to limit out of hours visits to those they consider appropriate. This study indicates that the doctor's prior knowledge of the patient is an important factor in this process. Although the participants were asked to continue their normal routine in managing out of hours work, in a prospective study of this kind there is always a risk that behaviour will be altered during the data collection period.

It is interesting to note the high proportion of patients known to the doctor and it is likely that a still higher proportion of the patients knew the doctor. This is relevant when considering the evidence that compliance may be improved if the patient knows the doctor.<sup>6,7</sup>

This study has attempted to quantify the levels of information recalled by the doctor about his patients at the time of receiving out of hours calls. In 41% of calls the doctors recorded a level of clinically relevant information about the patients. Not surprisingly quite high levels of recall (40-60%) were shown for the 0-4 and 65-74 year age groups and a lower level (25%) in the 17-24 year olds, whereas the level of recall about the age group of 75 years and older was rather low (33%).

It was surprising perhaps that the visiting rate was not higher

to patients about whom the doctor could recall no information. The only higher than average rate was for patients about whom the doctors could recall 'some' psychological information — a reflection perhaps of a tendency to be unsettled by some knowledge of the patient combined with a feeling that there is much that is not recalled. Indeed 'recalled information' was quoted as an influence on the decision to visit in only 13% of calls, the symptoms described by the caller being the most often quoted influence. However, the doctors were less likely to visit when recalled information was an influence in the decision making, that is, six out of 10 calls visited compared with eight out of 10 visited when recalled information was not an influence on the decision.

The medical record seemed to be used to confirm what the doctor already knew, to inform him of a colleague's recent opinion and management, to alert him to any special problems and, importantly, to enable him to give an accurate past medical history to hospital colleagues in the event of an admission. Another more nebulous reason for collecting the medical record may be 'job satisfaction'.

It is reasonable to suggest that it is in fact the reasons for not collecting the medical record that prove most important to the doctor on-call. Decisions based on knowledge of the patient and of the expected problem are likely to be valid reasons for not collecting the medical record. Furthermore, the 'geographical inconvenience' of even a short detour to the surgery may be enough to deter an already stressed doctor. Problems with surgery security and safety are further disincentives. Nonetheless it is disappointing to report that the medical record was not seen either before or straight after the visit in nearly 40% of cases. This may relate more to organizational factors than to the true wishes of the doctors.

This paper indicates that only rarely does reading the medical record change patient management although when it does it may be of considerable importance to patient and doctor both clinically and medico-legally. It is, however, probable that the process of care will be improved by reading the medical record and that improved outcome may result.

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