Primary care in London: an evaluation of general practitioners working in an inner city accident and emergency department

Patricia Ward, Joanna Huddy, Sally Hargreaves, Robin Touquet, Jennie Hurley, Jane Fothergill

Abstract

***Objective*—To determine the characteristics of primary care attenders to St Mary's Hospital accident and emergency (A&E) department, evaluate the effects of the introduction of general practitioners (GPs) on patient care in A&E, and make recommendations for the provision of GPs in appropriate A&E departments.**

***Design*—Prospective survey over a six week period.**

***Methods*—Data collected from the attendances of 970 consecutive patients triaged with "minor" primary care problems, whether seen by A&E doctors or by GPs working in A&E, were analysed.**

***Results*—During the study period 1078 patients (16·6%) were triaged as suitable for primary care. The A&E GPs saw 58·4% of these patients. The majority of primary care patients were young British residents, 71·1% of whom were registered with a GP. Sixty per cent of patients lived within St Mary's catchment area. Of those registered patients asked why they attended A&E, 27·1% thought their problem inappropriate for their GP. A&E doctors were more likely to investigate patients and arrange hospital follow up than GPs, who arranged community follow up in 80% of patients needing further care.**

***Conclusions*—The demand for primary care at St Mary's necessitates the provision of a primary care service, albeit for the first visit only. This can be provided by GPs in A&E. The features of the patients using the service suggests that discouraging first attendance is unrealistic, but using the visit to educate patients and return them to the care of the community is not.**

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Key terms: accident and emergency; general practitioner; primary care

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Many patients attending accident and emergency (A&E) departments present with problems that could have been managed appropriately by a community general practitioner (GP).[1–3] Such primary care attendances are especially evident in A&E departments in inner city areas where many people do not have access to a local GP, because they are homeless, tourists, or commuters for example.

The attendance of primary care patients to A&E is often regarded as "inappropriate".[4 5] One of the options included in managing these patients is to encourage them to seek care elsewhere.[6] However, discouraging first attendance is unrealistic for many patients who initially may be unaware of the availability and appropriate use of community primary care services and who will therefore continue to use A&E as a source of primary care.[2 3 7–9]

Few studies have regarded the management of primary care patients as a role of the A&E department.[2 10] Indeed, A&E doctors are not specifically trained, or perhaps motivated, in the management of primary care problems[1] and the waiting times for "true" A&E patients may be increased through the treatment of primary care patients in A&E. However the King's College Hospital study[2 11] has shown that the employment of GPs in the A&E department to see primary care patients is an effective means of managing these patients in A&E. GPs are, after all, specialists in primary care.

At St Mary's Hospital in west central London, we too regard the provision of a primary care service as a necessary role of the A&E department, albeit for the first attendance only. Thereafter, in accordance with the Tomlinson recommendations to expand community primary care services[12] patients should be encouraged to use mainstream primary care facilities in the community.

Since February 1993, 10 local GPs have been employed to work sessions in St Mary's A&E department. We describe our experiences following a six week study period during which our objectives were to determine the characteristics of primary care attenders to our A&E department, evaluate the effects of the introduction of GPs on patient care in A&E, and make recommendations for the future provision of GPs in appropriate A&E departments.

Methods

Nurse triage operates on a 24 hour basis at St Mary's. In February 1993 the existing triage system was revised to include the primary care categories Minor B/primary care and Major B/primary care (table 1). A "triage decision tree" and a list of appropriate primary care conditions (table 2, figure 1) were compiled by the A&E senior sister and the two A&E consultants, one of whom had previous experience of general practice. For example minor injuries

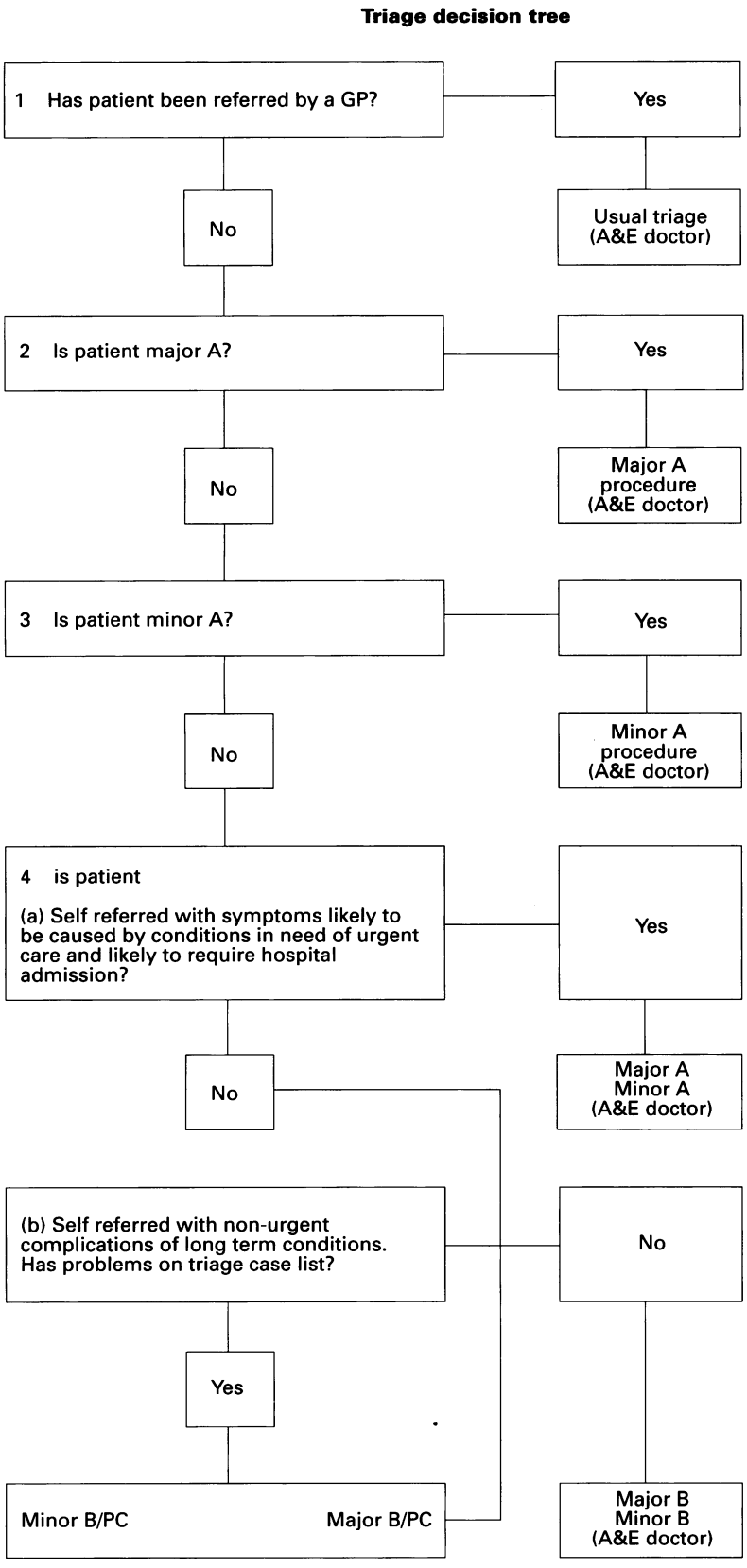

Fig 1 The triage decision tree. See table 1 for description of triage categories.

considered less likely to require *x* ray were triaged "Minor B/primary care", while those thought more likely to need investigation were triaged "Minor B" to be seen by A&E doctors who are more experienced in the interpretation of *x* rays.

Table 1 Definition of triage categories

RESUS:	Patients requring immediate resuscitation – overrides all other categories.
MAJOR A:	Patients with life threatening systemic illness or injuries. Need to be seen within 15 minutes. May require resuscitation facilities.
MAJOR B:	Patients with potentially life threatening systemic problems or injuries. Require moderate nursing care, some investigations and treatment. Admission not always necessary.
MINOR B:	Patients who require minimal nursing, investigation, and treatment before discharge who are not in the PC category. A delay of several hours would not be detrimental to their condition.
MINOR A:	Patients with extremity or single system problem or injury. Need to be seen within 15 minutes. Require moderate level of nursing care, limited investigation, and treatment. Admission may be necessary.
MAJOR B/PC:	Self referred patients with non-urgent complications of long term multisystem conditions, unlikely to require hospital admission, that are included on triage list.
MINOR B/PC:	Self referred patients with non-urgent extremity or single system problem or injury, unlikely to require investigation (eg, *x* ray) that are included on triage list.

Before the GPs started work in A&E, a pilot study was performed in order to assess the revised triage system. The A&E records of all primary care patients presenting to the A&E department over a one week period were examined by an A&E registrar, who had previously worked as a GP, to ensure that triage was appropriate and that enough primary care patients attended at times when a GP would be on duty.

The GPs had a separate consulting room within the A&E department and worked weekday sessions from 1400 to 1700 hours and 1800 to 2100 hours, and weekend sessions from 1000 to 1300 hours and 1400 to 1700 hours, one GP per session.

Following triage and registration, primary care patients were seen either by a GP or by an A&E doctor, depending on workload or whether a GP was on duty. All doctors were asked to ascertain whether or not the patient

Table 2 Examples of presenting conditions which may be suitable for primary care (see table 1 as well)

1	**Abdominal pain** (more than 2/52 duration with no associated symptoms)
2	**Back pain**
3	**Burn** (sunburn, scald) minor only
4	**Constipation**
5	**Cough** (not chest infection)
6	**Deafness**
7	**Dental**
8	**Dizziness**
9	**Diarrhoea**
10	**Diarrhoea and vomiting**
11	**Emotional upset**
12	**Gynaecological problem**
13	**Haemoptysis**
14	**Headache**
15	**Injury** (bruise, sprain, abrasion)
16	**Numbness**
17	**Pain** (area involved, eg R cheek)
18	**Personal problem**
19	**Pyrexia**
20	**Vaginal bleeding**
21	**Psychiatric problem**
22	**Rash**
23	**Require prescription**
24	**Require dressing**
25	**Sore throat**
26	**Social problem** (minor)
27	**Skin problem**
28	**Swelling** (of particular part)
29	**Unwell** (no specific problem given)
30	**Urinary problem** (dysuria, haematuria, frequency, retention, etc.)
31	**Vomiting**
32	**Other**

was registered with a GP and record the reasons that registered patients gave for attending A&E in preference to their own doctor. In accordance with departmental policy, all unregistered patients were given a letter summarising their A&E attendance with a list of local GPs, and advised to register with a GP as soon as possible. Patients requiring further care by a GP in the community were advised to attend their GP within two weeks of their A&E attendance.

The A&E records of consecutive primary care patients attending A&E between 11 May and 20 June were examined. The records of the small number of patients triaged "Major B/primary care" were not included because, despite the triage category, these patients tended to be seen by A&E doctors so that true comparisons between A&E and GP patients were difficult. The records of primary care patients who did not wait to see a doctor or that were unavailable were also excluded from the study.

For the remaining Minor B/primary care patients, sociodemographic data and details of the patients' attendance were obtained using the Footman Walker-Unisys A&E computer system[13] and the patients' A&E notes. A comparison of the management of primary care patients by GPs and A&E doctors was made.

Letters in the form of a questionnaire were sent to a random sample of those GPs whose patients had been advised to attend for follow up within two weeks of their A&E visit. The GP was asked to indicate whether or not the patient attended within that time, and if so, whether they attended with the same problem or a different one.

All A&E staff were given a questionnaire relating to the provision of a GP-run primary care service in the A&E department in which they were asked to suggest possible advantages and disadvantages of the scheme for patients, A&E staff, and the GPs.

The data from the study were collated on the software package EPI INFO and analysed using the χ^2 test with Yates correction or with Fisher's exact test, where n was less than 5. P values of less than 0·05 were considered significant.

Results

In view of the large number of patients involved, complete data were not available for every patient in all study categories. Therefore, where results are expressed as percentages, the denominator is given.

A total of 6477 new patients attended St Mary's A&E department during the study period, of whom 16·6% (1078/6477) were triaged primary care. The 970 patients in the Minor B/primary care category were studied. The 43 patients in the Major B/primary care category, and 65 patients whose notes were unavailable for inclusion or who had left the department without seeing a doctor, were excluded from the study as previously described.

Of the 970 primary care patients studied, 58·4% (566/970) were seen by the A&E GPs.

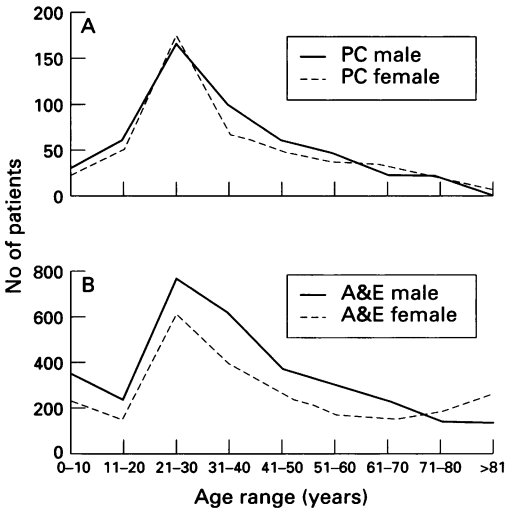

Fig 2 (A) Age and sex distribution of primary care patients. (B) Age and sex distribution of A&E patients.

The patients seen by GPs and A&E doctors were similar in age, sex and case mix.

Figure 2 (A and B) shows the age and sex distribution of primary care patients compared with the 5399 non-primary care A&E patients seen during the study period; 35·6% (344/965) of primary care patients and 38·6% (1396/5399) A&E patients were aged between 21 and 30 years. Forty per cent (322/802) of primary care patients were employed, while 11·3% (110/802) were unemployed – the remaining patients in whom details were collected comprised visitors or those who were not eligible to work such as children, students, and the retired. Over one third (341/948) of primary care patients were from ethnic minorities, compared with 40% of all patients attending A&E.

British residents made up 86·1% of primary care patients; 79·1% (755/955) were London residents, while 6·9% of United Kingdom residents (66/955) lived outside London. Sixty per cent (574/955) of all patients lived within the catchment area of St Mary's.

Overall, 28·9% of primary care patients were not registered with a London GP; 15·0% (145/967) were unregistered United Kingdom residents, 13·9% (134/967) were tourists. Of the 688 United Kingdom residents registered with a GP, 68% (383/563) were registered with surgeries within the formal catchment area of St Mary's Hospital.

The reasons registered patients gave for attending A&E were documented in 49·3% (339/688) of cases (table 3). Patients thought their problem inappropriate for their own GP in 27·1% of cases (92/339). Visiting the GP

Table 3 Reasons given by registered patients for attending A&E rather than their own GP (number questioned = 339)

	Number	*Percent*
Problem not appropriate for GP	92	27·1
Not convenient to see GP	76	22·4
Advised by health professional	39	11·5
Second opinion	33	9·7
Did not try to see GP	33	9·7
Appointment not available with GP	25	7·4
Unable to contact GP	21	6·2
Dissatisfied with GP	15	4·4
Other	5	1·5

was inconvenient for 22·4% (76/339). Very few patients reported dissatisfaction with the GP (4·4%; 15/339).

A wide variety of conditions was triaged to primary care. The commonest were minor injuries (29·9%; 285/953) followed by non-acute back pain (4·3%; 41/953) and abdominal pain (4%; 38/953).

A&E doctors investigated 29·6% (118/399) of their primary care patients compared with 16% (90/561) of those seen by GPs (table 4). Advice was all that was required for 57·9% (554/957) of primary care patients; there was no significant difference in the proportion requiring advice between those who had seen an A&E doctor or a GP (P = 1·0). Medication was prescribed for 38·8% (218/561) of the GP group and 38·8% (154/396) of the group seen by A&E doctors. Further care was arranged for 44·1% of primary care patients (420/952), 40·2% of GP patients (223/554), and 49·5% of the A&E group (197/398). Of these 420 patients, 10·6% of the A&E group (21/197) and 4·5% of the GP group (10/223) were referred to on call teams; 11·7% of the A&E group (23/197) and 5·4% of the GP group (12/223) were followed up in the A&E review clinic. Outpatient referral was arranged for 22·3% of the A&E group (44/197) and 11·2% of GP patients (25/223). Follow up with a community GP was advised for 79·0% of the GP group (176/223) compared with 55·3% of A&E patients in whom further care was arranged (109/1197). These differences in follow up arrangements between GPs and A&E doctors were statistically significant (P < 0·05).

A questionnaire was sent to the GPs of a random sample of 192 registered patients who had been advised to attend their GP for follow up. Over 70% of these GPs replied (136/192); approximately half the patients attended their GP for follow up of the same problem within two weeks of their A&E attendance. There was no significant difference in attendance rate whether the patient had initially been seen in A&E by a GP or by an A&E doctor (P = 1·0).

The A&E staff questionnaire showed that all staff had positive perceptions of GPs working in A&E. The A&E consultants and GPs considered the greatest benefit to patients was that they were seen by an appropriately trained doctor; the GPs felt that the triage system channelled appropriate primary care patients to them. Junior A&E doctors and nursing staff hoped there would be a reduction in patients' waiting times, reducing frustration among those kept waiting. The benefits to hospital staff were generally considered to be improved liaison with GPs and better knowledge and understanding of general practice. In addition A&E staff were free to deal with more appropriate cases. All these factors increased staff morale. The benefits for the GPs working in A&E were seen to be better communication and links with the hospital, team spirit, and peer group support.

Table 4 Investigation of primary care patients

	GP (n = 561)	*A&E doctor (n = 399)*	*P value*
No investigation	382 (68·1%)	155 (38·8%)	<0·001
Investigation performed	90 (16%)	118 (29·6%)	0·001
X ray	64 (11·4%)	88 (22·1%)	<0·001
Haematology	4 (0·7%)	8 (2·0%)	0·140
Biochemistry	3 (0·5%)	10 (2·5%)	0·019
Microbiology	18 (3·2%)	20 (5·0%)	0·210

Discussion

This study shows that there is a demand for a primary care service at St Mary's A&E department. The proportion of primary care patients seen was not as high as has been reported in other studies.[1–4] This may reflect differences in the definition of "primary care" and in the triage methods used. The largest group of these patients was young adults. There were equal attendances from men and women. The non-primary care A&E patients showed similar age distribution but different sex distribution depending on age. These findings are in keeping with other studies.[2 3 14]

Although the majority of primary care patients were London residents already registered with a GP, our study suggests that a need for a primary care service in our A&E department is likely to remain, regardless of changes in community primary care. In common with other studies,[2 3 7–9] the patients' attendance was related to their situation or beliefs, or a misunderstanding of the work of GPs, rather than to difficulties in obtaining primary care in the community. Reported overall dissatisfaction with the GP was minimal.

Patients not registered with a GP and those registered patients unable to obtain access to a GP, such as visitors, tourists, and commuters, are likely to continue to use A&E as an initial source of primary care. In other studies of inner city A&E departments[8 14] a higher proportion of primary care patients were tourists or commuters rather than local residents. In contrast, almost two thirds of primary care attenders in our study lived within the formal catchment area of St Mary's. This may reflect the large surrounding residential community. In addition there is a substantial proportion of homeless people living in bed and breakfast accommodation in the Bayswater area, who are less frequent users of community GP services. Inevitably population differences will affect the requirement for a primary care service in different A&E departments.[3 7]

Of those patients registered with a GP there was a higher attendance rate from those patients registered with GP surgeries local to St Mary's. Other studies[3 15] have also found that patients living close to an A&E department will often use this service rather than their GP.

Patients' own opinions of the investigations or treatment that they are likely to require may also explain why those already registered with a local GP attend A&E departments for primary care.[2 3 16 17] Almost one third of the registered patients in our study who were asked why they attended A&E felt that their problem was inappropriate for their own GP. Indeed, a significant proportion of primary care patients presented with minor injuries that could have been managed by a community GP.

The number of these patients is not as high as in other studies[2] although the case mix is

similar. Difficulty in obtaining community primary care did not appear to be a major factor in determining the use of A&E, although the convenience of using A&E services was important.

Contrary to the expectations of some A&E staff, providing an easy access primary care service within A&E did not appear to encourage its future use, primary care patient numbers remaining stable throughout the study and over subsequent months. This was also the experience of the King's study.[2] Taking the opportunity to educate patients on the appropriate use of community primary care services is an important part of the initial A&E visit and may be a factor in reducing subsequent inappropriate use of the service. The GPs were more likely to encourage community follow up than A&E doctors, although the proportion of patients who acted on this advice was similar for both the A&E group and the GP group of patients. In the light of the Tomlinson recommendations for community primary care[12] this area of the study requires further investigation in a larger group of patients.

GPs were less likely to investigate patients and arrange further hospital care than were A&E doctors, so reducing the use and therefore the cost of hospital services. No long term study has yet been performed to ascertain whether this management was appropriate and whether the benefits of the scheme outweigh the financial implications of employing GPs to work in A&E.

All staff involved had positive perceptions of the scheme. Subjectively, many members of A&E staff felt that waiting times had been reduced for all patients. Objectively this was not possible to demonstrate; A&E workload increased by 20% at St Mary's with the closure of the A&E department at St Charles' Hospital, W10, just before the start of the scheme, so that a comparison of waiting times before and after the initiation of the GPs would be misleading. Furthermore, almost all the GP sessions were filled so that it was not possible to compare waiting times whether a GP was on duty or not. This an area that requires further study.

Great efforts have been made to involve the GPs in education and audit sessions so that they have become an integral part of the department. Feedback has been positive; all have enjoyed teamwork and being able to broaden their skills in an environment of continuing medical education.

CONCLUSIONS

As we have shown in our study, several groups of patients are likely to continue to use A&E departments for primary care despite the Tomlinson recommendations to expand community primary care services. Inevitably, population differences will affect the requirement for a primary care service in different A&E departments.[3 7] Inner city A&E departments in particular, serve populations that are likely to use such a service. Discouraging first attendance is not a realistic option; the initial visit may be used for education on the appropriate use of the primary care services available in the community. GPs are the most appropriate doctors for the primary care role.

A&E departments' primary care function should be appropriately planned and provided for.[1] Ours is one means of providing this service. In the light of our experiences, we recommend the provision of primary care services in selected A&E departments.[18] primary care patients should be seen for the first visit only and encouraged to use mainstream primary care services thereafter.

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