

Combining specialist and primary health care teams for HIV positive patients: retrospective and prospective studies

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Abstract

Objective—To develop and evaluate a model of health care for HIV positive patients involving specialist, hospital based teams and primary health care teams.

Design—One year retrospective and 2½ year prospective study.

Setting—Two hospitals in west London and 88 general practitioners in 72 general practices.

Subjects—209 adults with HIV infection.

Intervention—General practitioners enrolled in the project were faxed structured outpatient clinic summaries. When hospital inpatients were discharged, a brief discharge summary was faxed. General practitioners had access to consultant physicians skilled in HIV medicine through a 24 hour mobile telephone service. An HIV/AIDS management and treatment guide containing relevant local information was produced. Quarterly discussion forums for general practitioners were held, and a regular newsletter was produced.

Main outcome measures—Hospital attendance and general practitioner consultations; perceived benefits and problems of patients and general practitioners.

Results—The average length of a hospital inpatient stay was halved for those patients who had participated in the project for two years, and the average number of visits to the outpatient clinic per month fell for patients with AIDS. There was a substantial increase in the number of visits to general practitioners by patients with AIDS and symptomatic HIV infection. Patients and general practitioners both felt that the standard of health care provided had improved.

Conclusions—This model of health care efficiently and effectively utilised existing teams of hospital and primary health care professionals to provide care for HIV positive patients. Simple, prompt, and regular communication systems which provided information relevant to the needs of general practitioners were central to its success.

For HIV positive patients, general practitioners are not the gatekeepers to specialist, hospital based care. In part, this reflects the evolution of services for HIV/AIDS from departments of genitourinary medicine, which traditionally do not have established communication links with general practitioners.¹⁻³ Care has therefore, in and around London where many HIV positive patients live, built up around specialist hospital based teams. This practice continues because of current funding arrangements.⁴ Previous attempts to bridge the gap between hospital and primary health care services for these patients have included the creation of HIV/AIDS liaison teams.^{1-3,5} However, these teams have not adequately facilitated the transfer of skills and knowledge about HIV to primary health

care professionals because they do not provide the "hands on experience" required.^{1,2,4,6-8}

The aim of this 3½ year study was to develop and evaluate a model of health care for HIV positive patients which integrated hospital based care with the services that are already provided and delivered effectively by primary health care teams for other medical conditions.

Methods

DEVELOPING A MODEL OF CARE

In July 1992 a total of 128 HIV positive patients attending the outpatient clinics at Hammersmith and Ealing Hospitals were asked whether they were registered with a general practitioner (109 patients), whether their general practitioner was aware of their HIV status (89 patients), and whether they wanted their general practitioner to be regularly informed of their medical management (78 patients). The project was also discussed with local general practitioners, some of whom agreed to participate in the development of a "shared care" model. These general practitioners were interviewed from August 1992 to December 1992 to determine the problems which they had encountered while caring for HIV positive patients. These discussions led us to the conclusion that a formal shared care protocol with rigid systems was unlikely to succeed because most general practitioners had little experience of managing HIV infection; the basic communication links required to facilitate any form of "shared" care did not exist; and most of the patients did not have an established relationship with their general practitioner. We therefore developed a more flexible model which could encompass the current experience of general practitioners and which utilised the resources already available to them.

A structured outpatient letter limited to one side of A4 paper was developed and used from January 1993. This was faxed to general practitioners within 48 hours of the patient's visit to the clinic. These letters were designed to provide information that was directly relevant to the immediate and short term management of the patient, and they could be interpreted without reference to previous letters.¹⁰⁻¹² Discharge planning started at the time of admission to hospital, and each general practitioner had access to a consultant physician in infectious diseases through a 24 hour mobile telephone service.

A management and treatment guide was also produced in close consultation with general practitioners and members of the local primary health care teams. The hospital based teams, general practitioners, and other community based providers met every three months at forums. A quarterly project newsletter was also produced.

A prospective study of these systems was started in January 1993. Details of the project (including the

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proposal to fax rather than post summaries of clinic notes) were given to each patient, and informed consent to participate in the project was obtained. Arrangements were made to confirm that the facsimile machines in each practice likely to receive a fax relating to the project were in a secure room with access restricted only to relevant and appropriate medical staff. This coincided with the recognition by the General Medical Council that facsimile machines can be used for communicating patient information. No breaches of confidentiality were recorded during the course of the study.

Hospital inpatient and outpatient activity data were recorded retrospectively from January 1992 to December 1992, and prospectively from January 1993 to June 1995.

THE GROUPS

Patients entering the study were divided into three groups: those patients whose general practitioners entered the study in January 1993 as active participants (group A); those patients who were registered with a general practitioner but had not disclosed their HIV positive status to their doctor (group B); and those patients who were not registered with a general practitioner (group C). By December 1994, 55 patients were in group A, 36 patients in group B, and 42 patients in group C (box).

Towards the end of 1993 there was considerable demand from other patients and general practitioners to join the project. From January 1994, therefore, the systems which had been developed were expanded to include any other patient who wished to be involved (group D). Compared with those in group A, the general practitioners of these patients varied widely in both their level of direct participation in the project and in their clinical management of patients. By December 1994, there were a total of 76 patients in this group. In some practices, more than one general practitioner was actively involved in providing clinical care.

EVALUATION AND STATISTICAL ANALYSIS

The attitudes of general practitioners in group A were evaluated in January 1995 after two years' participation in the project; those of patients were evaluated after one years' participation. Data were collected by using Discreet Data Management System software (Altim Medical Systems, Bridgefoot, Cumbria). As the diagnostic classification of HIV positive patients can change over short periods of time (going from asymptomatic HIV infection to symptomatic HIV infection, or from symptomatic HIV infection to AIDS) and because some patients with AIDS died during the course of the study, the disease stage of each patient and the number of patients in each of the groups was updated once a month.

Data were analysed on a month by month basis with

Table 1—Numbers (percentages) of patients at different stages of HIV infection

Disease staging during course of study	Group A (n=55)	Group B (n=36)	Group C (n=42)	Group D (n=76)
HIV infection:				
Asymptomatic	15 (27)	16 (44)	24 (57)	24 (31)
Symptomatic	3 (6)	5 (14)	4 (10)	10 (13)
AIDS	20 (36)	10 (28)	13 (31)	37 (49)
Progression:				
From asymptomatic to symptomatic infection	4 (7)	2 (6)	0	1 (1)
From asymptomatic infection to AIDS	6 (11)	0	0	2 (3)
From symptomatic infection to AIDS	7 (13)	3 (8)	1 (2)	2 (3)

Follow up of 24 months for groups A, B, and C; 12 months for group D. Follow up period of 42 months. The groups did not differ significantly in disease stage without progression ($P=0.137$; χ^2 test) or with progression ($P=0.688$; χ^2 test).

Definition of groups and composition two years after the start of the prospective study

Group A: Patients whose general practitioners entered the study in January 1993 as active participants: 55 patients, 25 general practitioners

Group B: Patients who were registered with a general practitioner but had not disclosed their HIV positive status to their doctor: 36 patients

Group C: Patients who were not registered with a general practitioner: 42 patients

Group D: Patients whose general practitioners entered the study in January 1994 and who had access to the systems developed and used by Group A: 76 patients, 63 general practitioners

Microsoft Excel and Stata (Stata Corporation, College Station, Texas) software programs. The average length of each admission was calculated for each of the four groups and the groups were compared by using a Kruskal-Wallis test. The average number of outpatient clinic visits per patient per month for each of the four groups was determined from the number of patients in the study during each month and the number of clinic visits made during that month. These averages were then analysed for trend over time by using weighted regression. A similar approach was used for the general practitioner data: estimates of the average number of visits per year were constructed by dividing the total number of visits made during that year by the average number of patients in the group during the year. The patients' visits to their general practitioner were classified either as consultations (which included attendances for tests and treatment) or as administration (repeat prescriptions and doctors' certificates). A weighted analysis of variance was used to test for any difference between years. A P value of <0.05 was taken to be significant.

For groups A, B, and C we compared data for 1992 with those for 1993, 1994, and 1995. For those patients and general practitioners who joined in the second wave in 1994 (group D), we compared data for 1992 and 1993 with those for 1994 and 1995.

Results

At entry to the study the groups did not differ significantly in terms of age, sex, ethnicity, social class, or risk factor for acquiring HIV infection. Table 1 shows the number of patients at different stages of HIV infection within each of the groups. The groups did not differ significantly in disease staging without progression ($P=0.137$, χ^2 test) or with progression ($P=0.688$, χ^2 test).

INPATIENT STAY

The average length of hospital stay was comparable for the groups in 1992 ($P=0.81$; table 2). A significant reduction in the length of the hospital stay for each group from 1992 to 1994 was seen only in group A (16.6 (SE 3.1) days *v* 8.0 (1.1) days in 1994; $P=0.004$).

OUTPATIENT CLINIC VISITS

Figure 1 shows the three point moving average number of monthly visits per patient from January 1992 to December 1994 for each group and according to the patient's disease stage. When the trend in the average number of outpatient visits per patient from January 1993 onwards was analysed on a monthly basis for groups A, B, and C there was a fall in the number of visits for patients with AIDS in group A ($P=0.004$) and for patients with asymptomatic HIV infection in group C ($P=0.005$).

The number of outpatient visits per patient per month in groups B and C fluctuated more than in group A. This reflected the smaller size of groups B and C; as the study progressed it became increasingly difficult to recruit patients to these groups with no general practitioner participation. No trend was seen in the 12 month follow up period for group D.

VISITS TO GENERAL PRACTITIONERS

By 1994 the number of general practitioner consultations per patient per year had increased significantly for those with AIDS in group A (from 0.51 to 3.39 visits per patient per year; $P=0.0024$) and in group D (0.12 to 2.35; $P=0.0001$; table 3). For patients with symptomatic HIV infection, the number of consultations in group A fell (from 6.30 to 2.28; $P=0.0004$) but in group D it increased (from 0.5 to 2.7; $P=0.0006$). The number of administrative visits undertaken increased for patients with symptomatic HIV infection in group A (0 to 1.1; $P=0.005$) and for patients with AIDS in group D (0.1 to 0.8; $P=0.036$). The frequency of home visits in groups A and D did not change (data not shown; patients with asymptomatic HIV infection, 0.1 visits/patient/year; symptomatic HIV infection, 0.3; AIDS, 0.4).

The consultations included a wide spectrum of problems commonly encountered in general medical practice. It was rare for any general practitioner to institute a specialist course of treatment without first discussing the problem with the hospital based consultant. Furthermore, as the drugs prescription budget was (and is still) held by hospital based pharmacies, general practitioners were unwilling to prescribe expensive drugs from their own budgets. The administrative tasks undertaken by general practitioners were predominantly repeat prescriptions, medical certificates, venepuncture, and intramuscular injections.

QUESTIONNAIRES

In group A 21 of the 25 general practitioners completed questionnaires; 18 (84%) felt that their knowledge of HIV related issues had improved and that their confidence in managing the disease had increased considerably. They attributed this primarily to the communication links which had been developed. They also felt that they were referring patients to hospital more appropriately and beginning to manage some problems themselves. Twenty patients of the 55 in group A were able to complete an evaluation of the project after a year; 12 (60%) stated that their care had improved.

POST-PROJECT FOLLOW UP

The active participation of the project director and project assistant was withdrawn in December 1994. A further data analysis undertaken at the end of June 1995 showed that the median length of hospital inpatient stay for this six month period was 6.5

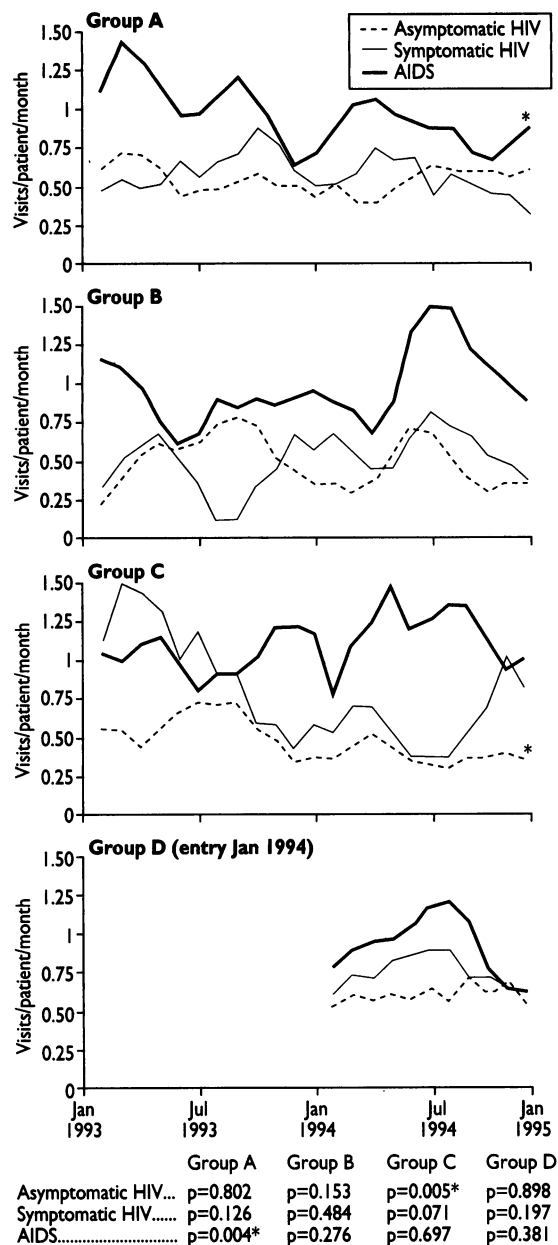


Fig 1—Three point moving average number of monthly hospital outpatient visits/patient from January 1993 to December 1994 for each group according to patient's disease stage

(interquartile range 3-19) days for group A, 10 (4-21) days for groups B and C combined, and 14 (7-21) days for group D. The downward trend in the average number of monthly hospital outpatient visits per patient for those with AIDS in group A continued. No new trends were seen in groups B or C. In group D, a significant downward trend in the number of out-

Table 2—Hospital admissions and mean length of stay

	Group A				Groups B and C				Group D			
	Length of stay				Length of stay				Length of stay			
	No of admissions	Mean (SE)	Median	Interquartile range	No of admissions	Mean (SE)	Median	Interquartile range	No of admissions	Mean (SE)	Median	Interquartile range
1992	30	16.6 (3.1)	10	7-19	7	17.1 (6.6)	11	6-22	27	15.2 (2.8)	11	6-20
1993	44	10.3 (1.3)	8.5	3-14	12	13.3 (6.2)	6	2.5-11.5	42	13.9 (2.3)	9.5	5-20
1994	51	8.0 (1.1)	6	6-10	39	13.1 (1.8)	10	5-19	66	11.7 (1.5)	7	4-12
P value		0.004	0.005			0.79	0.30			0.44	0.26	

Mean length of stay in 1994 was 12.0 (± 2.6) days for group B and 13.5 (± 2.2) days for group C.

Table 3—Visits to the general practitioner

	Group A (n=50)				Group D (n=36)			
	Consultations		Administration		Consultations		Administration	
	Total	Mean visits/ patient/year	Total	Mean visits/ patient/year	Total	Mean visits/ patient/year	Total	Mean visits/ patient/year
Asymptomatic HIV:								
1992	71	5.00	30	2.0	10	1.14	4	0.4
1993	132	8.13	25	1.6	19	1.54	4	0.3
1994	98	6.48	35	2.3	13	1.07	4	0.3
P value		0.109		0.22		0.997		0.61
Symptomatic HIV:								
1992	31	6.30	0	0	3	0.5	4	0.7
1993	29	3.64	11	1.3	10	1.19	13	1.6
1994	14	2.28	7	1.1	31	2.7	7	0.6
P value		0.0004		0.005		0.0006		0.86
AIDS:								
1992	3	0.51	1	0.1	2	0.12	1	0.1
1993	32	4.08	6	0.7	26	1.51	7	0.4
1994	54	3.39	5	0.3	39	2.35	14	0.8
P value		0.0024		0.87		0.0001		0.036

General practice notes were available for 90% of patients in group A and 47% of patients in group D.

patient visits per patient was seen for those with asymptomatic HIV infection ($P=0.013$), symptomatic HIV infection ($P=0.012$), and AIDS ($P=0.018$). Patients' visits to general practitioners continued at 1994 rates.

Discussion

Although various models of "shared" care have been developed and evaluated for chronic conditions such as asthma,^{13 14} and diabetes,^{15 16 17} no detailed prospective evaluation has taken place for models relating to the care of HIV positive patients.¹⁸⁻²¹ The Hammersmith and Ealing Healthcare Project was designed to operate in the long term without the need for additional staff. Our results show that improved communication links between specialist hospital doctors and general practitioners, combined with a graded and gradual transfer of skills to members of the primary health care team, can lead to a reduction in the length of an inpatient stay, a reduction in the number of outpatient visits for patients with AIDS, and a substantial increase in the rate of consultation of general practitioners by patients with symptomatic HIV infection and AIDS.

ACTIVITY DATA

The greatest reduction in the use of hospital based services was seen in patients of general practitioners who actively participated in the study, even though this group had the greatest proportion of patients with clinical evidence of disease progression. Although we did not undertake detailed evaluation of the quality of health care offered, both patients and general practitioners in this group reported that it had improved. We were surprised that the greatest change in the use of services was seen for patients with symptomatic HIV infection and AIDS rather than for those with asymptomatic HIV infection.¹⁸

The average number of HIV positive patients registered with the practices of general practitioners who entered the study at the outset was seven compared with three for the practices of general practitioners who entered the study in January 1994. For the latter group, hospital inpatient and outpatient activity did not change, but during 1994 the number of general practitioner visits per patient increased. Further follow up data for 1995 suggest that these general practitioners needed more exposure to active, ongoing interventions for changes in hospital activity data to become evident.

COMMUNICATION

General practitioners were able to work more effectively with HIV positive patients because they were being regularly and rapidly informed of changes in the patient's clinical condition and of new therapeutic interventions. Although the rate of general practitioner consultations increased during the study, patients regularly needed to be reassured that the hospital consultants could easily be contacted by their general practitioners if difficult clinical problems arose. The 24 hour mobile telephone service proved invaluable for this purpose, with the number of calls averaging two a month.

A simple, prompt, and regular system of communication which provides information which is relevant and appropriate to the needs of the health care professionals working in the community is now believed to be important to any form of "shared" care scheme.² We used structured summaries because they provided a format for delivering information to general practitioners in a predetermined manner and because they ensured that components of clinical, social, and nursing information were not omitted. Facsimile transmission was simple, popular, and cost effective; the original summaries were filed in the patient's case notes. There were no documented breaches of confidentiality.

ROLE AND FUNDING OF GENERAL PRACTITIONERS

It is important to emphasise that our aim was not to turn general practitioners into experts in HIV medicine who could then initiate and supervise specialist treatment regimens. Rather, they responded to our interventions by dealing almost entirely with the non-specialist aspects of general medical care. The spectrum of health care issues managed successfully by general practitioners was very wide indeed. This distinction between the role of the hospital based doctor and the general practitioner which emerged during the course of the project was of considerable benefit to the patients because it served to clarify their respective professional roles.

The model of health care which we have developed and tested does not devolve clinical care to the general practitioner. Rather, hospital and primary care services are being used more appropriately. In practice, this means that general practitioners are managing HIV as a chronic medical condition, with appropriate and relevant specialist clinical input from the hospital based teams. In the long term, this model of health care

Key messages

- Too much health care for HIV positive patients is provided by hospital based teams
- General practitioners make an important contribution to the care of these patients
- While hospital clinic visits fell, those to general practitioners increased substantially
- The average length of a hospital inpatient stay was reduced by 50%
- Simple, prompt, and regular communication systems are necessary for a successful partnership between hospital and primary care teams

can succeed only if there is a clear commitment from the hospital specialist consultant staff to liaise with general practitioners in the process of clinical decision making.

This project was planned in 1991 at a time when the role of general practitioners in the management of HIV positive patients had still to be defined. Its cost implications, were it to be more widely adopted, remain to be established. Future developments could, however, run into problems if funding arrangements do not change to make additional provision for the increased workload which models like this one bring for general practitioners.²²⁻²⁴ Furthermore, there is a real danger that these developments will come to be perceived as a means of cutting hospital budgets while not providing adequate funds for health centres that are prepared to take on additional responsibilities.^{4,25}

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- 1 Mansfield S, Singh S. Who should fill the care gap in HIV disease? *Lancet* 1993;342:726-8.
- 2 Guthrie B, Barton S. HIV at the hospital/general practice interface: bridging the communication divide. *Int J STD AIDS* 1995;6:84-88.
- 3 Smits A, Mansfield S, Singh S. Facilitating care of patients with HIV infection by hospital and primary care teams. *BMJ* 1990;300:241-3.
- 4 McCarthy M. Funding policies for HIV and AIDS: time for change. *BMJ* 1993;307:367-9.
- 5 Butters E, Higginson I, Wade A, McCarthy M, Deorge R, Smits A. Community HIV/AIDS teams. *Health Trends* 1991;23:59-62.
- 6 Smith S, Parker C, Shaunak S, Ash S, Bhatt R. GPs should be more involved. *BMJ* 1993;307:801-2.
- 7 Wadsworth E, McKann K. Attitudes towards and use of general practitioner services among homosexual men with HIV infection or AIDS. *Br J Gen Pract* 1992;42:107-10.
- 8 Regnard C, Parker R. Access to specialist palliative care may be expanding too quickly. *BMJ* 1994;308:655-6.
- 9 Hickman M, Drummond N, Grimshaw J. A taxonomy of shared care for chronic disease. *J Public Health Med* 1994;16:447-454.
- 10 Newton J, Eccles M, Hutchinson A. Communication between general practitioners and consultants: what should their letters contain? *BMJ* 1992;304:821-4.
- 11 Rawal J, Barnett P, Lloyd BW. Use of structured letters to improve communication between hospital doctors and general practitioners. *BMJ* 1993;307:1044.
- 12 Lloyd BW, Barnett P. Use of problem lists in letters between hospital doctors and general practitioners. *BMJ* 1993;306:247.
- 13 Van Damme R, Drummond N, Beattie J, Douglas G. Integrated care for patients with asthma: views of general practitioners. *Br J Gen Pract* 1994;44:9-13.
- 14 Grampian Asthma Study of Integrated Care (GRASSIC). Integrated care for asthma: a clinical, social, and economic evaluation. *BMJ* 1994;308:559-64.
- 15 Schroder F. Shared care in diabetes. *BMJ* 1995;310:142-3.
- 16 Diabetes Integrated Care Evaluation Team. Integrated care for diabetes: clinical, psychosocial, and economic evaluation. *BMJ* 1994;308:1208-12.
- 17 Hurwitz B, Goodman C, Yudkin J. Prompting the clinical care of non-insulin dependent (type II) diabetic patients in an inner city area: one model of community care. *BMJ* 1993;306:624-30.
- 18 Grun L, Murray E. GP facilitators and HIV infection. *BMJ* 1994;308:538.
- 19 Williams H. Patients benefit from shared care. *BMJ* 1993;307:802.
- 20 Coyle A, McGrellis S. Strategies for dealing with problems associated with use of services for HIV infection and AIDS out of region: views of providers and users. *BMJ* 1995;310:1636-8.
- 21 Singh S, King M, Bashir K. Evaluation is needed. *BMJ* 1994;308:539.
- 22 Main J, Kitchen V, Lewis-Jones S, Moss V. Purchasing care for people with HIV infection and AIDS. *Quality in Health Care* 1993;2:53-7.
- 23 Morley V. Empowering GPs as purchasers. *BMJ* 1993;306:112-4.
- 24 Hochuli V. Funding policies for HIV and AIDS need more and better information. *BMJ* 1993;307:801.
- 25 Coulter A. Shifting the balance from secondary to primary care. *BMJ* 1995;311:1447-8.

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It's always important to check

Experience confirms the dictum that no medical history is complete without a drug history, however trivial the patient's complaint may seem to be. Little did we realise in our student years how interesting, salutary, or hazardous this exercise could prove to be.

Ten years ago I visited an elderly man who was complaining of pain and stiffness of the neck. Taking his history, I discovered that he had recently seen another doctor on account of a sore throat. His present neck pain had only begun after starting his medication. "The doctor said it was thrush," he began. "I read the instructions which said 'Put the tablet in the applicator and then insert as far as it will go.'" This he said while demonstrating the extended neck position required to perform this. "Leave the tablet there until it dissolves," it said, but it don't half take a long time." Looking at the discarded box confirmed my suspicion. Nystatin pessaries had been dispensed.

"Is there a cure for drug errors?" asks the author of a recent *BMJ* editorial. The answer must be yes, but it may prove to be elusive. Recently I saw a lady who regularly attends with a constellation of symptoms. As with many other patients, I have spent time with her explaining the facts of generic substitution for her branded tablets for arthritis. She now accepts that these may appear different and that the name in large writing on the box may likewise

change. This time she complained of persistently loose motions and that her tablets for palpitations no longer worked. Unlike many patients, she had all her medication in her bag and produced them at my request. Instead of bisoprolol 5 mg, she produced a bottle of bisacodyl 5 mg. The problem was solved. No doubt most family doctors could relate similar mistakes, but it does highlight yet another potential hazard for the patient who has been "well trained" in the elements of generic substitution.

Many potential hazards for the patient may be avoided by a careful drug history. But what about hazards for the doctor? I visited a man nearing the end of his days, with chronic respiratory disease. His wife had old fashioned principles and had put on fresh bed linen, had changed her husband's pyjamas, and had put the dog in the kitchen. On inquiring about his current medication, she looked a little puzzled. Her memory had failed her but she offered to fetch them—from the kitchen. Canine teeth soon found their mark in my shin.—ADRIAN PARKINSON is a general practitioner in Hinckley, Leicestershire

We welcome filler articles of up to 600 words on topics such as *A memorable patient*, *A paper that changed my practice*, *My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disc.