

Rule of halves: implications of increasing diagnosis and reducing dropout for future workload and prescribing costs in primary care

JULIAN TUDOR HART

SUMMARY. Evidence from one practice and from the literature suggest that approximately half of most common chronic disorders are undetected, that half of those detected are not treated, and that half of those treated are not controlled: the 'rule of halves'. Workload in primary care would increase by at least 12% if all common and important chronic disorders were fully diagnosed, treated and followed up; the accompanying effects on prescribing costs would be complex, but not necessarily inflationary. The relationship between these data and the new general practitioner contract is discussed.

Keywords: unreported morbidity; patient non-compliance; workload; prescribing costs; practice organization; health service economics.

Introduction

IN 1972 Wilber and Barrow,¹ studying the diagnosis and treatment of hypertension in the southern United States of America, described the 'rule of halves': half of the cases were not known, half of those known were not treated and half of those treated were not controlled.

In 1968, 100% of men and 98% of women aged 20–64 years in Glyncoirwg, West Glamorgan, where there is only one general practice, were screened for raised blood pressure by a process of systematic case finding, supplemented first by invitation, then by home visits.² This doubled the number of known and treated cases in the community. When records were audited in 1970, about half of the patients had either dropped out or were uncontrolled; the rule of halves applied. The first term of the rule was negated by screening in 1968, the second and third terms by establishing a follow-up hypertension clinic, with systematic review of default, in 1974.

For non-insulin dependent diabetes, the first term of the rule of halves was suggested in the USA in 1947³ and confirmed in the United Kingdom in 1964.⁴ Later epidemiological studies confirmed the true prevalence of all forms of diabetes to be about 2% in UK populations,⁵ while general practice records generally indicated a known prevalence of 1% or less.^{6,7} As insulin dependent diabetes presents with severe symptomatic illness, virtually all undiagnosed diabetes is the non-insulin dependent form. Non-insulin dependent diabetes is concentrated in older age groups, in the poor⁸ and in Asians;⁷ it is therefore a larger problem in industrial and deprived areas.

In 1976 Doney⁹ added the second term of the rule of halves for diabetes. In a practice of 20 000, approximately half of all diabetic patients were unsupervised. The third term was established in 1980, when Wilkes and Lawton¹⁰ found that half of the diabetic patients under general practitioner supervision in Sheffield had uncontrolled levels of blood glucose.

Twenty years after the work of Wilber and Barrow¹ the scale

J T Hart, FRCP, FRCGP, lecturer, Department of General Practice, St Mary's Hospital Medical School, London.
Submitted: 13 May 1991; accepted: 8 July 1991.

of unmet need for chronic disease should be common knowledge, but it is not.¹¹ Despite some progress,^{12,13} the rule of halves still largely holds in the UK for hypertension,¹³ diabetes,^{14–16} and probably for childhood asthma diagnosed as wheezy bronchitis or night cough,^{17–20} and adult asthma diagnosed as chronic bronchitis or emphysema.²¹

There is no longer serious doubt that assiduous control of moderate or severe hypertension and non-insulin dependent diabetes is effective in preventing fatal and disabling complications, that control of reversible airways obstruction improves quality of life and can prevent heart failure, or that neglect of these disorders increases disability and premature mortality. In line with commitments to World Health Organization policy, the Department of Health has named specific health targets.²² These include a 30% reduction in the number of deaths from coronary heart disease among under 65 year olds between 1988 and the year 2000; a 33% reduction in the number of men smoking and a 30% reduction in the number of women smoking between 1990 and 2000; a 13% reduction in obesity among men and a 42% reduction among women between 1987 and 2005; and a 36% reduction in the number of men drinking above sensible limits between 1987 and 2005. None of these targets is likely to be achieved without improved diagnosis in the community and sustained treatment.

Systematic case finding and follow up

In Glyncoirwg systematic case finding for six common chronic disorders or reversible risks — high blood pressure, smoking, obesity, diabetes, fixed or reversible airways obstruction and an alcohol problem — has been carried out among all age groups since 1968.²³ The cumulative prevalence of these disorders or reversible risks was more than doubled. The rule of halves probably holds for most common chronic disorders in which needs correlate poorly with symptoms, or in which fear, denial, or a bad experience of care, impede access and promote default even in freely accessible care systems.

In the 1970s the 'iceberg' of undetected disease was well recognized, though not yet quantified. Contrary to the perceptions of most general practitioners working in deprived areas, Hannay and Maddox²⁴ found that in a poor area of Glasgow, major problems that were not presented to general practitioners were two or three times more frequent than trivial problems that were presented. This and similar evidence was used not to quantify unmet need so as to tackle it, but to emphasize the futility of trying. Demand was infinite but resources were finite;²⁵ wants exceeded needs and needs exceeded resources.²⁶

It was generally assumed that self-referral for consultation was efficiently selective for serious illness. However, from ignorance, fear or complex social reasons, many people either do not consult at all for their most important health problems or, more commonly, present with demands which elicit short-term, symptomatic responses, rather than steps toward long-term solutions. Dropout from continuing care may result from success ('I feel good, I do not need treatment') or from failure ('I feel bad, the treatment is no use'). Effective management of chronic disorders depends on sustained changes in the way people live, including their compliance with medication. Even when medical care is

free, as most of it still is in the National Health Service, demand is limited by patients' readiness to accept the possibility of intrusions on and changes in personal life. The price of effective medical and nursing care for chronic disorders is not so much money, as active work by patients as participating producers of health.

Implications for workload and consultation time

Based on the experience of clinics for hypertension and diabetes in Glyncoirwg, the additional staff time required for these two clinics for a total population of 2000 has been estimated as 72 hours each year for doctors (69 hours encounter time and three hours for administration), 162 hours for nurses (159 hours and three hours), 90 hours for receptionists (75 hours and 15 hours) and 12 hours for a practice manager. No attempt has been made to quantify additional workload within ordinary consultations, but the mean face-to-face medical consultation time increased from seven minutes in 1967, to eight minutes in 1970 and 10 minutes in 1985.

In the last national morbidity survey 4.0% of all consultations among patients of all ages were attributed to hypertension, 0.1% directly to smoking, 0.7% to obesity, 0.8% to diabetes, 2.3% to all chronic lower respiratory disease, and 0.1% to chronic alcohol problems; 8.0% in all.²⁷ If other chronic conditions requiring long-term management, such as epilepsy, schizophrenia, affective psychoses, thyroid disorders and psoriasis are added, this figure rises to about 12%. This approaches the 15% of general practice workload attributed to chronic illness in the large study of general practice in Manchester by Wilkin and colleagues.²⁸ The rule of halves implies that workload for the management of chronic disorders will eventually be doubled. Therefore, if needs were actively sought and fully met, primary care workload would increase by at least 12%, probably more.

This increased caseload could not be transferred to hospital outpatient care. In outpatient clinics for patients with non-insulin dependent diabetes staff are overworked and are generally able to provide only an elementary, mainly technical and instructional rather than educational service. If this is true of diabetes, with a true prevalence of 2%, how could hospitals ever cope with patients with moderate or severe hypertension, asthma, alcohol problems or serious weight problems where the prevalence is much higher?

Whitfield and Bucks²⁹ found that only 45% of general practitioners in Avon routinely accepted responsibility for the management of patients with moderate hypertension (diastolic pressure 110–120 mmHg), 35% for patients with non-insulin diabetes, 15% for patients with chronic obstructive airways disease, and 4% for patients with alcohol problems. Acceptance of responsibility was not associated with age or membership of the Royal College of General Practitioners. It is difficult to believe that general practitioners qualified in the past 30 years are not clinically competent to handle these common disorders. Successful management of chronic disorders depends above all on continuity, personal relationships, patients' involvement in their own care, maximizing compliance and minimizing dropout.^{30–33} This should be easier to achieve in general practice than hospital clinics.

Few group practices organize themselves to encourage continuity. Studying three large group practices without personal lists, Freeman and Richards found that 63 out of 72 children aged 0–14 years (88%) had consulted five or more different doctors within the group over a period of six years or less.³⁴ In older patients with a known major problem continuity was better, but the question of who actually has clinical responsibility for overall care of a patient seems to be evaded in many practices.

Average consultation time has increased from a modal four minutes in the early 1970s,³⁵ to a modal seven minutes in the late 1980s, with less than 5% of general practitioners averaging less than six or more than 11 minutes.²⁸ Between seven and 10 minutes, a threshold is reached where the content of a consultation can move beyond a response to symptoms, to an active search for unmet needs.^{36–38}

Implications for practice organization, staff and records

The factor limiting general practitioners' acceptance of responsibility for the continuing management of common chronic disorders is less likely to be clinical competence than available consultation time, and a willingness to extend resources by sharing responsibility and information with a wider practice team. Good record keeping is required to maintain continuity, there must be an extension beyond traditional episodic care, and emphasis must be placed on continuing education for the whole team.

The cash rewards and penalties of the new general practitioner contract³⁹ have led to rapid changes in structure and staffing, some of them apparently designed to encourage a shift in the management of chronic disease from hospital outpatient departments to general practice. Innovative general practitioners have long recognized that much outpatient follow-up care is unnecessary,⁴⁰ but shifting responsibility back to general practice, without ensuring that appropriate changes in staffing, organization, and postgraduate education are already under way can be disastrous.^{10,14}

A central feature of the new contract is the health promotion clinic, but it is not clear whether these clinics are intended mainly for detection of disease, a relatively small problem, or follow up, a huge task. An advantage of such clinics is that staff can be used efficiently and work can be planned. Almost three out of four practices now have a practice manager, 88% employ one or more practice nurses, and 94% run health promotion clinics.⁴¹ Clinics should improve detection rates, and may encourage active follow up and recall, but unless consultation time with the general practitioner is extended and continually improved, they are unlikely to tackle the problems of chronic disorders effectively.

As the work of health promotion clinics is defined by providers rather than patients, protocols can be maintained relatively easily, but it is correspondingly more difficult for patients in lower social classes to modify advice to fit their own perceptions and needs, since such advice is still generally based on the experience and assumptions of patients in higher social classes.⁴² Such clinics are therefore most difficult to establish and least productive in precisely those communities most in need of planned anticipatory care.^{43–46} They can be established, even in deprived inner city communities, but only by involving patients who are generally opposed to marketed care.⁴⁷

Implications for information systems

The information generated by health promotion clinics can be integrated with ordinary patient-initiated consultations, but integration will not occur unless it is consciously worked for, with structured record systems that permit easy entry and retrieval. The Lloyd George record, essentially unchanged since 1916, cannot accommodate structured information on the scale required. Seventeen years after the introduction of A4 records into general practice,⁴⁸ less than 5% of practices in England and Wales use them (personal communication) and the Department of Health has no plans to encourage their use.

By 1991 an estimated 60% of practices will have a computer,⁴⁹ but this does not of itself solve this problem. Com-

puters could make matters transiently worse, by requiring either both written and keyboard entries, or the choice of recording some data in one system and some in the other. Where the quality of routine computer recording has been left to find its own level, data entry remains low.⁵⁰ However, if high standards of data entry are made a condition for supply of computer systems, they can be attained.⁵¹

Implications for prescribing costs

Table 1 shows per capita prescribing costs in Glyncorrwg for all prescriptions for cardiovascular medications, for drugs acting on the lower respiratory tract, and for antibiotics, compared with all general practitioners in West Glamorgan for the period since the systematic case finding policy began in the Glyncorrwg practice.

Most of the cardiovascular medication prescribed in Glyncorrwg was for hypertension and angina. Doubling the number of patients known to have cardiovascular conditions might have been expected to double treatment costs, but in fact the costs in Glyncorrwg were substantially less than in neighbouring practices. A high but planned workload encouraged a more critical attitude to criteria for diagnosis and selection of drugs.⁵²

Recognition and treatment of airways obstruction has increased, which has raised costs, but this has been accompanied by reduced prescribing of antibiotics, which has lowered costs. Treatment was mainly by inhaled steroids rather than the cheaper beta-agonists. Prescription of antibiotic medication for 'chronic bronchitis' has almost disappeared. As other general practitioners in West Glamorgan moved toward the same pattern of diagnosis and treatment, the differences diminished. This new pattern of diagnosis will increase the pharmaceutical market quantitatively, but more thoughtful management protocols will change its composition qualitatively.

Table 1. Per capita prescribing costs in Glyncorrwg as a percentage of per capita costs in West Glamorgan in October 1983, 1985 and 1989.

Year	% of per capita costs in West Glamorgan			
	All prescriptions	Cardio-vascular drugs	Drugs acting on lower respiratory tract	Anti-biotics
1983	-27	-26	+61	-75
1985	+1	-14	+144	-20
1989	-14	-39	+19	-10

Conclusion

The data from Glyncorrwg confirm the value of clinical audit for redefinition of service needs. Health professionals who audit their own data learn to think for themselves. Awareness of the volume of unmet clinical need in local communities will increase rather than diminish awareness of the resources required for their solution. Most of these resources will have to come from the community itself, but this mobilization cannot be developed within the current time constraints of general practice consultations, or without renewed emphasis on continuity of care.

References

1. Wilber JA, Barrow JG. Hypertension — a community problem. *Am J Med* 1972; **52**: 653-663.
2. Hart JT. Semicontinuous screening of a whole community for hypertension. *Lancet* 1970; **2**: 223-226.

3. Wilkerson HL, Krall LP. Diabetes in a New England town. *JAMA* 1947; **135**: 209-246.
4. Sharp CL, Butterfield WJH, Keen H. The Bedford survey. *Proc R Soc Med* 1964; **57**: 193-204.
5. Neil HAW, Mather HM, Thompson AV, et al. The Oxford community diabetes study: evidence for an increase in the prevalence of known diabetes in Great Britain. *Diabetic Med* 1987; **4**: 539-543.
6. Forrest RD, Jackson CA, Yudkin JS. Glucose intolerance and hypertension in north London: the Islington diabetes survey. *Diabetic Med* 1986; **3**: 338-342.
7. Simmons D, Williams DRR, Powell MJ. Prevalence of diabetes in a predominantly Asian community: preliminary findings of the Coventry diabetes study. *BMJ* 1989; **298**: 18-21.
8. Barker DJP, Gardner MJ, Power C. Incidence of diabetes among people aged 18-50 years in nine British towns: a collaborative study. *Diabetologia* 1982; **22**: 421-425.
9. Doney BJ. An audit of the care of diabetics in a group practice. *J R Coll Gen Pract* 1976; **26**: 734-742.
10. Wilkes E, Lawton E. The diabetic, the hospital, and primary care. *J R Coll Gen Pract* 1980; **30**: 199-206.
11. Smith GT. Patterns of prescribing. In: Office of Health Economics. *Factors influencing clinical decisions in general practice: papers from a symposium held in London 23 April 1990*. London: OHE, 1990.
12. Maitland JM, Reid J, Taylor RJ. Two stage audit of cerebrovascular and coronary heart disease risk factor recording: the effect of case finding and screening programmes. *Br J Gen Pract* 1991; **41**: 144-146.
13. Smith WCS, Lee AJ, Crombie IK, Tunstall-Pedoe H. Control of blood pressure in Scotland: the rule of halves. *BMJ* 1990; **300**: 981-983.
14. Hayes TM, Harries J. Randomized controlled trial of routine hospital clinic care versus routine general practice care for type II diabetes. *BMJ* 1984; **289**: 728-730.
15. Burrows PJ, Gray PJ, Kinmonth A-L, et al. Who cares for the patient with diabetes? Presentation and follow-up in seven Southampton practices. *J R Coll Gen Pract* 1987; **37**: 65-69.
16. Day JL, Humphreys H, Alban-Davies H. Problems of comprehensive shared diabetes care. *BMJ* 1987; **294**: 1590-1592.
17. Speight ANP, Lee DA, Hey EN. Underdiagnosis and undertreatment of asthma in childhood. *BMJ* 1983; **286**: 1253-1256.
18. Strachan DP. The prevalence and natural history of wheezing in early childhood. *J R Coll Gen Pract* 1985; **35**: 182-184.
19. Marks BE, Hillier VF. General practitioners' views on asthma in childhood. *BMJ* 1983; **287**: 949-951.
20. Hart JT. Wheezing in young children: problems of measurement and management. *J R Coll Gen Pract* 1986; **36**: 78-81.
21. Jones K, Lane D, Holgate ST, Price J. Asthma: a diagnostic and therapeutic challenge. *Fam Pract* 1991; **8**: 97-99.
22. Secretary of State for Health. *The health of the nation: a consultative document for health in England (Cm 1523)*. London: HMSO, 1991.
23. Hart JT, Thomas C, Gibbons B, et al. Twenty five years of case finding and audit in a socially deprived community. *BMJ* 1991; **302**: 1509-1513.
24. Hannay DR, Maddox EJ. Incongruous referrals. *Lancet* 1975; **2**: 1195-1197.
25. Powell E. *Medicine in politics*. London: Pitman Medical, 1966.
26. Fry J. Economics, politics and society. In: Fry J, Hasler J (eds). *Primary health care 2000*. London: Churchill Livingstone, 1986.
27. Royal College of General Practitioners, Office of Population Censuses and Surveys, and Department of Health and Social Security. *Morbidity statistics from general practice: third national study, 1981-82. Series MB5 no. 1*. London: HMSO, 1986.
28. Wilkin D, Hallam L, Leavey R, Metcalfe D. *Anatomy of urban practice*. London: Tavistock, 1987.
29. Whitfield M, Bucks R. General practitioners' responsibilities to their patients. *BMJ* 1988; **297**: 398-400.
30. Riddle MC. A strategy for chronic disease. *Lancet* 1980; **2**: 734-736.
31. Ettlinger PRA, Freeman GK. General practice compliance study: is it worth being a personal doctor? *BMJ* 1981; **282**: 1192-1194.
32. Inui TS, Youtree EL, Williamson JW. Improved outcomes in hypertension after physician tutorials: a controlled trial. *Ann Intern Med* 1976; **84**: 646-651.
33. Finnerty FA, Shaw LW, Hinnelsback CK. Hypertension in the inner city. *Circulation* 1973; **47**: 76.
34. Freeman GK, Richards SC. How much personal care in four group practices? *BMJ* 1990; **301**: 1028-1030.

35. Buchan IC, Richardson IM. *Time study of consultations in general practice. Scottish health studies no. 27.* Edinburgh: Scottish Home and Health Department, 1973.
36. Morrell DC, Evans ME, Morris RW, Roland MO. The five-minute consultation: effect of time constraint on clinical content and patient satisfaction. *BMJ* 1986; **292**: 870-873.
37. Ridsdale L, Carruthers M, Morris R, Ridsdale J. Study of the effect of time availability on the consultation. *J R Coll Gen Pract* 1989; **39**: 488-491.
38. Wilson A. Consultation length in general practice: a review. *Br J Gen Pract* 1991; **41**: 119-122.
39. Department of Health and the Welsh Office. *General practice in the National Health Service. A new contract.* London: Department of Health and the Welsh Office, 1989.
40. Marsh GN. Are follow-up consultations at medical outpatient departments futile? *BMJ* 1982; **284**: 1176-1177.
41. Anonymous. Medicopolitical digest. *BMJ* 1991; **302**: 971.
42. Blaxter M. Self-definition of health status and consulting rates in primary care. *Q J Soc Affairs* 1985; **1**: 131-171.
43. Thompson NF. Inviting infrequent attenders to attend for a health check: costs and benefits. *Br J Gen Pract* 1990; **40**: 16-18.
44. Waller D, Agass M, Mant D, *et al.* Health checks in general practice: another example of inverse care? *BMJ* 1990; **300**: 1115-1118.
45. Pill R, French J, Harding K, Stott N. Invitation to attend a health check in a general practice setting: comparison of attenders and non-attenders. *J R Coll Gen Pract* 1988; **38**: 53-56.
46. Main J, Main P. Problematical models — targets and clinics. *RCGP Connection* 1990; September: 4-5.
47. Robson J, Boomla K, Fitzpatrick S, *et al.* Using nurses for preventive activities with computer assisted follow up: a randomized controlled trial. *BMJ* 1989; **298**: 433-436.
48. Acheson HWK. Converting medical records to A4 size in general practice. *J R Coll Gen Pract* 1976; **26**: 277-281.
49. Pringle M, Hobbs R. Large computer databases in general practice. *BMJ* 1991; **302**: 741-472.
50. Taylor MW, Ritchie LD, Taylor RJ, *et al.* General practice computing in Scotland. *BMJ* 1990; **300**: 170-172.
51. Jick H, Jick SS, Derby LE. Validation of information recorded on general practitioner based computerised data resource in the United Kingdom. *BMJ* 1991; **302**: 766-768.
52. Hart JT. *Hypertension: community control of high blood pressure.* London: Churchill Livingstone, 1988: 52-76.

Address for correspondence

Julian Tudor Hart, The Queens, Glynccorwg, West Glamorgan SA13 3BL.

RCGP

Courses
and
conferences



MAKING TEAMWORK WORK FOR PATIENTS

2 April 1992

A study day organized by the College's patients liaison group for general practitioners and other primary health care workers to meet representatives of patient interest groups and together discuss how multidisciplinary teamwork can best serve patients' interests. This important topic is very timely in view of rapid developments in community care and proposals for the reorganization of primary health services. There will be medical and lay speakers and opportunities in participatory workshops to explore specific areas of innovative practice.

PGEA approval applied for. Fee for the day is £65, including lunch and papers.

Further details and an application form are available from the Corporate Development Unit, Royal College of General Practitioners, 14 Princes Gate, London SW7 1PU. Tel: 071-823 9703. Fax: 071-225 3047.

INFORMATION FOR AUTHORS AND READERS

Papers submitted for publication should not have been published before or be currently submitted to any other journal. They should be typed, on one side of the paper only, in double spacing and with generous margins. A4 is preferred paper size. The first page should contain the title only. To assist in sending out papers blind to referees, the name(s) of author(s) (maximum of eight), degrees, position, town of residence, address for correspondence and acknowledgements should be on a sheet separate from the main text.

Original articles should normally be no longer than 4000 words, arranged in the usual order of summary, introduction, method, results, discussion and references. Letters to the editor should be brief — 400 words maximum — and should be typed in double spacing.

Illustrations of all kinds, including photographs, are welcomed. Graphs and other line drawings need not be submitted as finished artwork — rough drawings are sufficient, provided they are clear and adequately annotated.

Metric units, SI units and the 24-hour clock are preferred. Numerals up to 10 should be spelt, 10 and over as figures. Use the approved names of drugs, though proprietary names may follow in brackets. Avoid abbreviations.

References should be in the Vancouver style as used in the *Journal*. Their accuracy must be checked before submission. The title page, figures, tables, legends and references should all be on separate sheets of paper.

Three copies of each article should be submitted and the author should keep a copy. One copy will be returned if the paper is rejected. A covering letter should make it clear that the final manuscript has been seen and approved by all the authors.

All articles and letters are subject to editing.

Papers are refereed before a decision is made.

Published keywords are produced using the *GP-LIT thesaurus*.

More detailed instructions are published annually in the January issue.

Correspondence and enquiries

All correspondence should be addressed to: The Editor, British Journal of General Practice, Royal College of General Practitioners, 12 Queen Street, Edinburgh EH2 1JE. Telephone (office hours; 24 hour answering service): 031-225 7629. Fax (24 hours): 031-220 6750.

Copyright

Authors of all articles assign copyright to the *Journal*. However, authors may use minor parts (up to 15%) of their own work after publication without seeking written permission provided they acknowledge the original source. The *Journal* would, however, be grateful to receive notice of when and where such material has been reproduced. Authors may not reproduce substantial parts of their own material without written consent. However, requests to reproduce material are welcomed and consent is usually given. Individuals may photocopy articles for educational purposes without obtaining permission up to a maximum of 25 copies in total over any period of time. Permission should be sought from the editor to reproduce an article for any other purpose.

Advertising enquiries

Display and classified advertising enquiries should be addressed to: Debbie Pike, Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU. Telephone: 071-581 3232. Fax: 071-225 3047.

Circulation and subscriptions

The *British Journal of General Practice* is published monthly and is circulated to all Fellows, Members and Associates of the Royal College of General Practitioners, and to private subscribers. All subscribers receive *Policy statements* and *Reports from general practice* free of charge with the *Journal* when these are published. The 1992 subscription is £95 post free (£105 outside the UK, £120 by air mail). Non-members' subscription enquiries should be made to: Bailey Management Services, 127 Sandgate Road, Folkestone, Kent CT20 2BL. Telephone: 0303-850501. Members' enquiries should continue to be made to: The Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU. Telephone: 071-581 3232.

Notice to readers

Opinions expressed in the *British Journal of General Practice* and the supplements should not be taken to represent the policy of the Royal College of General Practitioners unless this is specifically stated.

RCGP Connection

Correspondence concerning the news magazine, *RCGP Connection*, should be addressed to: RCGP Connection Editor, Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU. Telephone: 071-581 3232.