only 12 fruit and vegetable portions a week; the recommended intake is five portions a day.⁵

There was an association in female patients between mental state and alcohol intake. This association may have arisen by chance as, in all, 36 correlations were calculated. Also, association does not imply causality. Does a high alcohol intake worsen the mental state? Or does a disturbed mental state lead women to drink more?

We conclude that the schizophrenic patients we studied are making poor dietary choices. Assertive programmes to improve diet are necessary.

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in data analysis, and edited the paper. EM discussed core ideas, participated in clinical data collection and data analysis, and contributed to the paper. DT-S and JH discussed core ideas, participated in clinical data collection, and contributed to the paper. CB and DW discussed core ideas, analysed blood samples, and contributed to the paper. RMcC and JP are guarantors for the study.

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Conflict of interest: None.

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Effect of fundholding on removing patients from general practitioners' lists: retrospective study

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Fundholding by general practitioners was introduced during NHS reforms in 1989. Little is known about its impact on the quality of patient care.¹ One measure of this impact is the rate at which practices decide they do not wish to continue to provide general medical services for patients and remove them from their lists ("removal at general practitioner's request"). In Northern Ireland the rate of the removing patients from practitioners' lists increased after the introduction of fundholding in 1993² which suggests that there is a relation between fundholding and removing patients from lists. We report an investigation to determine if becoming a fundholding practice changed the rates of removing patients from practice lists.

Methods and results

For the past 15 years the Central Services Agency has maintained a register of all patients removed from lists at a general practitioner's request. The database does not contain patients who have been removed for reasons such as leaving the country or moving outside the practice area. However, records are retained if the patient has died or emigrated. Demographic data were obtained for each patient removed from a list during the study, and each record was coded according to the fundholding status of the practitioner.

There were four waves of fundholding between 1987 and 1996; the first began in April 1993 and each new wave followed in April of the succeeding year. The data were divided into three phases for each fundholding practice: fundholding, preparatory year (the financial year prior to fundholding), and prepreparatory period (from January 1987 until the start of the preparatory

year). The removal of an individual patient or family unit was counted as one decision, and only first time removals within the 10 year period were analysed. Rates for first removal decisions per 10 000 person years were calculated for each period as previously described.² Rates for non-fundholding practices were also examined using the commencement date of each wave of fundholding to artificially divide the data into before and after periods. In April 1996 there were 419 general practitioners in 114 practices serving 724 104 patients.

Results of the analysis are shown in the table. There was no increase in the rate of removing patients from non-fundholding practices. Among fundholding practices the rate of removing patients increased from 1.8/10 000 person years in the prepreparatory period to 2.2/10 000 person years during the fundholding period; this was an increase of 21.4% (95% confidence interval 7.4% to 35.5%). Practices that became fundholding practices in later years removed patients more frequently and started removing patients at higher rates during the preparatory year.

Comment

The rates of removing patients from general practitioners' lists are influenced by characteristics of both the practice and population.² In this analysis practices were compared with their earlier performance obviating these potentially confounding variables. The increases in the rates among fundholders are therefore intrinsically related to fundholding status. The different rates of removal occurring between successive waves of fundholders and between fundholders and non-fundholders could be attributed to differences in socio-

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Rates of removing patients from general practitioners' lists according to fundholding status and time of becoming a fundholding practice

	No of patients removed from list	Person years	Rate of removal/10 000 person years (95% CI)
Fundholding practices*			
April 1993:			
Prepreparatory period	126	1 066 874	1.2 (1.0 to 1.4)
Preparatory year	21	203 214	1.0 (0.6 to 1.6)
Fundholding	140	762 053	1.8 (1.5 to 2.2)
April 1994:			
Prepreparatory period	218	1 348 525	1.6 (1.4 to 1.8)
Preparatory year	27	215 764	1.3 (0.8 to 1.8)
Fundholding	141	593 351	2.4 (2.0 to 2.8)
April 1995:			
Prepreparatory period	125	493 268	2.5 (2.1 to 3.0)
Preparatory year	26	68 037	3.8 (2.5 to 5.6)
Fundholding	27	119 065	2.3 (1.5 to 3.3)
April 1996:			
Prepreparatory period	440	2 114 203	2.1 (1.9 to 2.3)
Preparatory year	113	256 267	4.4 (3.6 to 5.3)
Fundholding	58	192 200	3.0 (2.3 to 3.9)
Fundholding practices overall:			
Prepreparatory period	909	5 022 870	1.8 (1.7 to 1.9)
Preparatory year	187	743 282	2.5 (2.2 to 2.9)
Fundholding	366	1 666 668	2.2 (2.0 to 2.4)
Non-fundholding practices			
April 1993:			
Before	1415	6 242 994	2.3 (2.2 to 2.4)
After	871	3 745 796	2.3 (2.2 to 2.5)
April 1994:			
Before	1622	7 241 873	2.2 (2.1 to 2.4)
After	664	2 746 917	2.4 (2.2 to 2.6)
April 1995:			
Before	1870	8 240 752	2.3 (2.2 to 2.4)
After	416	1 748 038	2.4 (2.2 to 2.6)
April 1996:			
Before	2117	9 239 631	2.3 (2.2 to 2.4)
After	169	749 159	2.3 (2.0 to 2.6)
Non-fundholding practices overall	2286	9 988 790	2.3 (2.2 to 2.4)

*The prepreparatory period extends from January 1987 until the start of the preparatory year. The preparatory year covers the financial year before fundholding began

economic and demographic characteristics of practice populations arising from a selection bias in practices that became fundholding practices. Other factors, such as the 1990 contract (which substantively altered the terms of service of all general practitioners in the United Kingdom), cannot explain the increase, as similar changes were not found for the non-fundholding practices.

It is unclear why the rate of removing patients has increased but "list cleaning" (removing patients who have died or left the practice area from lists) can be discounted. The database used in this study is maintained separately from the patient registration data within the Central Services Agency and contains only removals made at the request of general practitioners. Trained staff undertake validation checks which include contacting practitioners and writing to patients to inform them of the category of removal. Removals because of death are processed differently, and follow up procedures would identify a misclassification.

The public perception is that financial factors motivate fundholders to remove patients from their lists.³ In the United States where healthcare systems provide financial incentives "adverse selection" is common; it has been suggested that the reforms in the NHS could stimulate similar effects.⁴ Increased rates of removing

patient may, however, reflect the additional workload and pressures of fundholding⁵ rather than attempts at financial gain.

The decision to remove patients occurs comparatively infrequently and our results suggest that a fundholding practice with a list size of 5000 patients would be making one additional removal decision every five years. Our findings suggest that other areas of health care that experience large increases in workload, or where the potential for adverse selection exists, should be monitored.

Contributors: KS and DO'R had the original idea for the study. DO'R, KS, AG, and SB designed the form for data collection. DO'R and BM were responsible for the analysis of the data. DO'R, KS, AG, SB, and BM wrote the paper. DO'R is the guarantor for the paper.

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Corrections

Will the fudge on equity sustain the NHS into the next millennium?

In the article by Mays and Keen (4 July, pp 66-9) the third sentence in the first paragraph of the section about arguments for changes, contained an error. The sentence should have read: "Although it is difficult to believe when you are on an NHS waiting list, people in the United Kingdom are more satisfied with healthcare arrangements than are people in the United States and Sweden, but less satisfied than people in Canada; these three countries all spend more than the United Kingdom on health care."⁹⁹

Excess mortality after human albumin administration in critically ill patients

In the editorial by Martin Offringa (25 July, pp 223-4) the reference cited towards the end of the penultimate paragraph should have been reference 4, not 2.

Cardiac arrests outside hospital

The opening sentence of the editorial by Tom Evans (4 April, pp 1031-2) should have read: "Twenty five years after the original epidemiological studies^{1 2} two thirds of all patients who die with acute coronary events still do so before reaching a hospital (p 1065)."⁹⁹

Randomised controlled trial comparing effectiveness and acceptability of an early discharge, hospital at home scheme with acute hospital care

An error occurred in this article by Suzanne H Richards and colleagues (13 June, pp 1796-801). In table 6 (p 1800) the difference (95% confidence interval) for "Information on treatment (as much as wanted)" should have been -3.2 (-15.7 to 9.3) (rather than -3.2 (-11.2 to 17.8)). This does not, however, affect the interpretation of the results.