

Patient removals from general practitioner lists in Northern Ireland: 1987-1996

DERMOT O'REILLY

KEITH STEELE

BARRY MERRIMAN

ANDREW GILLILAND

SCOTT BROWN

SUMMARY

Background. Being struck off a general practitioner's list is a major event for patients and a subject for much media attention. However, it has not hitherto received much research attention.

Aims. To quantify the numbers of patients removed at doctors' request in Northern Ireland between 1987 and 1996. To describe the characteristics of those removed and to determine if the rate of removal has increased.

Methods. This is a descriptive epidemiological study involving a secondary data analysis of records held by the Central Services Agency.

Results. Six thousand five hundred and seventy-eight new patients were removed at general practitioner (GP) request between 1987 and 1996. This equated to 3920 removal decisions, a rate of 2.43 per 10 000 person-years. The very young and young adults had the highest rates of removal; most of the young being removed as part of a family. Ten point six per cent of removed patients had a repeat removal, and 16.3% of first removal decisions required an assignment to another practice. Family removals have decreased and individual removals have increased over the 10 years. Disadvantaged and densely populated areas with high population turnover were associated with higher rates of removal, though heterogeneity is evident between general practitioners serving similar areas. Compared to the period 1987 to 1991, removal rates for the years 1992 to 1993 were reduced by 20.0% (95% confidence interval (CI) for rate ratio (RR) 0.73–0.87), and those for the years 1994 to 1996 increased by 8% (95% CI = 1.01–1.16). The greatest increase was in the over-75 years age group (standardized RR = 1.60; 95% CI = 1.57–1.62).

Conclusions. Removals are relatively rare events for both patients and practices, though they have been increasing in recent years. Further research is needed to understand the processes that culminate in a removal.

Key words: removals; struck off; GP lists.

D O'Reilly, MB, MSc, MRCP, MFPHM, deputy director, Health and Social Care Research Unit; K Steele, MD FRCP, senior lecturer, Department of General Practice; B Merriman, MA, research assistant, Health and Social Care Research Unit; and A Gilliland, MD FRCP, senior lecturer, Department of General Practice, The Queen's University of Belfast, Northern Ireland. S Brown, MD, FRCP, general practitioner, Mountsandel Surgery, Coleraine, Northern Ireland.

© British Journal of General Practice, 1998, 48, 1669-1673.

Introduction

BEING struck off a general practitioner (GP) list is one of the issues most frequently raised by patients who contact the Patients Association. There is a widespread belief that older and sicker patients are increasingly being removed from GP lists and that the motivations are primarily financial.^{1,2} The advent of GP fundholding is thought to be associated with an increase in removals.³ In one instance in 1997, a Northern Ireland fundholding practice removed 64 patients who were all subsequently reinstated after a concerted publicity campaign.⁴ The result has been bad publicity for the health services.

At present, a GP in the United Kingdom can, under the terms and conditions of service, remove any patient from their list without the requirement of giving either the patient or the Health Authority a reason. There are, however, those who would like the legislation changed to define when patients can be struck off. Recent guidelines from the Royal College of General Practitioners⁵ have recommended that GPs should normally, as part of good practice, write to inform patients as to why they are being removed.

Firm data about the characteristics of removed patients or GPs that remove them has not been available. The number of patients removed per annum in the UK has been reported to range from 30 000 to 85 000.⁶ These data are difficult to interpret as they are either incomplete, combine removals at GP request with other types of removal, or refer to short time intervals.

Methods

The Central Services Agency, which fulfils most of the FHSA functions for Northern Ireland, has maintained a card-based register of all patients removed at GP request for the past 15 years. This database does not contain patients who have been removed for other reasons such as 'left the country' or 'now residing outside the practice area'. However, records of removals are retained in the database even if the patient has died or emigrated.

Data were collected for all removals and assignments for the 10 years from 1987 to 1996. The relevant demographic data were recorded for each patient, along with the date of first removal/assignment and the number of removals and assignments in subsequent years. The GP cipher was used to associate practice code and fundholding status to each record. The database is alphabetical so it was possible to identify family units. An additional check for families was undertaken by examination of records that had the same practice code, postcode and removal date.

The geographical unit for the ecological analysis was derived from the 566 census wards. To reduce distortion due to small numbers of events, wards were aggregated with an adjacent one so that none had a population of less than 2000 persons. The resulting 498 areas were called 'synthetic small areas'. Patients were assigned to these using their postcode of residence at first removal and the 1997 version of the central postcode directory.

Rates of removal can be estimated in different ways. Many removals and assignments involve all or part of a family so the appropriate unit of measurement is removal decisions. A family removal was therefore counted as one removal decision, the

same as individuals who were removed on their own. A record of previous removal may distort subsequent decisions to remove a patient from a list, so only first time removals were counted in this study. This is analogous in epidemiological studies to analysing incident rather than prevalent cases. It was therefore necessary to adjust the number of new removal decisions per year, as some of the 'new' events, especially in the earlier years, were likely to be patients with a history of removal. Using the observed data for repeat removals the number of corresponding removals pre-1987 were estimated for each year, and the numbers of removals adjusted accordingly.

The estimated number of households in Northern Ireland each year was used as the denominator to produce the rate of adjusted new removal decisions per year. This was calculated for each year from the mid-year estimates and the average family size as ascertained by the Continuous Household Survey (General Household Survey equivalent). As removal rates vary by age, the directly standardized rates were calculated using the World standard population⁷ for all ages and for different age groups. The standardized rate ratios and their corresponding 95% confidence intervals⁸ was used to compare the different sets of rates. Practice list size was the denominator for calculating removal rates per practice, and the 1991 census estimates of the number of households was used to determine the rate at synthetic small area level. The 1991 census provided the estimates of households at small area level and most of the socio-economic data used in the regression analysis. Stepwise regression analysis was used to study, at an ecological level, the association between the removal rates and a wide variety of socio-economic data including Social Security benefits data. The uptake of Social Security benefits is thought to reflect the actual levels of poverty in society more closely than the more usual indicators of deprivation and was available for analysis in this study. The Social Security Policy and Statistics Directorate at the Department of Health and Social Services in Northern Ireland supplied family credit and income support uptake data for August 1996, at electoral ward level.

Results

A total of 7884 removal events were recorded over the 10 years. One practice removed 91 patients from their list over 14 days. 88 of these were women and 86 (98%) were aged between 25 and 64 years. Due to the exceptional nature of these removals they were not included in the general analysis.

Figure 1 shows the relationship between the numbers of removal events, patients affected and first removal decisions. Eighty-nine point four per cent of those who were removed between 1987 and 1996 were removed only once. However, some patients were removed more frequently, accounting for the difference between 'removal events' and 'patients'. One patient was both removed and assigned 26 times; eleven of these removals were in 1996. Only 53 (0.8%) of patients were removed five or more times during this time. Three thousand nine hundred and ninety-seven (60.8%) of the patients were removed as part of a family, 2581 (39.2%) as individuals.

The most frequent age group for removal was 0 to 4 years (Table 1). There was a second peak in young adults between 20 and 45 and thereafter the numbers declined with increasing age. Though the numbers of elderly patients was proportionally small (8.3% were 65 or older), the risk of being removed increased in those over the age of 80.

The age distribution of removed patients varied according to whether they were removed as individuals or as part of a family. Fifty-one per cent of patients removed as families were aged less than 20 years old, whereas 47.8% of those removed as individuals were aged 40 or over. Two hundred and six (8.2%) children under 10 years were individual removals. Family removals

became less frequent over the 10-year period and individual removals became more frequent (Figure 2). Between 1987 and 1989, 517 (43.5%) removal decisions were families compared to 367 (27.7%) for the period 1994 to 1996. Six hundred and forty (16.3%) of the 3920 removal decisions were followed by an assignment; thus, in 83.7% of circumstances, patients were able themselves to find another practice to accept them onto their list.

Figure 3 shows the rates of new removal decisions per year. Three distinct periods are apparent: 1987–1991, 1992–1993, and 1994–1996. The rates for the three periods were compared using the 1987–1991 period as baseline. The rate for 1992–1993 was lower than that of 1987–1991 (RR = 0.8 [95% CI = 0.73–0.87]), and the rate for 1994–96 was higher (RR = 1.08 [95% CI = 1.01–1.16]). There was no increase in the removal rate for those aged 0 to 4 years or for women aged 25 to 64 years. Rates of removal increased for those aged over 75 years (RR = 1.60

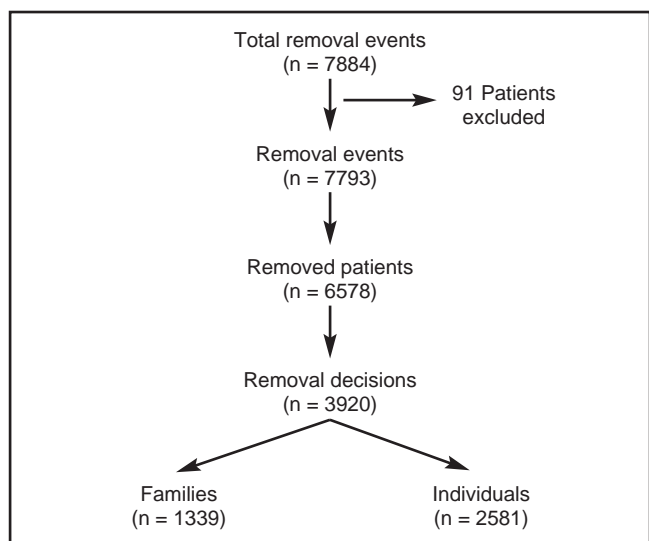


Figure 1. Removals 1987–1996: events, patients and removal decisions.

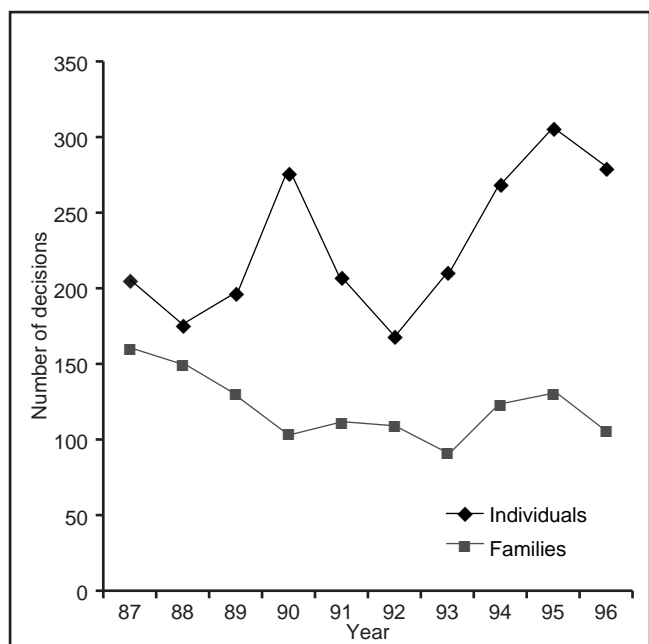


Figure 2. First removal decisions: numbers which were to individuals and to families.

Table 1. Rates of removal by age and sex 1987-1996 (inclusive).

Age range	First removals		Population ^a		Removal rates per 10 000 population	
	Female	Male	Female	Male	Female	Male
0-4	433	491	639810	674602	6.77	7.28
5-9	304	316	646724	677337	4.70	4.67
10-14	212	223	632819	661606	3.35	3.37
15-19	204	194	625117	671956	3.26	2.89
20-24	331	211	628921	688766	5.26	3.06
25-29	349	269	623368	633870	5.60	4.24
30-34	273	296	587481	568235	4.65	5.21
35-39	225	217	521846	514372	4.31	4.22
40-44	220	233	489491	482974	4.49	4.82
45-49	159	161	461353	449960	3.45	3.58
50-54	148	130	411268	395215	3.60	3.29
55-59	129	106	380081	351721	3.39	3.01
60-64	101	74	369268	320975	2.74	2.31
65-69	104	79	356869	288641	2.91	2.74
70-74	77	56	311291	227063	2.47	2.47
75-79	64	36	251143	156785	2.55	2.30
80-84	46	27	175628	87068	2.62	3.10
85+	46	12	125989	41536	3.65	2.89
Total	3425	3131	8238467	7892682	4.16	3.97

^aBased on the mid-year estimates for years 1987-1996.

Table 2. Rates of removal and socio-economic background.

Variable	Beta	T-value	Significance
Family Credit ^a	0.394	9.950	<0.001
Population density ^b	0.222	5.020	<0.001
Percentage of migrants ^c	0.210	4.809	<0.001

^aPercentage of families on Family Credit; ^bPersons per hectare; ^cPercentage of patients with a different address in the year prior to the census.

[95% CI = 1.57-1.62]).

Rates of removal varied across Northern Ireland, being gener-

ally higher in urban than in rural areas. The results of the regression analysis showed that 31.1% of the variation in rates between synthetic small areas could be explained by differences in three socio-economic indicators: family credit uptake (a measure of poverty in families), percentage change in address in the year prior to the census (a measure of population mobility), and population density (persons per hectare). Of these, removal rates were most closely associated with the indicator of family poverty.

The overall removal rate for the 10-year period was 2.43 per 10 000 person years. Practices exhibited a great variation in their propensity to remove patients from their lists. Thirty-three practices, with a combined list size of 100 561, did not remove anyone for the first time from their lists between 1987 and 1996. At

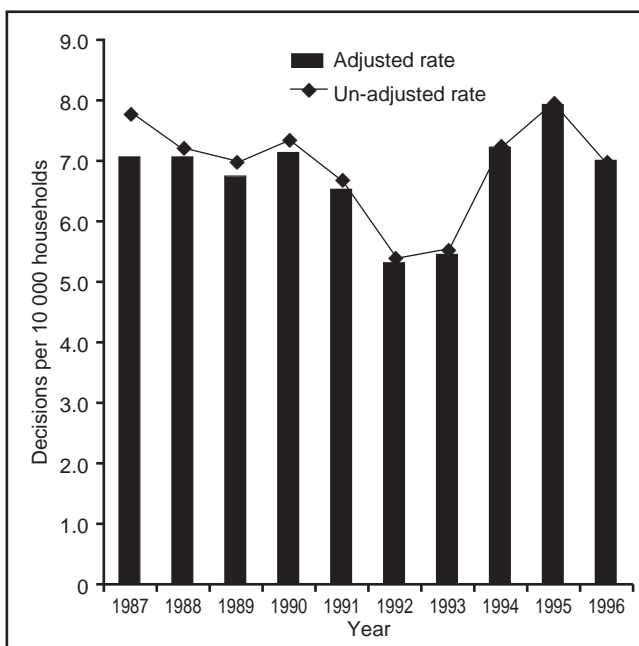


Figure 3. New removals per year: adjusted and unadjusted rates.

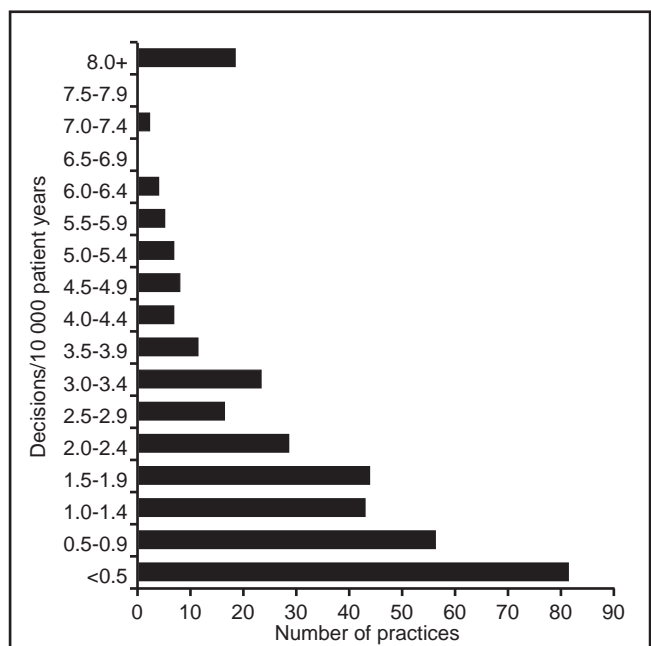


Figure 4. New removal decisions per practice 1987-1996.

the other extreme, one practice, list size over 12 000, had 82 new removal decisions affecting 190 patients. Two hundred and twenty-four (63.5%) practices had a removal rate of less than two per 10 000 patient years; for a practice of 5000 patients this equates to one or fewer new removal decision per year. There was no relationship between practice size and rates of removal. Practices with some of the highest and lowest removal rates were based within the same town.

Discussion

The validity of the findings in this study depends upon the quality of data upon which the analysis was conducted. The database is maintained separately within the Central Services Agency and relates only to patients who have been removed at GPs' request. Trained staff contact GPs wishing to remove patients who appear to be living some distance from the practice surgery, to ensure that these removals were being appropriately categorized. The database is a permanent record of all removals in Northern Ireland and data is retained even if the patient dies or emigrates.

There are many potential ways to quantify removals. Removal decisions have several advantages over straight counts of either removal events or removed patients, as many removals involve all or part of a family. It is therefore a better measure for monitoring trends and for comparing practices or areas where confounding, due to differences in family size is possible.⁹ However, as removal decisions are a mixture of individuals and families, the choice of denominator becomes difficult. In this study, 60% of removed patients were in families, so the number of households was used where available. When comparing practices only list size was available, but the large differences in the rates of removal between practices are more a consequence of differences in the numbers of removals, and are unlikely to be significantly affected by comparatively minor changes to the denominator. The analysis on trends was performed on adjusted rates. The adjustment was necessary once the decision had been taken to examine only new removals. It was considered that some of the patients who appeared to have been new removals during the earlier years of the study period had, in reality, been removed from another practice previously; the first removal episode being before the start of the study period. The main effect of the adjustment was to reduce the rates, especially for the earlier years.

A study in Sheffield has reported¹⁰ an overall removal rate that was about 2.5 times as high as that in the present study. The difference may be due to the methods of quantifying removals and the greater rural context of the Northern Ireland study. The demographic profiles of those removed and the frequency of family removals were similar in both studies. The finding that 15.9% of removal decisions were followed by an assignment to another practice is at variance with a report from the Community Health Councils in England and Wales,⁶ which suggested that the majority of de-registered patients have difficulty registering with another general practitioner.

The rates at which patients were removed changed throughout the 10-year period. It was mostly steady between 1987 and 1991, decreased for the two years 1992 and 1993 and increased for the years 1994–1996, at a level that was 8% higher than the 1987–1991 period. Such a pattern was not anticipated before the data were studied, and thus the comparisons should be considered as *post hoc* analysis and therefore interpreted with some caution. However, we believe that there is some justification for these analyses. It is possible to speculate that the reduced rates of removal in 1992–1993 were a reflection of the increased proportion of GP earnings that were based on capitation following the introduction of the 1990 contract.¹¹ The causes of the subsequent

increase in rates cannot be determined from this study. It is interesting to note that the first wave of GP fundholding in Northern Ireland was in April 1993, and the data are presently being analysed to see whether the transition to fundholding was associated with practices removing higher proportions of patients. It is also possible that the additional workload resulting from the 1990 contract¹² was a contributory factor, though the absence of an increase in removals for the youngest age groups and a similar increase in removals for men and women (aged 25 to 64) over the 10 years suggests that immunization and screening targets were not a motivating factor in the majority of removals. It is also possible that the reported high levels of stress¹³ among GPs may have contributed to higher removal rates in recent years. During data collection, it was noted that some elderly people had been removed from nursing and residential homes. As this data was not routinely collected and the population at risk not known, removal rates could not be calculated. In some of these instances as many as six patients were removed at the same time, indicating that this may be a potential problem area. Whether this represents GPs removing clinically demanding patients or a breakdown in the doctor-nursing/residential home relationship cannot be determined from these data.

Deprived areas and disadvantaged populations are most affected by removals. The reasons for these associations are unclear. An unpublished report from Kent FHSA suggested that many removals are linked to drugs and alcohol abuse.¹⁴ It is known that drug and alcohol abuse are more common in inner city areas^{15,16} and that downward social mobility is associated with migration towards larger conurbations.¹⁷ Conversely, the lower rates of removal in rural areas may be due to a greater forbearance among those GPs with the realization that removed individuals in these areas would have limited accessibility to other practices.¹⁸ From the patients perspective, it may be that the removal rates in the rural areas actually present a greater problem.¹⁹ A prospective study is presently underway to investigate the reasons for removal and the differences that exist between practices, and to examine the impact that being removed has on patients and families.

References

- Mihill C. 'GPs call on patients over 65 to quit.' *The Guardian* 1996; **18 April**: 7.
- Laurance J. 'Some dentists and GPs are turning away expensive patients.' *The Times* 1996; **25 September**: 10.
- Dover C. Struck off by the family doctor. *Br J Health Care Man* 1996; **2(4)**: 190-191.
- Bell S. 'Doctors turned my girl away.' *Sunday Life* 1997; **13 June**: 3.
- Royal College of General Practitioners. Removal of patients from GPs' lists: guidance for College members. London: Royal College of General Practitioners, 1997.
- Association of Community Health Councils for England and Wales Annual Report 1993/4.
- Doll R, Payne P, Waterhouse JAH. *1966 Cancer incidence in five continents*. Volume 1. Geneva: UICC; Berlin: Springer, 1966.
- Smith P. Comparison between registries: age standardised rates. In: *Cancer incidence in five continents*. Volume 5 (IARC Scientific Publications 88). Lyon: International Agency for Cancer, 1987: 790-795.
- Central Statistics Office. Social Trends (30). London: Central Statistics Office, 1995.
- Skinner J, Munro J. Unwelcome customers? Exploring the epidemiology of removal from GP lists. [Abstract.] *J Epidemiol Comm Health* 1997; **51**: 587.
- Health Departments of Great Britain. *General practice in the National Health Service: 1990 contract*. London: HMSO, 1989.
- Hanny D, Usherwood T, Platts M. Workload of general practitioners before and after the introduction of the 1990 contract. *BMJ* 1992; **304**: 615-618.
- Sutherland VJ, Cooper CL. Job stress, satisfaction and mental health amongst general practitioners before and after the introduction of the new contract. *BMJ* 1992; **304**: 1545-1548.

14. Perry J. *Removed from care: A report of patients removed from general practitioners list at doctors request*. Kent FHSA, 1995.
15. Squires NF, Beeching NJ, Schlecht BJM, Ruben SM. An estimate of the prevalence of drug misuse in Liverpool and a spatial analysis of known addiction. *J Public Health Med* 1995; **17**(1):103-109.
16. Thornicroft G, Margolius O, Jones D. The TAPS project. New long-stay psychiatric patients and social deprivation. *Br J Psychiatry* 1992; **161**: 621-624.
17. Harkey J, Miles D, Rushing W. The relation between social class and functional status: a new look at the drift hypothesis. *J Health Soc Behav* 1976; **17**: 194-197.
18. Royal College of General Practitioners. *Rural General Practice in the United Kingdom*. [Occasional Paper 71.] London: RCGP, 1995.
19. Fourth Annual Report Southern Health and Social Council N.Ireland 1995.

Acknowledgement

This research was assisted by a grant from the Royal College of General Practitioners.

Address for correspondence

Dr Dermot O'Reilly, Deputy Director, Health and Social Care Unit, Mulhouse Building, Queen's University of Belfast, Grosvenor Road, Belfast BT12 6BJ.