

Impact of the 1990 contract for general practitioners on night visiting

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SUMMARY

Background. The 1990 contract for general practitioners extended the hours of eligibility for night visiting claims by 25% and introduced financial incentives to discourage the use of deputizing services.

Aim. This study set out to examine the impact of these contract changes on the rate and pattern of night visiting.

Method. Family health services authority data were used to compare trends in night visiting before and after the introduction of the new contract. Rates were calculated separately for those authorities which might be expected to have a high rate of visiting because of their demographic structure and those that might be expected to have a high rate because of their socioeconomic composition, thus separating out these two sets of factors combined in the Jarman index.

Results. Rates of night visiting increased by 33% between 1989 and 1990 while the proportion of visits made by deputies fell by 19%. These changes could not simply be explained either by the extension of eligible hours or the success of financial incentives in changing behaviour in the appropriate direction. It was found that the effect of the new contract was to increase visiting most in family health services authorities with a high proportion of elderly people living alone, that is, where demand would be expected to be higher. In previous years there had been little variation in visiting rates between authorities with a high proportion of those aged 65 years and over living alone and those with a low proportion. The effect of the contract was also to increase rates of visiting most in affluent authorities, that is, where demand would be predicted to be lower. This again marked a sharp break with trends in previous years in that the gap between the high rates in the deprived family health services authorities and lower rates in the most affluent authorities narrowed.

Conclusion. The 1990 contract achieved the government's policy aims of promoting night visiting by principals and discouraging the use of deputies in its first year. However, the finding that doctors responded more to demand from elderly people and affluent people than from deprived people presents a challenge both for analysis and for policy. It underlines the importance of disaggregating the Jarman index when examining the impact of policy change on local populations and suggests that general practitioners in the most deprived family health services authorities may lack the capacity or the incentive to respond to the changes introduced in the 1990 contract.

Keywords: night visits; consultation rates; conditions of service; deputizing services; inequalities in health.

Introduction

THE contract for general practitioners, introduced in April 1990, brought two major changes to night visiting: the first was to extend the period over which night visiting fees could be paid, from 23.00–07.00 hours to 22.00–08.00 hours.¹ The second change was to introduce financial incentives to encourage general practitioners to be more responsive to demand from users. Payment for night visits was thus split into two parts: a higher fee of £45.00 (1990–91) became payable for night visiting by general practitioners themselves and a lower fee of £15.00 was payable for night visiting by deputies.

Did these changes lead to more night visiting? Was there an increase in the proportion of these visits made by general practitioners rather than their deputies? And to what extent were any changes responsive to user demand? To answer the first two questions this paper examines trends in night visiting and the use of deputizing services from 1987 to 1990 using the family health services authorities performance indicators set.² To answer the third it analyses the relationship between changes in the pattern of night visiting and indicators of potential population demand, in order to establish whether the rate of night visiting rose most in those family health services authorities which might be expected to have the highest demand.

Demand for primary health care springs from two major sources. One is the socioeconomic circumstances of the population: in general the more deprived the population, the higher the morbidity and thus the greater the demand for health care.^{3,4} The other reflects age related vulnerability: elderly people and children four years old or less form the two groups that make the most frequent use of general practitioner services.⁵⁻⁷ The Jarman underprivileged area score, currently used in the family health services authority data set to identify the effect of such population demand on the workload of general practitioners, combines both types of data.⁸ But by doing so it conflates two different types of demand which do not necessarily point in the same direction. Areas with different demand profiles may achieve the same score on the Jarman index. For example, in Durham Family Health Services Authority the Jarman score of 2.6 reflects relatively high deprivation (for example 27% of the population being unemployed) but a relatively low proportion of pensioners living alone (14%). In contrast, the Jarman score of 2.7 for East Sussex Family Health Services Authority reflects a high proportion of pensioners living alone (21%) and a relatively low level of deprivation (for example, 14% of the population being unemployed).

No assumptions are made about the desirability, or otherwise, of encouraging night visiting; the aim is simply to investigate the effects of public policy. The hypotheses being tested in this study were that: rates of night visiting will have increased in 1990, when compared with previous years; the percentage of general practitioners with consent to use deputies and the percentage of night visiting by deputies will have decreased in 1990 when compared with previous years; and there will be a change of trends in rates of night visiting in areas according to population demand.

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Method

Night visiting and use of deputizing services

Three sets of data, routinely collected from the 90 family health services authorities in England, were used to look at trends in night visiting and use of deputizing services over time. These were: night visiting fees, percentage of general practitioners with consent to use deputizing services, and percentage of night visits by deputies.

Before 1990 night visiting fees were payable as a single sum and presented as the amount (£) per 10 000 of the registered population in the family health services authority data set. To ensure comparability over time, fees for each year were transformed into rates of night visiting per 10 000 of the population by multiplying the numerator by 1000 and then dividing the total fees for that year by the cost of the single fee, applicable at the relevant time.

The percentage of general practitioners with consent to use deputizing services presents the number of these doctors as a percentage of general practitioners on the medical list.

The percentage of night visits by deputizing services indicates the proportion of night visiting claims where a deputizing service was involved. This is collected biennially, being available in 1987 and 1989. In the 1990 data set, it was not included as a separate calculation, but could be identified from the number of night visits paid at the lower rate.

Measuring demand for primary health care

The 1981 census variables were used to differentiate between the two main sources of population demand: socioeconomic circumstances and age-related vulnerability. The indicators chosen were the conventional measures of deprivation included in the Jarman index (plus additional items from the Townsend deprivation index⁹) and the demographic variables used by Jarman. These indicators formed three distinct groups of intercorrelated variables.

The material indicators of deprivation were the percentage living in overcrowded accommodation; the percentage living in rented accommodation; and the percentage with no car. The indicators of people vulnerable to deprivation were the percentage unemployed; the percentage in social class 4 or 5; and the percentage of single parents. The indicators for the age related population at risk were the number of people aged 65 years or more living alone and the number of children aged four years or less. These two variables were negatively correlated, so that authorities with the highest percentage of elderly people living alone would be likely to have the lowest percentage of children aged less than five years. Also, while these two demographic variables were intercorrelated, neither was consistently correlated with the socioeconomic variables included in the analysis.

Building on other methods developed to cluster areas using such variables,^{10,11} the three sets of variables outlined above were each used as a means of clustering family health services authority areas. The clustering method was based on nearest centroid sorting so that, by measuring the euclidean distance to each of the clusters, each area was assigned to the cluster for which the distance between the area and the centre of the cluster was the smallest.¹² There was a three cluster solution for material deprivation (Table 1) and a four cluster solution for groups vulnerable to deprivation (Table 2), and age related demand (Table 3).

To consolidate the socioeconomic definition of areas the cluster membership for the two groups of deprivation variables (material deprivation and groups vulnerable to deprivation) were matched: conceptually this meant making certain that deprived areas were defined in relation to the two related, but not necessarily coterminous, measures of deprivation. This resulted in a

Table 1. Family health services authority areas clustered according to material deprivation.

	Mean % of households		
	With no car	Who own home	In overcrowded accommodation
Affluent (<i>n</i> = 44)	31.9	63.9	10.7
Affluent/deprived (<i>n</i> = 36)	45.5	54.2	13.9
Deprived (<i>n</i> = 10)	57.4	31.5	20.9

n = number of family health services authorities in cluster.

Table 2. Family health services authority areas clustered according to groups vulnerable to deprivation.

	Mean % of households		
	In social class 4 or 5	Who are unemployed	Who are single parents
Very affluent (<i>n</i> = 22)	12.7	7.3	6.9
Affluent (<i>n</i> = 34)	15.7	10.5	7.5
Deprived (<i>n</i> = 25)	18.8	14.7	8.5
Very deprived (<i>n</i> = 9)	20.8	20.2	9.1

n = number of family health services authorities in cluster.

robust division of family health services authorities into very deprived, deprived, affluent and very affluent areas.

For age related factors determining population at risk, family health services authority areas fell into one of the four clusters shown in Table 3.

Analysis

Using the family health services authority data set, mean number of night visits, percentage of general practitioners with consent to use deputizing services and percentage of night visits by deputies were compared from 1987 to 1990 for authorities as a whole and the percentage change between years was calculated. Time trends were compared for family health services authorities clustered according to the deprivation and age related criteria. Changing trends across area clusters were interpreted using log variance. This procedure was also followed for the proportion of night visiting by deputies.

Table 3. Family health services authority areas clustered by age-related demand.

	% of households with someone	
	Aged 65+ years living alone	Aged 4 years or less
Very high no. 65+ year olds living alone/very low no. <5 years olds (<i>n</i> = 2)	19.5	4.8
High no. 65+ year olds living alone/low no. <5 years olds (<i>n</i> = 38)	15.6	5.8
Low no. 65+ year olds living alone/low no. <5 years olds (<i>n</i> = 27)	13.7	5.9
Very low no. 65+ year olds living alone/very high no. <5 years olds (<i>n</i> = 23)	12.1	6.3

n = number of family health services authorities in cluster.

Results

Levels of night visiting

The first hypothesis, that levels of night visiting would have increased since the new contract, was confirmed by the results. In the three years prior to the introduction of the new contract, night visiting had been increasing slowly: the number of visits per 10 000 of the registered population was 170 in 1987, 186 per 10 000 in 1988 and 187 per 10 000 in 1989. This represents a 9% increase between 1987 and 1988 and a 0.5% increase between 1988 and 1989. However, in 1990 the rate of night visiting increased to 248 per 10 000, 33% higher than in 1989.

Use of deputies, and night visiting by deputies

The second hypothesis was also confirmed: the splitting of the night visiting fee into a higher and lower payment increased the number of night visits made by general practitioners rather than deputies. Between 1987 and 1989, the percentage of general practitioners with consent to use deputizing services increased by 5%, from 54% to 59%. The percentage of night visits done by deputies changed from 46% in 1987 to 49% in 1989, an increase of 3%. Following the introduction of the new contract in 1990 however, 15% fewer general practitioners (44%) had consent to use deputizing services than in 1989 and 19% fewer night visits were made by deputies (30%).

Night visiting in areas of deprivation and affluence

The relative deprivation or affluence of a family health services authority was associated with considerable variation in levels of night visiting. From 1987 to 1990 there was more night visiting in the more deprived areas compared with the affluent and very affluent (Table 4). However, the increase in night visiting stimulated by the new contract occurred unevenly: the sharpest increases were in the very affluent authorities. This reversed a trend of increasing differences between affluent and deprived areas up until 1989, the smaller log variance in 1990 reflecting a reduction in the gap between areas owing to greater night visiting activity in more affluent communities. So, the third hypothesis was confirmed regarding demand associated with the socioeconomic characteristics of the population: the introduction of the new contract reversed previous trends towards a divergence

of rates between more deprived and more affluent areas.

The proportion of night visits by deputies remained highest in the very deprived areas from 1987 to 1990 (Table 5). However, there was a sharp decrease in the number of visits by deputies in all areas as a result of the new contract. In 1990, the lowest proportion of night visiting by deputies was to be found in the very affluent areas.

Night visiting and age related population demand

Before the introduction of the new contract, rates of night visiting were slightly higher in family health services authorities where the population of vulnerable elderly people was higher (Table 4). From 1987 to 1989 however, the variance between clusters was low. With the introduction of the new contract, rates of night visiting increased much faster in areas with a greater proportion of elderly people living alone. With the increase, the gap between clusters became wider, as indicated by the increase in log variance. So the third hypothesis was again confirmed: trends in night visiting changed across authorities clustered according to age-related demand as a consequence of the new contract. This change was, however, in the opposite direction to that associated with socioeconomic clusters: here a divergence between clusters occurred because of a greater increase in night visiting in authorities where there was potentially greater demand from vulnerable elderly people.

The proportion of night visits by deputies was lowest in family health services authorities where demand from those aged less than five years was likely to be the greatest and highest where the demand from both those aged 65 years and over and those aged less than five years was likely to be lowest (Table 5).

It appears that the likelihood of general practitioners themselves doing night visiting is much greater in areas where high demand arises from age related rather than socioeconomically defined factors.

Discussion

The main conclusion drawn from this study was that in response to the changes introduced by the 1990 contract, general practitioners increased their own night visiting activities and reduced their reliance on deputizing services, whatever their reservations

Table 4. Rates of night visiting across family health services authorities clustered according to socioeconomic conditions and age related demand, 1987 to 1990.

	No. of night visits per 10 000 people				% change 1989 to 1990
	1987	1988	1989	1990	
Socioeconomic status of FHSA					
Very deprived (<i>n</i> = 12)	198	218	217	280	+29
Deprived (<i>n</i> = 22)	197	219	221	274	+24
Affluent (<i>n</i> = 34)	166	179	181	224	+24
Very affluent (<i>n</i> = 22)	134	145	146	237	+62
Log variance	0.019	0.021	0.021	0.006	
Age related demand of FHSA^a					
High no. 65+ year olds living alone/ low no. <5 year olds (<i>n</i> = 38)	175	193	194	271	+40
Low no. 65+ year olds living alone/ low no. <5 year olds (<i>n</i> = 27)	166	183	183	235	+28
Very low no. 65+ year olds living alone/ very high no. <5 year olds (<i>n</i> = 23)	165	177	180	219	+22
Log variance	0.0005	0.0008	0.0005	0.0163	

n = number of family health services authorities in cluster. ^aCategory of very high number of 65+ year olds living alone/very low number of <5 year olds excluded from analysis as only two cases.

Table 5. Percentage of night visits completed by deputies in family health services authorities clustered according to socioeconomic conditions and age related demand in 1987, 1989 and 1990.

	% of all night visits by deputies			% change 1989 to 1990
	1987	1989	1990	
<i>Socioeconomic status of FHSA</i>				
Very deprived (<i>n</i> = 12)	65	70	47	-33
Deprived (<i>n</i> = 22)	47	48	34	-29
Affluent (<i>n</i> = 34)	33	44	26	-41
Very affluent (<i>n</i> = 22)	47	42	24	-43
Log variance	0.058	0.040	0.069	
<i>Age related demand of FHSA^a</i>				
High no. 65+ year olds living alone/low no. <5 year olds (<i>n</i> = 38)	44	48	31	-35
Low no. 65+ year olds living alone/low no. <5 year olds (<i>n</i> = 27)	63	65	38	-42
Very low no. 65+ year olds living alone/very high no. <5 year olds (<i>n</i> = 23)	20	27	17	-37
Log variance	0.2297	0.1328	0.1166	

n = number of family health services authorities in cluster. ^aCategory of very high number of 65+ year olds living alone/very low number of <5 year olds excluded from analysis as only two cases.

about providing 24 hour cover. However, the reduction in use of deputizing services may be exaggerated because some practitioners responded to the contract changes by forming their own consortia for carrying out night visits (Grace J, *General Practitioner* 4 September 1992). Our analysis also suggests that this increased activity was greater in some family health services authorities than others: more so in areas with a comparatively high number of vulnerable elderly people, and in areas with the highest number of affluent inhabitants.

In interpreting these results and assessing the impact of the various changes introduced by the government, it is difficult to disentangle the relative contributions of the increase in hours covered and of the financial incentives towards explaining the increase in night visiting rates. The former represented a 25% increase in the hours during which night visiting fees could be claimed. However, a study comparing the hourly distribution of night visits before and after the new contract estimated that 36% of the increase in rates of night visiting could not be accounted for by the increase in hours of eligibility.¹³ This adds substance to our own conclusion that the incentive role of higher payments had a role to play in increasing rates of night visiting quite apart from the effect of longer hours, the impact of incentives being most visible in the most affluent family health services authorities. This greater increase in rates of night visiting in the most affluent, low demand areas may reflect the greater capacity of general practitioners in these areas to respond, since such areas are characterized by well staffed practices with low list sizes.¹⁴ Alternatively, such differences may arise because the effect of deprivation payments in the most deprived, high demand areas is to blunt the incentive to general practitioners to add to their income by increasing their activity. Increased activity in areas with high numbers of vulnerable elderly people was as expected, although once again such a finding is difficult to explain simply in terms of the extension of hours of eligibility, since this led if anything to more visits to those aged less than five years, especially from 22.00 hours to 23.00 hours.¹³

These striking differences in trends of night visiting associated with socioeconomic and age-related demand, moving as they did in opposing directions, confirm the necessity of disaggregating these components of the Jarman index in order to interpret the impact of policy change in different localities. Clearly, more detailed work needs to be done, using the 1991 census returns, to explicate the relationship between potential demand for services from area populations and changes in the outputs of general prac-

tice resulting from the 1990 contract. Also, while the differential effect of demographic and socioeconomic demand factors on rates of night visiting has been demonstrated, some consideration now needs to be given to the effect of their interaction.

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