Do nursing home residents make greater demands on GPs? A prospective comparative study

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SUMMARY

Background. *The number of people residing in nursing homes has increased. General practitioners (GPs) receive an increased capitation fee for elderly patients in recognition of their higher consultation rate. However, there is no distinction between elderly patients residing in nursing homes and those in the community.*

Aim. *To determine whether nursing home residents receive greater general practice input than people residing in the community.*

Method. *Prospective comparative study of all 345 residents of eight nursing homes in Glasgow and a 2:1 age, sex, and GP matched comparison group residing in the community. A comparison of contacts with primary care over three months in terms of frequency, nature, length, and outcome was carried out.*

Results. *Nursing home residents received more total contacts with primary care staff (P<0.0001) and more face-to-face consultations with GPs (P<0.0001). They were more likely to be seen as an emergency (P<0.01) but were no more likely to be referred to hospital, and were less likely to be followed-up by their GP (P<0.0001). Although individual consultations with nursing home residents were shorter than those with the community group (P<0.0001), the overall time spent consulting with them was longer (P<0.001). This equated to an additional 28 minutes of time per patient per annum. Some of this time would have been offset by less time spent travelling, since 61% of nursing home consultations were done during the same visit as other consultations, compared with only 3% of community consultations (P<0.0001).*

Conclusion. *Our study suggests that nursing home residents do require a greater input from general practice than people of the same age and sex who are residing in the community. While consideration may be given to greater financial reimbursement of GPs who provide medical care to nursing home residents, consideration should also be given to restructuring the medical cover for nursing home residents. This would result in a greater scope for proactive and preventive interventions and for consulting with several patients during one visit.*

Keywords: general practice; nursing homes; consultation rates; elderly.

Introduction

THE elderly form an increasing proportion of the population. It has been predicted that 43% of those reaching 65 years of age will enter a nursing home at some point before they die.[1] The majority of people are admitted to nursing homes from hospital.[2] Over the past two decades there has been a decline in long-stay hospital beds, despite a rise in demand for institutional care.[3,4] This has resulted in a rapid increase in the numbers of voluntary and private nursing and residential homes.

As people move from hospital into nursing homes, the primary responsibility for their medical care is transferred to their general practitioners (GPs). Elderly patients are more prone to disease and disability and, therefore, make greater demands on the health service. In recognition of the extra workload generated by elderly patients, GPs currently receive a capitation payment of £41 for every patient on their list over 75 years of age, irrespective of their place of residence. It has been argued that patients residing in nursing homes make even greater demands than patients of a similar age who are residing in the community, and should, therefore, attract a higher fee. Data to substantiate or refute this claim have hitherto been sparse. Therefore, this study compared the general practice input of nursing home residents with that of an age, sex, and GP matched group residing in the community.

Method

Eight nursing homes located in different areas of Greater Glasgow Health Board were invited to participate in the study and all accepted. All residents in these nursing homes in January 1998 were recruited to the study. The Community Health Index (CHI) was used to identify two people residing in the community for each of the nursing home residents. The community residents were matched to the nursing home residents in that they had to be of the same sex, registered with the same GP, and within five years of their age. The general practice notes of the community group were tagged as being involved in the study.

Both groups were followed-up prospectively over a three-month period. The GPs completed questionnaires for every contact made over that period with members of the primary care team. The questionnaire recorded the nature of the contact, who had initiated it, the reason for it, and the duration, location, and outcome. The contacts with nursing home residents were validated using duplicated forms completed prospectively by the nursing home staff. The contacts with the community group were validated by a retrospective review of the GP and community nurse casenotes of a 10% sample of patients.

Because the numbers and lengths of contacts in each group produced highly skewed distributions, Mann–Whitney U and χ^2 tests were used to test the significance of observed differences. However, in comparing the relative workloads generated by the two groups, means rather than medians are quoted because the contribution made by large outliers is clinically significant.

Results

Three hundred and forty-five people were recruited from the nursing homes and 690 from the community. The median age of both nursing home and community residents was 84 years (interquartile range = 77 to 89 and 77 to 88 respectively). Six

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hundred and forty-seven (63%) patients were female. Overall, 267 (77%) of the nursing home residents had some form of contact with primary care over the study period, compared with only 331 (48%) community residents (χ^2 test, $P<0.0001$; Table 1). The mean numbers of total contacts per person were 3.2 and 1.4 respectively (Mann–Whitney U, $P<0.0001$). Of the 969 contacts with the community group, 131 (14%) were initiated by the patient and 216 (22%) by health care workers. This compared to only 14 (1%) and 66 (6%) respectively of nursing home contacts ($P<0.0001$). Nursing home staff initiated the vast majority (90%) of nursing home contacts.

Four hundred and sixty-nine (43%) of the contacts with nursing home residents involved face-to-face consultations with GPs, as did 429 (47%) of the contacts with the community group (Table 2). The mean numbers of GP face-to-face consultations per person in the two groups were 1.4 and 0.6 respectively (Mann–Whitney U, $P<0.0001$).

Overall, the most frequently cited reasons for face to face consultations with GPs were cardiovascular and respiratory symptoms (18%), urinary tract infections (7%), and dementia (7%) (Table 3). However, the former was a more frequent reason for consultations in the community group ($P<0.05$) and the latter two were more common in nursing home consultations ($P<0.01$). Over the period studied, GPs did not undertake any consultations with nursing home residents because of residents' incontinence or general frailty. By contrast, these conditions accounted for 52 (14%) consultations with community residents. Only three (1%) of the consultations with nursing home residents were classified as 'introductory visits' or 'courtesy calls'. None of the consultations with community residents were classified as such.

One hundred and two (22%) of the GP face-to-face consultations in nursing home residents were classified as emergencies, compared with only 67 (16%) of those in the community group ($P<0.01$). There was no statistically significant difference between nursing home and community residents in the percentage of GP face-to-face consultations resulting in referral (Table 4). Planned follow-up by the GP was less likely to occur following consultations with nursing home residents ($P<0.0001$) (Table 4). Ten (3%) of the nursing home residents died during the study, compared with two (0.3%) of community residents.

The mean lengths of face-to-face consultations with GPs was only 11 minutes in the nursing home group compared with 13 minutes in the community group (Mann–Whitney U, $P<0.0001$). However, the shorter consultations in the nursing home group were more than offset by the higher frequency of consultations. Therefore, the mean total contact times per patient over the three-month period were 20 minutes and 13 minutes respectively ($P<0.001$). Sixty-one per cent of nursing home consultations took place during the same visit as consultations with other patients compared with only 3% of community consultations ($P<0.0001$).

Discussion

Because of increased life-expectancy, the elderly now form a greater proportion of the population. The demand for institutional care doubled between 1980 and 1995.[3] However, the numbers of National Health Service (NHS) long-stay beds declined over this period. Therefore, this increased demand has been met through a rapid expansion of private and voluntary residential and nursing homes.[5] Only 10% of elderly disabled people are

Table 1. Frequency of contacts with nursing home and community residents.

GP contact	Nursing home residents *n* = 345	Community residents *n* = 690
0	78 (23%)	359 (52%)
1	64 (19%)	125 (18%)
2	37 (11%)	65 (9%)
3	41 (12%)	45 (7%)
4	27 (8%)	41 (6%)
5	23 (7%)	20 (3%)
6+	75 (22%)	35 (5%)

Table 2. Nature of contacts with nursing home and community residents

	Nursing home contacts n = 1104	Community contacts n = 969
Face-to-face consultations	489 (45%)	524 (58%)
GP visit	460 (43%)	284 (31%)
Community nurse visit	20 (2%)	95 (10%)
Combined GP/nurse visit	0 (0%)	1 (0%)
Attendance at surgery	9 (1%)	27 (3%)
Attendance at GEMS[a]	0 (0%)	117 (13%)
Other forms of contact	590 (55%)	386 (42%)
GP telephone advice	93 (9%)	25 (3%)
Prescription	497 (46%)	361 (40%)
Data missing	25	59

[a]General Practice Emergency Medical Service.

Table 3. Reason for GP face-to-face consultations.

Reason for GP visit	Nursing home contacts n = 469	Community contacts n = 429
Cardiovascular and respiratory disease	68 (16%)	80 (21%)
Urinary tract infection	42 (10%)	12 (3%)
Incontinence	0 (0%)	11 (3%)
Ear/eye problem	25 (6%)	17 (5%)
Skin problem	24 (6%)	13 (4%)
Cerebrovascular disease	13 (3%)	0 (0%)
Dementia	53 (12%)	2 (1%)
Fall	1 (0%)	20 (5%)
General frailty	0 (0%)	41 (11%)
Pain	40 (9%)	44 (12%)
Other infection	34 (8%)	53 (14%)
Miscellaneous	139 (32%)	83 (22%)
Data missing	30	53

Table 4. Outcome of GP face-to-face consultations.

Outcome	Nursing home consultations n = 469	Community consultations n = 429
No action	124 (28%)	121 (33%)
Referral	59 (14%)	52 (14%)
to hospital	58 (13%)	35 (9%)
to nurse	0 (0%)	10 (3%)
to other	1 (0%)	7 (2%)
Planned follow-up	43 (10%)	94 (25%)
Investigations	6 (2%)	9 (2%)
Change in medication	188 (43%)	88 (24%)
Other	17 (4%)	5 (1%)
Data missing	32	60

now resident in NHS beds compared with 76% in private and voluntary residential and nursing homes.[3] It has been predicted that 43% of those reaching 65 years of age will enter a nursing home at some point before they die.[1]

Between 1979 and 1989, social security payments to private and voluntary residential and nursing homes rose from £10 million to £1000 million.[6,7] Following the *Griffiths Report on Community Care*[8] and the subsequent White Paper,[9] new arrangements were introduced for the assessment of applicants who requested public funding for residential and nursing home care. Despite this, social security funding rose to £2.4 billion in 1993.[7]

More than half of the admissions to nursing homes come from hospital.[2] As elderly people move, in increasing numbers, from hospital into nursing homes, the responsibility for their clinical care is transferred to their GP. Elderly patients are more prone to disease and disability and, therefore, make greater demands on the health service. Since 1986, the residents of both residential and nursing homes have become more dependent, both in terms of physical dependency and cognitive impairment.[10] In recognition of the extra workload generated by elderly patients, GPs receive a capitation payment of £41 for every patient on their list over 75 years of age, irrespective of their place of residence or level of dependency. However, it has been argued that elderly nursing home residents make even greater demands than patients of a similar age resident in the community and should, therefore, attract a higher fee. Compared with those in residential care, nursing home residents are a similar age but are more likely to be physically dependent and cognitively impaired, and require greater assistance with activities of daily living.[10] Resource transfer has resulted in money being reallocated from the NHS to local authorities to facilitate the transfer of patients from long-stay beds to the community. This money provides financial support to nursing and residential homes. However, none of it goes directly to GPs.

The fact that nursing home residents are a more frail and dependent group does not necessarily translate into a greater workload for the GP. The presence of nursing home staff may also affect workload in a number of ways. Nursing home staff may reduce the number of consultations by screening out inappropriate calls or by dealing with a number of minor medical problems themselves. Conversely, members of staff may contact the GP at times when the patient is reluctant to do so.

The results of our study suggest that the net effect is that nursing home residents do nonetheless make greater demands on their GPs. These findings are in line with those of Kavanagh and Knapp and Knight who demonstrated that elderly disabled residents of nursing homes consulted twice as often as elderly disabled residents of residential homes.[4] However, place of occupancy was no longer a significant predictor of consultation after adjustment for casemix factors. This suggests that residing in a nursing home may be considered a marker of dependence and morbidity. Since the latter are not routinely measured, occupancy of a nursing home may be an appropriate proxy measure should remuneration systems be changed to include greater consideration of need or demand.

Our study demonstrated significant differences between the two groups in the clinical indications for consultation. Incontinence and general frailty accounted for 14% of consultations with community residents but accounted for none of the consultations with nursing home residents. This is likely to be due to the fact that nursing home staff can generally manage these conditions without assistance from primary care. The higher proportion of consultations owing to dementia in the nursing home group is likely to reflect the selection of patients for admission to nursing homes.

Some GPs are paid a retainer fee to provide general medical cover for nursing home patients. However, none of the GPs in this study participated in a fee-for-consultation service. Since the payment of a retainer fee is not linked to consultation rates, there is no reason to believe that this biased the results.

Our study confirmed the findings of Andrew[11,12] and Driver *et al*[13] who demonstrated that nursing home patients received more consultations per annum and longer consultations than the population as a whole. Andrew calculated that they required an additional 36 minutes per patient per annum which was comparable to our calculation of an additional 28 minutes.[11,12] It should, however, be noted that inclusion of travelling time may reduce this difference since nursing home patients were more often seen as part of a group visit. In our study, 61% of face-to-face consultations with nursing home residents took place during the same visit as consultations with other patients. This figure is similar to the 51% reported by Driver *et al*.[13]

During the study, deaths occurred significantly more often among nursing home residents than community residents. As a result, the total period of follow-up was slightly lower in the nursing home group. Hence, the differences demonstrated in consultation rates may, in fact, be an underestimate of the real differences that exist.

In our study, three of the nursing home consultations were introductory or courtesy calls. It is difficult to be certain whether these serve only a social function or are also a useful screening mechanism. It is equally difficult to determine whether undertaking multiple consultations during a visit to a nursing home represents efficient time-management or the addition of relatively low yield consultations with people who would not otherwise have required to be seen.

In a survey of 69 GPs with private nursing home residents on their lists, 12 (17%) provided medical care for less than 10 residents and only 16 (23%) provided care for a whole nursing home.[2] Only 20 (29%) GPs had a policy of routinely visiting nursing home residents, while the remainder only visited as required. Routine visits were more likely to be undertaken by GPs who provided care for the whole nursing home. Fifty-eight (84%) GPs reported that they were sometimes called out unnecessarily. The reasons cited for unnecessary calls were lack of knowledge owing to rapid turnover of staff and use of agency staff, and staff wishing to absolve themselves of blame should problems arise.

Our study suggests that nursing home residents do require greater input from general practice than people of the same age and sex who are residing in the community. While consideration might be given to provide greater financial reimbursement of GPs who provide medical care to nursing home residents, or to a redistribution of the current capitation fees, consideration should also be given to restructuring the medical cover for nursing home residents. If the medical care for all residents in a nursing home was provided by one practice, there would be greater scope for proactive and preventative interventions, and for consulting with several patients during one visit. However, this would have to be weighed against its impact on patient choice and continuity of care.

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