# Socioeconomic differences in general practice consultation rates in patients aged 65 and over: prospective cohort study

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## Abstract

**Objective** To examine socioeconomic differences in general practice consultation rates among patients aged 65 years and over.
**Design** Secondary analysis of data from the fourth national survey of morbidity in general practice.
**Setting** 60 general practices in England and Wales.
**Subjects** 71 984 people aged 65 years and over.
**Main outcome measures** Annual contact rates and home visiting rates with general practitioners and practice nurses.
**Results** Social class differences in contact rates were greatest in 65-74 year olds, with rates 23% higher in patients from social class V than in class I (4.82 *v* 3.93 per person). In 75-84 year olds there was no clear association between social class and contact rates, and in people aged ⩾85 years contact rates were highest in patients from class I. Home visiting rates were twice as high in patients from class V as in patients from class I (1.38 *v* 0.66 per person). Contact rates were 17% higher in people living in communal establishments and 8% higher in those living alone than in those living with others but not in a communal establishment. 66% of contacts with patients in communal establishments and 26% of those with patients living alone were in patients' homes compared with 18% with those living in standard accommodation. These differences persisted after adjustment in a generalised linear model.
**Conclusions** Elderly people show socioeconomic differences in consultation rates. The extra workload generated by elderly people living alone and in communal establishments suggests additional payments to general practitioners are needed.

## Introduction

The health of elderly people and their requirements for health and social care are becoming increasingly important issues throughout the world.[1] In the United Kingdom a royal commission has recently investigated the future options for long term care for elderly people.[2] The NHS is also grappling with the problem of how it will meet the health needs of an increasingly ageing population. Despite their high rates of use of health services elderly people are often excluded from clinical trials and from studies examining the use of health services.[3] For example, although elderly people have the highest rates of use of primary care services, relatively little is known about socioeconomic differences in general practice consultation rates among this group. Using data from the fourth national survey of morbidity in general practice, we examined the effects of socioeconomic status and type of accommodation on consulting patterns among patients aged 65 years and over.

## Subjects and methods

The fourth national survey of morbidity in general practice was carried out in September 1991 to August 1992.[4] Its main objective was to examine the workload and pattern of disease in general practice by the age, sex, and socioeconomic status of patients. Sixty general practices in England and Wales took part in the survey, providing a 1% sample of the population (502 493 patients, 468 042 person-years at risk). The sample was representative of the population of England and Wales for most social characteristics, but because relatively few practices from inner cities took part ethnic minority groups and people living alone were underrepresented.

*Recording and validation of morbidity data*—During the morbidity survey, general practitioners and nurses recorded information on all face to face contacts with patients. Reason for consulting and the place of contact were entered into patient records on the practice computer. Every consultation was given a diagnostic Read code and the data were transferred to the Office of Population Censuses and Surveys. Validation studies at the end of the study showed that 96% of surgery contacts and 95% of contacts at home had been recorded by the practices and that 93% of diagnoses had been recorded correctly.

*Socioeconomic data*—Socioeconomic data were collected on 83% of the patients in the survey by trained field workers. For all patients in the survey, social class was derived from information on occupation and employment status. When patients had retired from regular work, their main occupation before retirement was recorded and used to assign social class. For married or cohabiting women and for widows, social class was based on that of their partner or former husband respectively. An indicator of "living arrangement" was derived by combining information from the socioeconomic questionnaire on housing tenure, whether the patient was the sole adult in the household, and the number of children in the household. Elderly patients were grouped into four categories: living alone, in

communal accommodation, in standard accommodation (with other people but not in a communal establishment), and not known.

*Statistical methods*—Not all patients were registered with a practice for the entire study period, and annual contact rates were adjusted to take this into account. We calculated relative risks with 95% confidence intervals for contact rates and home visiting rates adjusted for social class, type of accommodation, age group, and sex using a generalised linear model with a Poisson error and a log link, with proportion of year in study as an offset.

## Results

Elderly patients accounted for 14% of all patients in the morbidity survey (71 984/502 493) and for 21% of contacts (317 175/1 530 835) with a doctor or nurse. Eighty two per cent of elderly patients consulted a general practitioner or practice nurse at least once during the survey compared with 78% of patients in the overall sample. Annual contact rates were about 50% higher in elderly patients than in other age groups (rate per person: 4.64 in elderly people, 3.05 in children, and 3.03 in people aged 16-64 years). Contact rates increased from 4.32 per person in 65-74 year olds to 5.04 in 75-84 year olds and 5.09 in ⩾85 year olds.

### Differences with social class

Contact rates were highest in patients from social classes IV and V (table 1). However, examining all elderly people together masked differences between age groups. Socioeconomic differences in contact rates were greatest in 65-74 year olds, with rates 23% higher in patients from class V than in those from class I. In patients aged 75-84 years there was no clear association between social class and contact rates, and in people aged 85 years and over rates were highest in patients from class I.

Home visiting rates were twice as high in patients from social class V as in patients from social class I (table 2). As with contact rates, social class differences were greatest among people aged 65-74 years, in whom rates were 140% higher in class V than in class I. In people aged 85 years and over, there was no clear association between home visiting rates and social class.

### Differences by type of accommodation

Contact rates were 17% higher in elderly people living in communal establishments and 8% higher in elderly people living alone than in those living in standard accommodation (table 3). A similar pattern was seen when the rates were stratified by age group, except for people aged ⩾85 years, in whom rates among those living alone were lower than rates in the other two groups.

Patients living in communal establishments or living alone were also more likely to require a home visit. Sixty six per cent of contacts with patients living in communal establishments and 26% of contacts with elderly people living alone took place in patients' homes compared with 18% of contacts with those living in standard accommodation. The percentage of elderly patients requiring home visits increased with age in all social classes.

### Multifactorial analysis

After adjustment, social class and type of accommodation remained independent predictors of both contact rates and home visiting rates but less strongly than in the univariate analysis (table 4). Differences were larger for home visiting than for total contacts. Patients in social class V had an adjusted home visiting rate over 50% higher than patients in class 1, and patients living in communal accommodation had a home visiting rate twice as high as patients living in standard accommodation.

**Table 1** Annual contact rates per person with general practitioners and practice nurses in elderly patients by age and social class

| Social class | No of people | Age group (years) | | | All elderly people |
|---|---|---|---|---|---|
| | | 65-74 | 75-84 | ⩾85 | |
| I (professional) | 2 913 | 3.93 | 5.14 | 6.52 | 4.41 |
| II (managerial) | 11 811 | 4.53 | 5.58 | 5.84 | 4.96 |
| IIIN (skilled non-manual) | 8 927 | 4.53 | 5.28 | 5.34 | 4.87 |
| IIIM (skilled manual) | 16 015 | 4.71 | 5.34 | 5.73 | 4.96 |
| IV (semiskilled) | 10 128 | 4.83 | 5.40 | 5.24 | 5.05 |
| V (unskilled) | 4 738 | 4.82 | 5.14 | 5.55 | 5.02 |
| Other | 6 800 | 4.46 | 5.07 | 5.38 | 4.96 |
| Unknown | 10 652 | 2.01 | 3.17 | 3.38 | 2.63 |
| All groups | 71 984 | 4.32 | 5.04 | 5.09 | 4.64 |

**Table 2** Annual home visiting rates per person by age and social class

| Social class | Age group (years) | | | All elderly people |
|---|---|---|---|---|
| | 65-74 | 75-84 | ⩾85 | |
| I (professional) | 0.30 | 1.00 | 3.62 | 0.66 |
| II (managerial) | 0.44 | 1.41 | 2.99 | 0.92 |
| IIIN (skilled non-manual) | 0.51 | 1.31 | 3.12 | 1.02 |
| IIIM (skilled manual) | 0.57 | 1.48 | 3.26 | 1.01 |
| IV (semiskilled) | 0.67 | 1.68 | 3.03 | 1.18 |
| V (unskilled) | 0.72 | 1.67 | 3.58 | 1.38 |
| Other | 0.94 | 2.15 | 3.47 | 2.09 |
| Unknown | 0.56 | 1.64 | 2.40 | 1.23 |
| All groups | 0.57 | 1.57 | 3.08 | 1.16 |

**Table 3** Annual contact rates per person by age, accommodation, and place of contact

| Age group and accommodation | No of people | Total | Place of contact | | |
|---|---|---|---|---|---|
| | | | Surgery | Home | Other |
| 65-74: | | | | | |
| Standard | 25 965 | 4.54 | 3.75 | 0.52 | 0.28 |
| Living alone | 8 064 | 4.85 | 3.91 | 0.64 | 0.31 |
| Communal | 563 | 4.69 | 2.17 | 2.15 | 0.37 |
| Unknown | 4 994 | 2.01 | 1.24 | 0.55 | 0.21 |
| 75-84: | | | | | |
| Standard | 11 335 | 5.20 | 3.56 | 1.30 | 0.35 |
| Living alone | 8 079 | 5.43 | 3.53 | 1.58 | 0.32 |
| Communal | 1 567 | 5.64 | 1.55 | 3.65 | 0.45 |
| Unknown | 3 812 | 3.17 | 1.22 | 1.63 | 0.32 |
| ⩾85: | | | | | |
| Standard | 1 887 | 5.67 | 2.30 | 2.98 | 0.39 |
| Living alone | 2 292 | 5.25 | 2.04 | 2.88 | 0.33 |
| Communal | 1 573 | 5.84 | 1.09 | 4.29 | 0.46 |
| Unknown | 1 853 | 3.35 | 0.67 | 2.37 | 0.31 |
| All elderly people: | | | | | |
| Standard | 39 187 | 4.79 | 3.62 | 0.86 | 0.30 |
| Living alone | 18 435 | 5.15 | 3.51 | 1.33 | 0.31 |
| Communal | 3 703 | 5.58 | 1.45 | 3.69 | 0.44 |
| Unknown | 10 659 | 2.63 | 1.14 | 1.22 | 0.26 |

## Discussion

This study confirms that the socioeconomic differences in the use of general practice services identified in younger patients persist into later life.[5] Contact rates were 14% higher, and home visiting rates twice as high, in patients from social class V than in those from class

**Table 4** Annual contact rates and home visiting rates: relative risks with 95% confidence intervals adjusted for social class, type of accommodation, age, and sex

| | Relative contact rate | Relative home visiting rate |
|---|---|---|
| Social class: | | |
| I | 1.00 | 1.00 |
| II | 1.10 (1.08 to 1.12) | 1.26 (1.20 to 1.32) |
| IIIM | 1.05 (1.03 to 1.07) | 1.25 (1.19 to 1.31) |
| IIIN | 1.12 (1.10 to 1.14) | 1.46 (1.40 to 1.54) |
| IV | 1.11 (1.09 to 1.13) | 1.55 (1.48 to 1.63) |
| V | 1.08 (1.06 to 1.10) | 1.57 (1.49 to 1.65) |
| Other | 0.99 (0.98 to 1.02) | 1.57 (1.49 to 1.65) |
| Unknown | 0.85 (0.77 to 0.94) | 2.03 (1.74 to 2.38) |
| Accommodation: | | |
| Standard | 1.00 | 1.00 |
| Living alone | 1.03 (1.02 to 1.04) | 1.13 (1.11 to 1.15) |
| Communal | 1.05 (1.03 to 1.06) | 2.03 (1.98 to 2.08) |
| Unknown | 0.64 (0.58 to 0.71) | 0.71 (0.61 to 0.82) |
| Age group: | | |
| 65-74 | 1.00 | 1.00 |
| 75-84 | 1.17 (1.16 to 1.18) | 2.53 (2.49 to 2.58) |
| ⩾85 | 1.21 (1.19 to 1.22) | 4.19 (4.10 to 4.27) |
| Sex: | | |
| Male | 1.00 | 1.00 |
| Female | 1.07 (1.06 to 1.08) | 1.11 (1.09 to 1.13) |

I. However, the differences changed with age, and in those aged 85 years and over contact rates were greatest in patients from class I.

The finding of a higher contact rate in people from social class I among people aged ⩾85 years was surprising. Possibly people from social class V who survive into later life are a selected group of relatively healthy individuals.[6–8] In contrast, social class I may contain less healthy individuals who have survived because of better social conditions earlier in their lives. Another explanation is that after 65 the relative financial and social advantages of patients from social class I may gradually be eroded.[9] Alternatively, very elderly patients from social class V may be underusing primary care services—for example, because a higher proportion are being treated in hospitals. Finally, the finding may be an artefact due to the limitations of using an occupation derived measure of social class in very elderly people, most of whom would have retired more than 20 years before the study began.

Our findings confirm that elderly patients living alone or in communal establishments generate more workload than other elderly patients. Not only did they generate more contacts but a much higher proportion of contacts were home visits (28% in patients living alone, 66% in patients living in communal establishments, and 18% in patients living in standard accommodation). The Jarman underprivileged area score includes a census based measure based on elderly people living alone.[10] The Jarman score and its variables have been criticised because they were based on general practitioners' opinions rather than on objective measures of workload.[11] Our findings provide support for maintaining a measure based on elderly people living alone in any revision of the Jarman index. Practices with a high proportion of elderly patients living in communal establishments will also have much higher workloads. Hence, a higher capitation fee or other funds may be required to compensate general practitioners for this extra workload.

**Key messages**

- Little is known about the effect of socioeconomic status on use of general practice services by elderly people
- In this national study contact rates were 14% higher and home visiting rates 109% higher in elderly patients from social class V than in patients from class I
- Contact rates were 17% higher in elderly people living in communal establishments and 8% higher in elderly people living alone than in those living in standard accommodation
- 66% of contacts with patients in communal establishments and 26% with those living alone were in patients' homes compared with 18% of contacts with those in standard accommodation

There is relatively little previous work with which the main findings of this study can be compared. Aylin et al reported that home visiting rates increase with age and are highest for elderly people but did not examine socioeconomic differences among elderly people.[12] Kavanagh and Knapp examined contact rates among disabled elderly patients living in institutions in Britain.[13] The mean annual number of contacts per person among these patients was greater than we found (8.9 versus 5.6), and a greater proportion of contacts were home visits (94% versus 66%). However, the sample of patients was not representative of all residents of institutions, and the consultation rates were based on patients' or carers' recall, which may have led to bias.

The provision and funding of care for elderly people are important issues for society. The number of elderly people in the general population, and particularly living in institutions, has increased over the past 15 years. The lack of good information on the use of healthcare services by these groups is an important deficiency.[14 15] Further work is required to quantify the impact of the increase in the elderly population on primary, hospital, and social care services.

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