PSSRU/CHE SURVEY OF RESIDENTIAL AND NURSING HOMES

Residential and Nursing Homes for Elderly People: One Sector or Two?

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ABSTRACT

Overlaps in disability levels among individuals in residential care and nursing homes have been reported in a number of studies, although the two types of home are distinguished legally in terms of levels of care to be provided, and in the levels of public funding available for individuals in each type of home (£160 per week in non-statutory residential homes and £255 per week in nursing homes from April 1991). This paper examines the extent of such overlaps, using data collected in a national survey of private and voluntary homes in 1986-87, and compares other characteristics of residents and patients, the physical and organisational features of residential and nursing homes, and charges to residents and patients. The paper examines the relationship between charges to residents and patients and resident/patient dependency, sources of financial support, physical characteristics of homes, geographical location and care practices. The paper also includes comparisons with local authority residential homes, using data from a recent survey by the Department of Health Social Services Inspectorate, and explores the implications of the results of the analyses for the relative levels of residential care and nursing home provision (currently 70:30 for non-statutory homes).

1. INTRODUCTION

This paper presents some comparisons of residential care and nursing homes, based on data collected in a national survey conducted during the autumn of 1986 and the spring of 1987 by the Personal Social Services Research Unit (PSSRU) at the University of Kent and the Centre for Health Economics (CHE) at the University of York. The survey was commissioned by the former Department of Health and Social Security (DHSS) against a background of a substantial growth in residential care and nursing homes managed by independent organisations, particularly private organisations, and in the amounts of public funding for people living in such homes:

- Places in independent residential homes for elderly people and people with a physical handicap in Great Britain increased by 80%, from 80000 to 140000, between 1980 and 1986.

- Places in independent residential homes for people with a mental handicap or a mental illness in Great Britain doubled, from 7000 to 14000, between 1980 and 1986.

- Beds for long-stay elderly patients in nursing homes in England and Wales increased by 130%, from 19000 to 44000, between 1982 and 1986.

- Supplementary benefit (now income support) payments to people in independent residential care and nursing homes in Great Britain rose from £10 million to £459 million between December 1979 and February 1986, a 26-fold increase in real terms. Such payments now exceed £1270 million.

(From DHSS, Scottish Office and Welsh Office statistics, DHSS (1987) and Minister of State for Social Security and Disabled People (1990).)

In contrast to the growth in private sector residential care for elderly people and people with a physical handicap, the number of places in local authority and voluntary homes changed little during the 1980s, and the number of places in these homes, relative to the population aged 75 and over,

declined, as shown for England and Wales in figure 1. However, figure 1 also shows that the relative number of places in all types of residential home in England and Wales remained fairly constant up to 1983, at approximately 70 places per thousand persons aged 75 and over, before increasing to over 80 places per thousand persons aged 75 and over by 1988. In nursing homes in England and Wales, the relative number of places for long-stay elderly patients grew from 6 per thousand elderly people in 1982 to 22 per thousand in 1989, as illustrated in figure 2, and accounted for nearly all of the growth in the total number of places in independent nursing homes and hospitals during this period.

[Figures 1 and 2 here]

The survey was commissioned by the DHSS as one of a number of research studies into the payment of supplementary benefit (now income support) to residents and patients in independent, non-statutory residential and nursing homes, and, in particular, acted as a more detailed follow-up to a survey conducted by Ernst and Whinney in 1985 which examined the relationship between charges and costs (Ernst and Whinney, 1986). The survey was designed to examine charges to residents and patients, facilities provided by homes and the characteristics of residents and patients, and was designed to be compatible with a survey of local authority, voluntary and private residential homes for elderly people conducted by the PSSRU in 1981 and a follow-up interview survey of proprietors in one-third of the respondent private homes (see Darton, 1986). In 1988, following the PSSRU/CHE survey, a comparable survey of 42 local authority residential homes was undertaken by the Social Services Inspectorate of the Department of Health (1990).

The PSSRU/CHE survey included residential care homes, which are registered and inspected by local authority social services departments, and nursing homes, which are registered and inspected by health authorities, and covered homes catering for elderly people, people with a mental handicap, people with a mental illness and people with a physical handicap, although over 90 per cent of nursing homes included elderly people in their clientele. The survey was conducted in a sample of 855 establishments in 17 local authority areas in England, Scotland and Wales. The design of the survey is described in Darton and Wright (1990). A purposive sampling procedure,

including stratification by type of area, was employed for the selection of local authority areas, and health authorities falling largely within the selected local authorities were included in the sample. A two-stage approach to the sampled homes was used, in which a questionnaire was posted to the home, to be completed by the proprietor or manager, followed by a personal interview, based on the methodology of the 1981 PSSRU survey and the interview follow-up conducted in private homes. 606 establishments responded, although this total includes separate questionnaires which were received from the two separate units of one home. The overall response rate, excluding 85 homes found to be out of the scope of the survey, was 79 per cent.

Residential care and nursing homes are regulated by the Registered Homes Act 1984, which superseded separate Acts of Parliament covering the two types of home. Residential care homes are distinguished from nursing homes in the 1984 Act as providing board and personal care only, whereas nursing homes are intended to accommodate patients requiring constant or frequent daily nursing care. However, in practice the boundary between nursing care and personal care and attention is often unclear (DHSS, 1982). Although higher average levels of disability have been found for individuals in nursing homes compared with individuals in residential care homes (Ernst and Whinney, 1986; Humphreys and Kassab, 1986), overlaps in disability levels for individuals in the different types of home occur (Power, 1989; Wade et al., 1983). Individuals in residential care homes may have levels of disability which would be more suitably catered for in nursing homes (Cooper, 1985), while individuals in nursing homes may be sufficiently fit to be catered for in residential care homes (Challis and Bartlett, 1987; Primrose and Capewell, 1986). In order to enable homes to provide personal and nursing care, and thus greater continuity of care for an individual with deteriorating health, the 1984 Act included a provision for the dual registration of homes as both residential and nursing homes.

This paper is concerned with comparisons between nursing homes and residential homes for elderly people. At the time of the survey, few studies, with the exception of the study by Ernst and Whinney, and small-scale studies such as those by Challis with Day (1982) and Wade et al. (1983), had collected information about both residential care and nursing homes. Although the survey included nursing homes catering for elderly people, people with a

mental handicap, people with a mental illness and people with a physical handicap, nearly all of the nursing homes surveyed included elderly people among their clientele, as noted above, and thus the most appropriate comparisons are with residential homes for elderly people. The initial classification of homes by client group was based on the lists of homes used to select the sample, but information collected from respondent homes indicated that a number of homes, principally residential homes for people with a physical handicap, would be more appropriately classified as principally accommodating another client group; where appropriate, homes have been reclassified accordingly. The comparisons contained in this paper cover the physical characteristics of the homes, the characteristics of residents and the charges levied, and include comparisons with the characteristics of residents in local authority homes in the 1988 study by the Social Services Inspectorate of the Department of Health. The differences between the sectors are then used to identify some policy implications for the provision of continuing care of elderly people.

2. PHYSICAL CHARACTERISTICS OF THE HOMES

Table 1 presents information from the survey relating to the characteristics of homes.

[Table 1 here]

On average, nursing homes were larger than residential homes in both the private and voluntary sectors, and voluntary homes were larger than private homes, although the variation between the sizes of voluntary homes was also greater than the variation between private homes. Mean occupancy rates in voluntary residential homes and in private and voluntary nursing homes were similar (93 to 94 per cent), but a little lower in private residential homes (89 per cent).

The majority of private residential and nursing homes were run as small businesses, as has been reported in previous studies, for example, Phillips et al. (1988) and Challis and Bartlett (1987), and in the reviews of

private healthcare published by Laing and Buisson (1988b, 1990). Ninety-six per cent of private residential homes and 87 per cent of private nursing homes were run by proprietors who ran one or two homes. None of the private homes was run by organisations with more than 20 homes, in contrast to the voluntary sector, in which 26 per cent of residential homes were run by organisations with more than 20 homes. Two of the 15 voluntary nursing homes for which the information was available were also run by organisations with more than 20 homes.

In both the private and the voluntary sectors, residential and nursing homes used very similar types of building, despite the greater average size of nursing homes. In the private sector just over 75 per cent of homes were formerly private residences and only a few homes were purpose-built as residential or nursing homes. In the voluntary sector, just over half the homes were formerly private residences and about 30 per cent were purpose-built as residential or nursing homes.

Voluntary residential and nursing homes were more likely to provide a lift or use one storey for residents or patients than private residential and nursing homes, although more problems of mobility occurred among nursing home patients than among residents of residential homes, as shown below. About one-third of private homes had no lift and used more than one storey for residents, compared with about 10 per cent of voluntary homes.

The 1973 DHSS Building Note for residential accommodation for elderly people (DHSS, 1973) recommended that most of the beds in residential homes for elderly people should be in single rooms, with a maximum of 20 per cent in double rooms, and the Code of Practice for Residential Care (Centre for Policy on Ageing, 1984) stated that single rooms would normally be considered preferable to shared rooms and that special reasons should apply if more than two people occupied a room. Two DHSS circulars issued in 1986 (DHSS, 1986a, 1986b) emphasised that the design recommendations related principally to new buildings, and indicated that no specific ratio of single to double rooms was appropriate in every case, although the second circular also reminded registration authorities of the recommendations in the Code of Practice concerning the occupancy of bedrooms by more than two people. There are no specific recommendations for bedroom sizes in nursing homes (Laing and

Buisson, 1988a), and about a quarter of the beds in nursing homes were in rooms with three or more beds, compared with about 15 per cent of the beds in residential homes. In the private sector, residential and nursing homes had similar proportions of beds in single bedrooms, but in the voluntary sector residential homes had a greater proportion of beds in single bedrooms than nursing homes. Among both residential and nursing homes, voluntary homes had a greater proportion of beds in single bedrooms and fewer beds in double bedrooms than homes in the private sector.

All residential homes provided one or more common rooms for residents, and nearly all provided one or more dining rooms. Nearly all nursing homes provided one or more common rooms, but fewer provided dining rooms, particularly in the private sector, in which only 58 per cent of homes had dining rooms. In nursing homes catering for patients with relatively high levels of disability, a dining room may only be accessible to a minority of patients and therefore not be provided by the owners of the home.

3. CHARACTERISTICS OF RESIDENTS AND PATIENTS

Tables 2 and 3 present information from the survey relating to the characteristics of residents and patients. Table 2 also contains comparative information about residents in 42 local authority homes included in the 1988 study by the Social Services Inspectorate of the Department of Health (1990).

[Table 2 here]

3.1. Personal Characteristics

Overall, 80 per cent of people in the independent residential homes and in nursing homes were female, although private nursing homes had a greater proportion of females and voluntary nursing homes had a greater proportion of males. Seventy-four per cent of residents in the survey of local authority homes were female. The average ages of residents in residential care were similar to those of patients in private nursing homes, but patients in

voluntary nursing homes tended to be younger. Males tended to be younger than females in all types of independent home, particularly in nursing homes. In private nursing homes the average age of male patients was 76 years, compared with 84 years for female patients, and in voluntary nursing homes the average ages of male and female patients were 59 years and 74 years respectively.

3.2. Length of Stay

Mean lengths of stay were substantially shorter for residents in private homes than in voluntary homes. In the private sector the mean length of stay in residential homes was 21 months, compared with 25 months in nursing homes, a statistically significant difference ($p < 0.001$), although the difference is due to a larger proportion of private residential homes registered in 1985 and 1986, just before the survey. In the voluntary sector the mean lengths of stay were 52 months and 49 months in residential and nursing homes respectively. The average length of stay for residents in local authority homes lay between that for private and voluntary homes.

3.3. Source of Admission

Nursing homes had a higher proportion of former hospital patients than residential homes, and private homes had a higher proportion of former hospital patients than voluntary homes for both residential and nursing homes. Conversely, residential homes had a higher proportion of people previously living at home than nursing homes, and voluntary homes had a higher proportion of people previously living at home than private homes. Among individuals who had been living at home, a higher proportion of residents in residential homes had been living alone. The distribution of sources of admission for residents in local authority homes was similar to that for residents in private residential homes.

3.4. Dependency Characteristics

As noted in the introduction to this paper, previous studies have

reported overlaps in disability levels for individuals in residential and nursing homes, and similar overlaps were found for the homes included in the survey. However, overall levels of dependency were substantially higher among patients in nursing homes than among residents in independent residential homes, and residents in voluntary homes tended to be less dependent than residents in private homes, the difference between private and voluntary homes being larger among residential homes than for nursing homes. Differences between nursing homes and residential homes were greater for levels of physical disability, incapacity in self-care tasks and levels of incontinence than for levels of mental confusion or antisocial behaviour, although levels of confusion were significantly higher among patients in private nursing homes than among residents of private residential homes, and antisocial behaviour was significantly more prevalent in voluntary nursing homes than in voluntary residential homes. To summarize:

- 14% of private and 17% of voluntary nursing home patients could walk at least 200 yards outdoors, compared with 36% of people in private and 45% in voluntary residential homes.

- 22% of private and 19% of voluntary nursing home patients were chair- or bedfast, compared with 4% of people in private and 3% in voluntary residential homes.

- 15% of private and 21% of voluntary nursing home patients needed assistance with all six self-care tasks, compared with 5% of people in private and 4% in voluntary residential homes.

- 38% of nursing home patients were incontinent, compared with 19% of people in private and 16% in voluntary residential homes.

- 63% of private and 43% of voluntary nursing home patients were mildly or severely confused, compared with 48% of people in private and 38% in voluntary residential homes.

Levels of physical disability, incontinence and confusion among residents of the local authority homes in the study conducted by the Social Services Inspectorate were intermediate to those recorded for private

residential and private nursing homes, while the levels of antisocial behaviour reported were substantially higher than in private residential or nursing homes. However, the proportions of individuals in local authority homes recorded as requiring assistance with self-care tasks were generally similar to those recorded for private residential homes. In the 1981 PSSRU survey of residential homes, residents in private homes and local authority homes had similar levels of dependency in terms of physical abilities, continence and mental state, and were more dependent than residents in voluntary homes (Darton, 1984). The increase in the relative level of dependency among residents of local authority homes compared with residents of private homes between the 1981 survey and the 1986 PSSRU/CHE survey is consistent with the changes in levels of provision illustrated in figure 1.

The differences in overall levels of dependency among residents and patients in private and voluntary residential and nursing homes are summarized in table 2. The DHSS classification is based on mobility, continence, mental state (confusion), and the capacity for self-care in washing, bathing, dressing, feeding and using the toilet, and was originally developed for the 1970 Census of Residential Accommodation (DHSS, 1975). The classification is defined in Davies and Knapp (1978). Sixty-nine per cent of patients in private nursing homes and 63 per cent of patients in voluntary nursing homes were classified as appreciably or heavily dependent, compared with 41 per cent of residents in private residential homes and 29 per cent of residents in voluntary residential homes.

The Index of Independence in Activities of Daily Living (Katz et al., 1963, 1970) is based on six functions: bathing, dressing, toileting, transfer, continence and feeding. The amended version of the Index of ADL is designed to provide an approximation to the classification of physical disability used by the Audit Commission (1985), as follows:

Amended Index of ADL	**Audit Commission**
No dependent functions	Less than moderate
Dependent in bathing only	Moderate
1-4 dependent functions, can transfer and feed	Severe
Dependent in transfer or feeding	Very severe

Individuals in the very severe category would be likely to require 24 hour nursing care and individuals in the severe category would be likely to require residential care in the absence of an adequate package of community care, while the majority of individuals in the moderate category could be cared for in their own homes, given appropriate support. The Index of ADL only provides an approximation to the classification used in the Audit Commission study and, in particular, does not include abilities to perform domestic tasks or take account of the availability of appropriate support in the community. In addition, the Index of ADL and the Audit Commission classification do not take account of behaviour disorder or dementia, although the Audit Commission report recognises that individuals with these characteristics may be judged to require residential or other forms of institutional care. However, given these caveats, the figures in table 2 suggest that alternative forms of provision might be suitable for a proportion of residents in residential homes, and for a smaller proportion of nursing home patients. Furthermore, 35 per cent of residents in private residential homes and 53 per cent of residents in voluntary residential homes were mentally alert and not disruptive and, at most, only required assistance with bathing, and the corresponding proportions for nursing homes were 17 per cent for private homes and 28 per cent for voluntary homes. In contrast, individuals who were dependent in transferring or feeding, or who were dependent in one to four other functions and who suffered mild or severe confusion or exhibited disruptive behaviour, accounted for 64 per cent of private nursing home patients, 55 per cent of voluntary nursing home patients, 36 per cent of residents in private residential homes and 24 per cent of residents in voluntary residential homes.

3.5. Financial Support

As shown in table 3, about 50 per cent of the residents in residential and nursing homes received financial support from supplementary benefit. Approximately 40 per cent of residents in private and voluntary residential homes and private nursing homes financed their care from their own private means, but in voluntary nursing homes only 22 per cent paid the charges from their own finances, while 28 per cent of residents were reported to be financed

by a local authority or a health authority, although for England and Wales the corresponding figures were 29 per cent and 9 per cent respectively.

[Table 3 here]

4. CHARGES TO RESIDENTS AND PATIENTS

4.1. Average Weekly Charges

Table 4 shows the average charges to residents and patients in the homes in the survey. At the time of the survey the supplementary benefit board and lodging limits for elderly people were £125 per week for residential care homes and £170 per week for nursing homes outside London, and £17.50 per week higher in the Greater London area (Secretary of State for Social Services, 1987).

[Table 4 here]

Mean charges to residents were higher in private than in voluntary residential homes, and were higher in private than in voluntary nursing homes in London, although the number of patients in voluntary nursing homes in London was relatively small. Mean charges in nursing homes were higher than in residential homes, as would be expected from the relative levels of supplementary benefit board and lodging allowances as well as the legal requirement that nursing homes employ qualified nursing staff. Staffing ratios in nursing homes were also higher than in residential homes (Darton and Wright, 1990).

For residents supported by supplementary benefit alone, without topping up by other organisations or individuals, mean charges exceeded the corresponding supplementary benefit allowances in private residential homes and in private and voluntary nursing homes, but mean charges for such residents in voluntary residential homes fell below the supplementary benefit allowances, particularly outside London.

Mean charges were higher for residents supported privately than for those supported by supplementary benefit alone in private residential homes and in private and voluntary nursing homes. Mean charges to residents supported by supplementary benefit with topping up were higher than for those receiving supplementary benefit alone, with the exception of private nursing homes.

In private nursing homes patients in single bedrooms tended to pay the highest charges, but in private residential homes mean charges to residents occupying bedrooms of different sizes were very similar. In voluntary residential homes mean charges to residents occupying single or double bedrooms were very similar, but mean charges were higher for larger bedrooms, due to higher charges for larger bedrooms in a small number of homes and, outside London, higher overall charges in voluntary homes which had larger bedrooms.

In residential homes, mean charges were higher for more dependent residents. In private nursing homes outside London there was little difference in the mean charges to patients with lower or higher levels of dependency, and in voluntary nursing homes mean charges were slightly higher for less dependent patients. In private nursing homes in London mean charges were higher for less dependent patients, although the number of patients in such homes was relatively small, and the difference does not reach the 5 per cent level of statistical significance.

4.2. Factors Associated with Variations in Charges

The comparisons in table 4 present the mean charges for the different categories of one variable at a time. However, such analyses do not take account of joint relationships between different variables. For example, the mean charges to residents and patients supported by private means in private residential homes and private nursing homes were higher than the mean charges to residents and patients supported by supplementary benefit without topping up by other organisations or individuals, and residents and patients supported by private means were more likely to occupy single bedrooms (Darton et al., forthcoming). However, in private residential homes mean charges to residents

occupying bedrooms of different sizes were very similar. In order to take account of the joint effects of different variables on charges, this section presents multiple regression analyses of the factors associated with variations in charges.

The 1981 PSSRU survey provided information for analyses of the variations in the costs of local authority homes (Darton and Knapp, 1984, 1986), and, together with the interview follow-up, it also provided information for analyses of the factors associated with variations in the charges of private homes (Judge, 1986; Judge et al., 1986). The theoretical bases for cost and charge functions are discussed by Knapp (1981) and Judge (1986). In each case the purpose is to develop a statistical model of the relationship between the cost of providing a service, or the charge made for the service, and the outputs of the service and the prices of the resources employed. Various factors relating to the characteristics of homes, the characteristics of residents or patients and the characteristics of the areas in which the homes are situated will have implications for the costs of providing care, and hence the level of charges to residents or patients, and these factors can be included in the statistical model. As in the 1981 survey, the survey of private and voluntary residential care and nursing homes did not collect information about the final outputs for residents or patients (Davies and Knapp, 1981), and thus the analyses do not allow for variations between homes in the psychological well-being and the quality of life of the residents or patients.

Judge (1986) notes that the characteristics of homes likely to influence charges include capacity and throughput, the design and physical characteristics of the home, management and staffing arrangements, product characteristics, and financial factors.

For the analyses presented in this paper, capacity was measured by the number of beds currently available for residents and patients, and the square of the number of beds currently available was included to examine whether a non-linear, U-shaped relationship existed between charges and the size of homes, which would demonstrate economies of scale for larger homes. Throughput was measured by the occupancy of the home on the survey date, and also by resident/patient turnover. In order to reduce the influence of very

high levels of turnover, the logarithm of each turnover variable was used in the analysis.

The design and physical characteristics examined in the analyses included whether the home was a purpose-built residential or nursing home, the proportion of beds in single bedrooms, whether the home either provided a lift for residents or patients or all accommodation for residents or patients on a single floor.

Product characteristics include the types of care and extra services provided to residents or patients and to non-residents. A variable identifying whether the home provided services to non-residents of the home was included in the analyses. No direct measure of the quality of care could be obtained in the survey but, in a separate exercise, registration officers were asked to supply a simple overall rating of various aspects of the quality of the environment within the homes. However, this information was not obtained from all the health and local authorities included in the survey. In order not to eliminate too many cases from the analyses, the relationship between charges and these variables has been examined by comparing the residuals from the initial analyses, that is, the unexplained part of the charges, with these variables in a second-stage regression analysis.

In order to take account of homes for elderly people providing services for several groups of residents or patients, with potential differences in charges to individuals in the different groups, the analyses for residential homes included variables identifying whether the home was registered for or catered for clients other than elderly persons, and the analyses for nursing homes included the variable identifying whether the home catered for clients other than elderly persons. In addition, a variable identifying dual registered homes, which would be likely to have different charges for different groups of clients, was also included.

Characteristics of staff examined in the analyses included the proportion of nursing and care staff who had nursing qualifications and the proportion who had social work qualifications, and whether or not the proprietors or managers had nursing or social work qualifications.

Management factors included in the analyses included the relative proportion of proprietors among the total number of staff, including proprietors, of the home, whether the home was the only home run by the proprietors or organisation, and whether the proprietors or managers lived in or near the home. For private homes, the greater involvement of proprietors in the day-to-day running of the home, with less reliance on paid staff, may be expected to be negatively related to charges.

Financial factors examined in the analyses relating to the particular circumstances of the home, as distinct from general area-related factors, included variables aimed at capturing the financial burden on the proprietors or organisation running the home. The factors examined included the time the organisation had run the home, whether the home had been inherited, whether the home had been acquired with a private loan or mortgage, probably at a favourable interest rate, and whether recent alterations had been made to the accommodation, with a probable need to increase borrowing. The logarithm of the length of time the organisation had run the home was used in the analysis in order to reduce the influence of very large values of the corresponding untransformed variable.

Resident characteristics examined included the proportion of residents or patients supported by different sources of finance, the proportion of more dependent residents or patients, and whether the home accommodated both male and female residents or patients or just one sex. Dependency was measured using the classification developed for the 1970 Census of Residential Accommodation, described above, with appreciably or heavily dependent residents or patients being classified together as dependent. In addition, the proportions of residents or patients with severe confusion, behaviour problems, symptoms of anxiety, or symptoms of depression were also included in the analyses.

Area factors which were likely to be related to the levels of costs of inputs for homes, and hence their charges, were included in the analyses, as follows: population sparsity, female economic activity rate, the unemployment rate, household income, an index of dwelling prices, the average dwelling price, and the level of car ownership in the population. However, with the exception of population sparsity, these variables were only available

for larger areas than local authority areas. Some were available for standard regions, and others were available for local authority areas outside Greater London but only for Greater London as a whole. In addition, the variation of charges between the standard regions covered by the survey was also examined, using dummy variables for the different regions, except the North region.

The dependent variable in the regression equations was defined as the mean charge to the residents or patients in the home on 31st October 1986. Detailed definitions of the independent variables tested in the regression equations are given in Darton et al. (forthcoming).

Table 5 summarises the results of the regression analyses. Separate analyses have been undertaken for private and voluntary homes after initial analyses showed a clear difference between private and voluntary homes for elderly people and people with a mental illness. In order to capture the differences between private and voluntary homes, a substantially increased set of variables, allowing for interaction effects, would have to be examined in the analyses, and the number of cases available was not sufficient for such analyses. No results are presented for voluntary nursing homes because too few cases were available for analysis. Variables were retained in the equations if the t test of statistical significance for the associated regression coefficient reached the 0.05, or 5 per cent, level of significance. As noted above, missing information for the assessments by registration officers necessitated using a two-stage approach for the analyses. The increase in the number of cases reported in table 5 for the second stage compared with the first is due to missing information in variables not included in the first stage of the analysis, and therefore not included in the calculation of the residual mean charge.

[Table 5 here]

For private residential homes, mean charges were positively related to resident dependency and to the proportion of residents supported by private means, and were higher in Scotland than elsewhere. Mean charges were negatively related to the proportion of residents supported by supplementary benefit without topping up by other organisations or individuals, and were lower in homes with a high proportion of proprietors relative to the total

number of staff or which had been in operation under the current management for longer, and in areas with higher rates of unemployment and, due to a negative correlation with unemployment, higher levels of car ownership. Excluding the area variables from the analysis introduced the dummy variables representing Greater London, with a positive coefficient, and Wales and the West Midlands, with negative coefficients, and excluded Scotland, but the overall explanatory power of this equation was poorer than that presented in the table. In the regression of the unexplained component of the mean charge on the registration officer assessment variables, 9 per cent of the variation in the residual component could be explained by the assessment of the physical condition of the home and the relationship between the home and the registering authority, although the latter variable was inversely related to the mean charge.

For voluntary residential homes, mean charges were higher for homes which accommodated a higher proportion of residents supported by supplementary benefit with topping up and for dual registered homes, and were lower in homes in Wales and the South East, outside London. There was no significant relationship between the residuals from the regression equation and any of the registration officer assessment variables.

For private nursing homes, mean charges were higher in areas of low unemployment, and were lower for dual registered homes than for homes registered as nursing homes only. Excluding the unemployment rate from the equation introduced the dummy variables for Greater London and for the South East, with positive coefficients, but also excluded the variable identifying dual registered homes, and the resulting equation had much poorer explanatory power. Twenty-seven per cent of the residual component of the mean charge could be explained by the assessment of the physical condition of the home.

5. DISCUSSION

The information presented in this paper clearly indicates that, while all residential and nursing homes cared for people with a wide range of disabilities, it is possible to identify a certain degree of specialisation

within each sector. Nursing homes, especially those in the private sector, cared for a greater proportion of severely disabled people than residential homes and, within the residential care sector, local authority homes cared for a greater proportion of severely disabled people than homes in the independent sector, while private residential homes cared for a higher proportion of severely disabled people than voluntary homes. Thus, the present array of facilities would appear to provide a spectrum of care which could meet the different levels of dependency found in the population of elderly people, rather than just one or two types of care.

As noted in the introduction to this paper, there have been several discussions of the overlap in the levels of disability of residents in continuing care facilities for elderly people. This overlap has sometimes been interpreted as a sign of 'misplacement' or the inefficient use of resources; for example, the response of the Social Care Association (1988) to the report of the Wagner Committee (1988) stated that 'many residents at present in care homes would in other circumstances be in nursing homes', while Challis and Bartlett (1987) and Primrose and Capewell (1986) indicated that a sizeable minority of nursing home patients may be sufficiently fit to be in residential homes. In turn, the Audit Commission (1985) considered that the apparently high proportion of independent people accommodated in local authority homes indicated 'inappropriate placement', and an inefficient use of resources if such people could be supported equally effectively at home at lower cost.

However, there are perfectly good reasons for people with similar levels of disability receiving different forms of care. First, some people might, for personal reasons, prefer one form of care to another. Second, continuity of care is often an important consideration. Thus, some people may enter or be placed in nursing homes when their disability is not severe, in anticipation of the need for more intensive care as age and frailty increase. Similarly, people who become more disabled in residential care may be maintained there because that is now their home, and a move to a nursing home, for example, could be distressing. Third, the level of disability is only one of a number of factors influencing the choice of care.

The importance of continuity of care has long been recognised.

Primrose and Capewell (1986) noted how nursing homes provided opportunities for more intensive care to be delivered as their patients became older and more dependent. The Wagner Committee recommended that the registration and inspection system for residential and nursing homes should be united, instead of being split between health and local authorities, in order to facilitate and encourage continuity of care. The development of dual registration of homes for residential and nursing care has also contributed to this aim, although such homes form only a small proportion of total provision. For example, about 6 per cent of independent sector places were in dual registered homes in 1988 (Laing and Buisson, 1988b), and a disproportionate number of these places were in the voluntary sector.

The factors which govern the choice people make to enter residential or nursing home care are complex. These include not only an elderly person's perception of his or her ability to cope, but also the abilities of carers to provide continued care and professional opinion about risk due to depression or confusion, the risk of falls, indications of self-neglect and social isolation (Bradshaw and Gibbs, 1988). In a study by Neill et al. (1988), the decision to enter local authority residential care was based on personal feelings about coping with increasing disability and anticipation of further deterioration, the loneliness of living alone, unsatisfactory housing accommodation in some cases and, in other cases, a wish to avoid burdening exhausted caregiving relatives or to move away from hostile relationships.

The new arrangements stemming from the National Health Service and Community Care Act 1990 should encourage the careful placement of people in appropriate forms of care. The implications of these arrangements may be to place an increasing burden on residential homes or to increase the transfer of people from one home to another. If more people are maintained in their own homes, rather than entering independent or local authority residential care, those who do enter care are likely to be moderately or severely disabled. Under the new arrangements, local authority residential care, which currently accommodates a relatively larger proportion of severely disabled people, will be less likely to be used than private or voluntary residential care because it suffers a relative cost disadvantage. Consequently, the pressure to take more dependent people will fall primarily on the independent sector, primarily on private homes. In turn, owners of private residential homes will have an

incentive to charge higher fees, to contemplate dual registration, to convert from residential to nursing home care, or to transfer their most dependent residents to nursing home care. Thus, if continuity of care is to be achieved, there will be a need to expand nursing home or similar care unless residential homes are able to maintain larger proportions of very frail elderly people.

There are two further implications if the supply of residential places is reduced. First, choice will be restricted. Second, local authorities, in collaboration with health authorities, will have to maintain more elderly people in their own homes at levels of disability which will require an intensity and mix of services which they have rarely delivered in the past.

The continuing care of elderly people which previously was shared by residential and nursing homes and hospitals will come under close review in the next year or so, with mounting pressure to provide more places in nursing homes. The evidence from the PSSRU/CHE survey has indicated that the present spectrum of facilities in the independent and public sectors provides opportunities for consumer choice, continuity of care and appropriate payments for residents accommodated. The loss of any part of that spectrum could place heavy financial and organisational pressures on community care. Therefore, considerable attention needs to be given to the whole system of continuing care for elderly people before any present element is reduced or eliminated.

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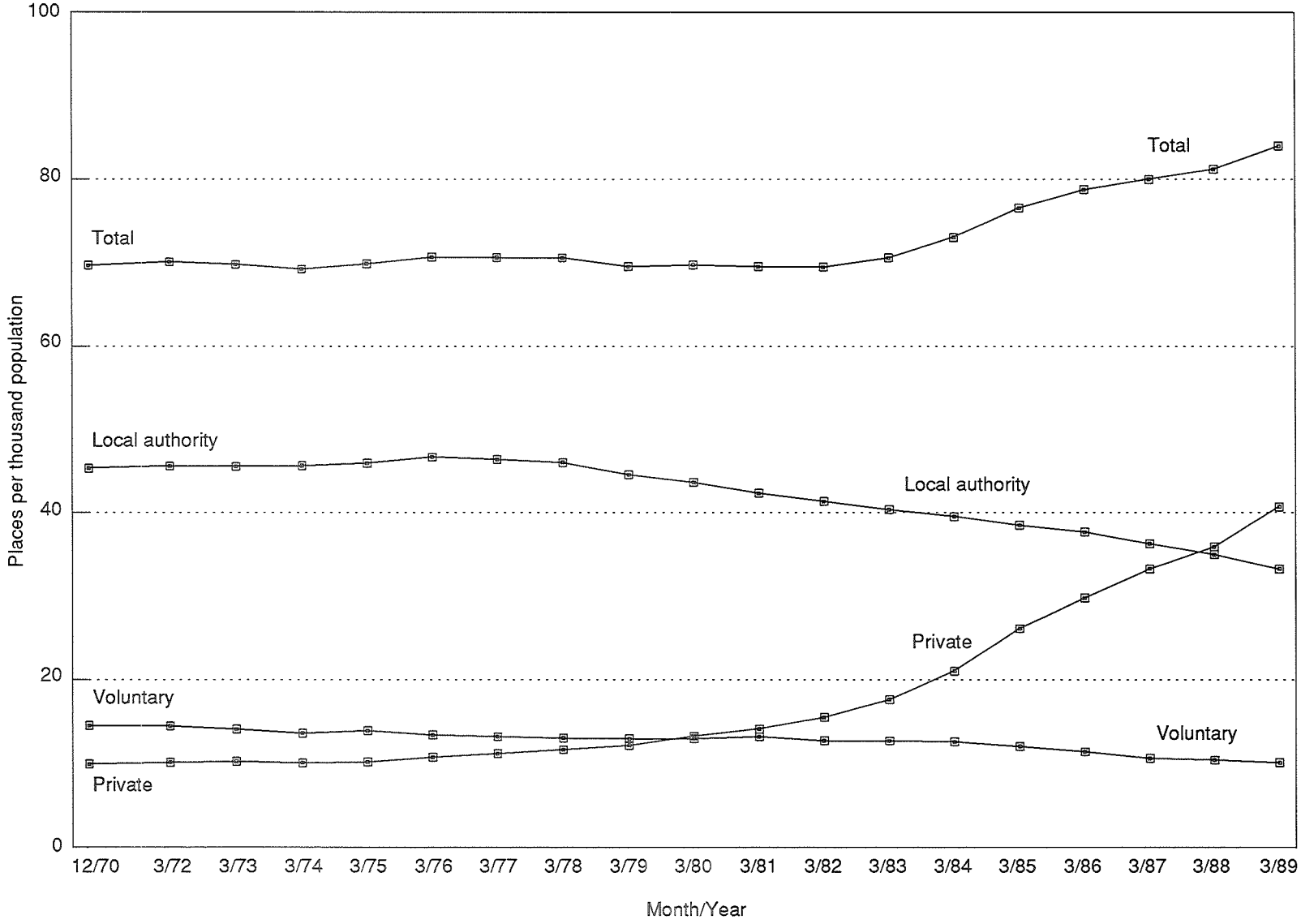
Figure 1.

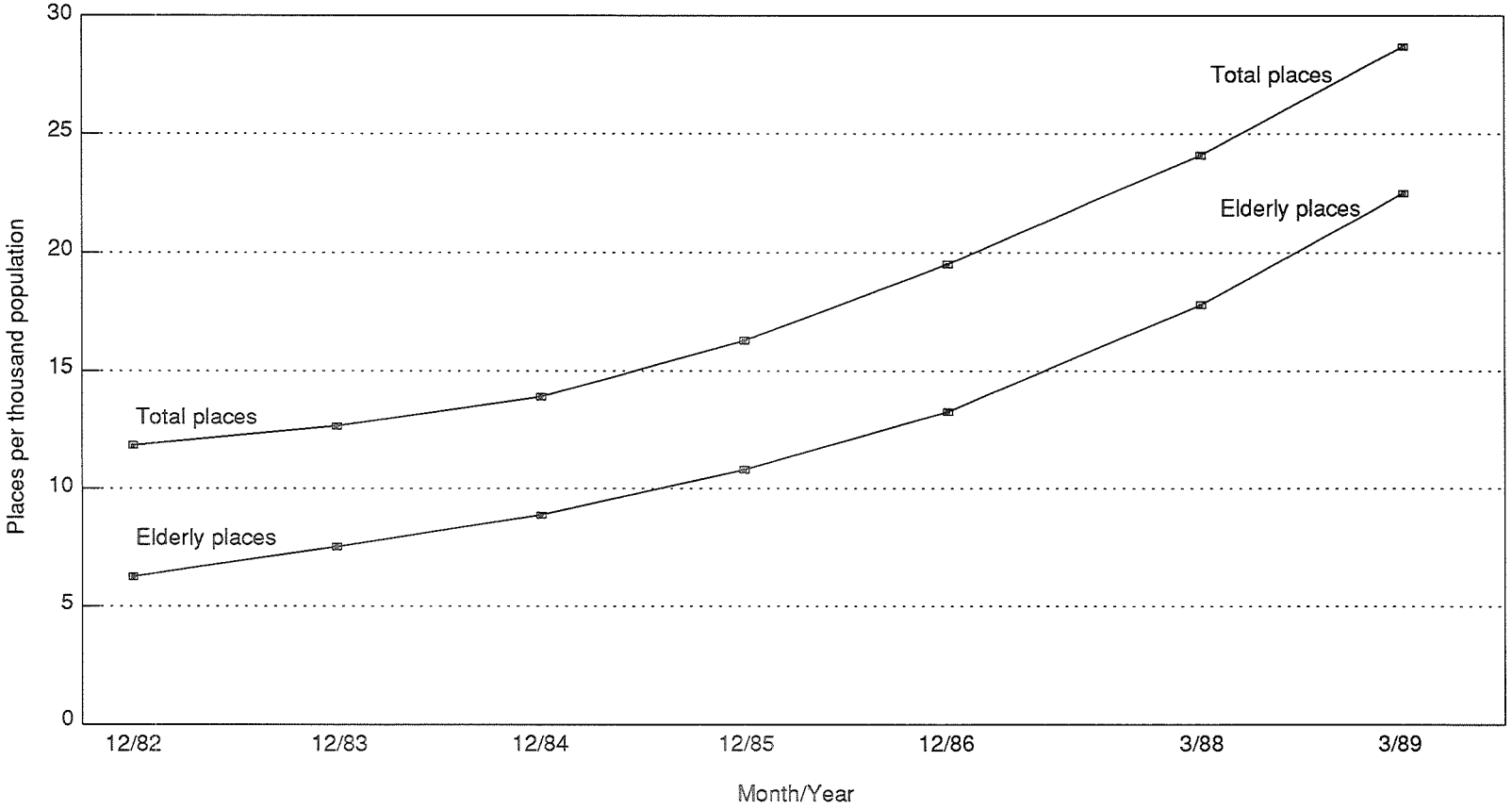
Residential Places for Elderly People and People with a Physical Handicap in England and Wales, 1970-89, per 1000 Population Aged 75 and Over



Sources:
Central Statistical Office, Annual Abstracts of Statistics.
Department of Health and Welsh Office statistics.

Figure 2.

Nursing Home Places in England and Wales, 1982-89, per 1000 Population Aged 75 and Over



Sources:
Central Statistical Office, Annual Abstracts of Statistics.
Department of Health and Welsh Office statistics.

Table 1.

Physical Characteristics of the Homes

Information	Residential homes		Nursing homes	
	Private	Voluntary	Private	Voluntary
Mean no. of places available	17	30	25	41
No. of homes in organisation (%)				
1	85	37	69	33
2	11	8	18	20
3-5	3	11	7	27
6-10	0	16	4	0
11-20	<1	2	2	7
More than 20	0	26	0	13
Original function of building (%)				
Purpose-built home	3	30	2	29
Private residence	78	56	77	57
Other/not known	19	14	21	14
Lift and no. of storeys (%)				
Lift available	62	86	64	60
No lift, 1 storey	5	4	0	27
No lift, more than 1 storey	32	10	36	13
Bedroom sizes (% of beds)				
Single bedrooms	40	58	41	50
Double bedrooms	46	26	34	22
3 or more beds	14	16	24	28
Common room provision (%)				
No common room	0	0	4	6
One common room	44	23	53	24
More than 1 common room	56	77	43	71
Dining room provision (%)				
No dining room	7	0	42	24
One dining room	82	90	55	65
More than 1 dining room	10	10	4	12
Total number of homes	206	70	54	18

Note:
1 Percentages are rounded to whole numbers and may not sum to 100 due to rounding. The symbol '<1' is used to denote non-zero percentages of under one per cent.

Table 2.

Characteristics of Residents and Patients

Information	Residential homes			Nursing homes	
	Local authority	Private	Voluntary	Private	Voluntary
Sex distribution (% females)	74	79	81	84	70
Mean age	83	82	83	83	70
Length of stay (%)					
Under 1 year	31	44	24	41	28
1-2 years	19	25	19	21	16
2-3 years	14	14	15	16	9
3-5 years	16	10	16	14	17
5 years and over	19	6	27	8	29
Source of admission (%)					
Hospital	30	32	12	45	28
Living alone	29	32	51	19	27
Living with others	19	14	17	14	22
Another home	11	15	9	17	20
Sheltered housing	8	3	3	2	2
Other/not known	2	4	8	3	<1
Mobility (%)					
Walk outdoors	24	36	45	14	17
Walk indoors, including stairs	8	11	8	8	8
Walk indoors on level/with aids	50	31	32	26	27
Walk indoors with help	9	12	6	20	9
Mobile in wheelchair	9	6	6	10	20
Chair or bedfast	-	4	3	22	19
Self-care (% needing assistance)					
Wash face and hands	19	19	14	36	32
Bath or wash all over	73	66	61	82	73
Dress	30	32	21	56	51
Feed self	5	6	5	19	25
Use WC	22	25	16	51	44
Transfer (bed/chair)	21	23	16	50	47
Incontinence (%)	24	19	16	38	38
Mild/severe confusion (%)	59	48	38	63	43
Mild/severe disruption (%)	38	23	12	25	22
DHSS 4-category dependency[2] (%)					
Minimal/limited	-	59	71	31	37
Appreciable/heavy	-	41	29	69	63
Amended Index of ADL[3] (%)					
No dependent functions	-	31	38	14	22
Dependent in bathing	-	29	35	18	18
1-4 dep. fns/can transfer & feed	-	16	12	15	12
Dependent in transfer or feeding	-	23	16	53	48
Total number of individuals	1683	3048	1926	1206	456

Notes:
1 Percentages are rounded to whole numbers and may not sum to 100 due to rounding. The symbol '<1' is used to denote non-zero percentages of under one per cent.
2 See Davies and Knapp (1978).
3 See Katz et al. (1963, 1970).

Table 3.

Sources of Financial Support of Residents and Patients

Information	Residential homes		Nursing homes	
	Private	Voluntary	Private	Voluntary
Financial support (%)				
Private means	40	43	45	22
SB Board & Lodging	41	39	29	20
SB Board & Lodging, topped up	13	11	17	27
Local authority/health authority	7	7	9	28
No fees	<1	<1	<1	2
Not known/missing[2]	(5)	(13)	(13)	(<1)
Total number of individuals	3048	1926	1206	456

Notes:
1 Percentages are rounded to whole numbers and may not sum to 100 due to rounding. The symbol '<1' is used to denote non-zero percentages of under one per cent.
2 Excluded from computation of percentage distribution of sources of financial support.

Table 4.

Mean Weekly Charge to Residents and Patients, 1986/87

Information	Residential homes		Nursing homes	
	Private	Voluntary	Private	Voluntary
Mean weekly charge				
London	163	130	222	188[1]
Outside London	138	116	195	202
Mean charge - financial support				
London				
Private means	170	120	237[1]	200[2]
SB Board & Lodging	149	140	211[2]	177[1]
SB B & L, topped up	163[1]	118[2]	228[2]	182[2]
Outside London				
Private means	144	112	205	192[1]
SB Board & Lodging	133	114	183	196[1]
SB B & L, topped up	141	135	181	218[1]
Mean charge - bedroom size				
London				
Single bedroom	163	128	234[1]	201[1]
Double bedroom	165	129	226[2]	192[2]
3 or more beds	164[1]	133[1]	198[1]	175[1]
Outside London				
Single bedroom	140	112	215	200
Double bedroom	137	115	182	210[1]
3 or more beds	139	133	184	201
Mean charge - dependency				
London				
Minimal/limited	156	124	231[1]	189[2]
Appreciable/heavy	172	137	219[1]	187[1]
Outside London				
Minimal/limited	136	113	195	203
Appreciable/heavy	142	125	196	199
Number of individuals				
London	473	533	120	96
Outside London	2394	1186	963	325

Notes:
1 Based on less than 100 individuals.
2 Based on less than 30 individuals.

Table 5.

Regression Equations for Mean Weekly Charge to Residents/Patients

Independent variables	Residential homes		Nursing homes
	Private	Voluntary	Private
Constant	289.4**	111.1**	271.7**
Dual reg. homes dummy variable		43.61**	-30.78*
No. of proprietors/total no. staff	-32.09**		
Time organisation running home (log)	-2.498*		
Proportion supp. by private means	14.19*		
Proportion rec. SB without topping up	-10.92*		
Proportion rec. SB with topping up		44.26**	
Proportion appreciable/heavy dependency	21.83**		
Unemployment rate (%)	-5.023**		-5.622**
No. of cars/1000 population	-0.2317**		
Remainder of South East dummy variable		-19.97*	
Wales dummy variable		-65.12**	
Scotland dummy variable	18.80**		
F	20.25**	9.19**	30.15**
R^2	0.50	0.43	0.62
Adjusted R^2	0.48	0.38	0.60
n	169	54	40
Reg. officer assess. dummy variables			
Constant	-1.175		-12.92**
Good physical condition	7.286**		19.81**
Good physical care			
Good social care			
Good atmosphere			
Good rels with reg. authority	-5.793*		
High prop./man. involvement			
F	5.16**		13.57**
R^2	0.09		0.27
Adjusted R^2	0.07		0.25
n	107	34	39

Notes:
1 The table presents the (unstandardized) regression coefficient for each variable included in the equation and the level of statistical significance given by a t test: * $0.05 > p \geq 0.01$, ** $0.01 > p$.
2 No regression equations are presented for voluntary nursing homes due to insufficient numbers for analysis.