

Survey of Admissions to Residential Care: Analyses of Six Month Follow-Up

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Abstract

In the autumn of 1995, the PSSRU began a longitudinal survey of elderly people admitted to residential and nursing home care with local authority financial support. The survey was commissioned by the Department of Health, initially to help to improve the Standard Spending Assessment (SSA) formulae for allocating funds to local authorities for the support of elderly people. Information was collected from social workers in 18 local authorities in England about the circumstances of admission and the level of dependency for 2544 elderly people admitted during a three-month period from mid-October 1995. Follow-up studies have been planned for six, 18, 30 and 42 months after admission, when the managers of the homes will be asked to provide information on mortality or the current location of the elderly people, and, for those still resident in the home, information on dependency corresponding to that collected on admission. If the elderly person moves to another home, the new home will be asked to provide the same information. A separate exercise is being conducted to follow up those elderly people who returned to a private household or who were discharged to hospital.

This paper presents results from the follow-up six months after admission, and includes information about those admitted to a private household or who were discharged to hospital. The paper includes a section on the relationship between the characteristics of individuals included in SSA analyses and their location at six months. Information on location or mortality at six months was obtained for 84 per cent of the original sample; of these, 65 per cent were still in the original home and 24 per cent had died. Higher death rates were found for nursing homes (37 per cent) than for residential homes (14 per cent). In general, those who had died were older and were more likely to be male and to have been admitted from hospital, and they were substantially more dependent on admission. Approximately 50 per cent of survivors were classified in the same category of physical dependency and mental confusion at six months as at admission. Slightly higher proportions had higher levels than lower levels of physical dependency at six months, while the converse was the case for mental confusion. However, similar proportions of individuals exhibited sufficiently large increases (22 per cent) or decreases (21 per cent) in physical dependency to suggest a genuine change over six months. For elderly people who had left residential or nursing home care, the main reasons recorded for their departure were: their acceptance of the home; changes in their functional abilities; and the ability of the home to provide the appropriate care, such as for those exhibiting

behavioural problems associated with dementia.

1. Introduction

This paper presents results from the first follow-up of individuals included in the 1995 PSSRU Survey of Admissions to Residential and Nursing Homes. The residential and nursing homes to which elderly people were admitted in autumn 1995 were contacted six months later and home managers were asked to complete a questionnaire to record the location of the elderly person and, if they were still resident in the home, information on their level of dependency. The information on dependency was designed to correspond to the information recorded in the admissions survey. For those elderly people who were no longer in the home, respondents were asked to record their destination and the date of departure or death. If an elderly person had moved to another residential or nursing home, the new home was contacted and asked to complete the same questionnaire. Provision was made for a further move to another home during the six-month period, and two such cases were recorded. A separate exercise was conducted to follow up those elderly people who left the home to return to a private household or who were discharged to hospital without their bed in the home being kept open. Information about these cases was obtained from the local authority which made the original assessment for admission, and included information on dependency for individuals who were still alive and who had not returned to their former residential or nursing home.

The information presented in this paper is based on 2544 individuals included in the admissions survey, following the exclusion of a small number of cases found to be out of scope. The cases have not been weighted for the purposes of these analyses.

The original survey in autumn 1995 included a check on the location of the elderly people one month after admission. One hundred and seventy two individuals were reported to have died and 65 individuals were reported as having moved to another location within one month of admission. At the six month follow-up, information was obtained for 1920 of the 2544 individuals included in the admissions survey, including two cases reported to have died within one month of admission, although the information on location at the six month follow-up was incomplete for three cases. For 47 of the 65 individuals who were reported as having moved to another location within one month of admission, no information was obtained at the six month follow-up, and the information obtained on the location of these cases one month after admission has been used as the location at six months. Thus the information on location at the six month follow-up is based on 2134 cases, 84 per cent of the 2544 individuals included in the admissions survey. The cases who were not followed up at six months included 44 individuals who refused to be included in the follow-up and eight cases who were untraceable. No information is available on the reasons for nonresponse for the remaining (majority of) cases.

2. Location of Elderly People at Six Month Follow-Up

Tables 1 and 2 present information on the location of the elderly people at the six month follow-up, after adjusting for information obtained one month after admission. As noted above, information on the location of individuals at six months was obtained for 2134 of the 2544 individuals included in the admissions survey (84 per cent). Of these 2134 cases, 65 per cent were still in the original home, 24 per cent had died, 4 per cent had moved to a different home, 3 per cent had moved to a private household and 3 per cent had entered hospital. Ninety-two individuals had moved to a different home, and for 42 per cent of these individuals information was obtained from the new home.

Individuals admitted to a nursing bed in autumn 1995 were more likely than those admitted to a residential bed to have died by the six month follow-up, and less likely to be in the same home or to have moved elsewhere, either to hospital or to a private household. Among the individuals who were followed up, 37 per cent of those originally admitted to a nursing bed had died, compared with 14 per cent of those originally admitted to a residential bed, while 57 per cent of those originally admitted to a nursing bed and 72 per cent of those originally admitted to a residential bed were still in the same home, or temporarily absent.

3. Length of Stay of Elderly People who had left the Home

Table 3 shows the mean number of days in residential or nursing home care for those individuals who had left the original home, and table 4 and figure 1 show the distribution of length of stay. Since the six month follow-up information was not always obtained exactly six months after the original admission, the mean length of stay is based on those individuals who had been in the home for no longer than six months. For those elderly people who had moved to a different home, the mean length of stay represents the period in the original and any intervening homes.

The average length of stay for those elderly people who had left the home within six months was 58 days for those in nursing beds and 67 days for those in residential beds; 38 per cent of those in nursing beds had left within the first four weeks, compared with 32 per cent for those in residential beds. Among those who had left during the six months, 85 per cent of those in nursing beds had died, compared with 52 per cent of those in residential beds. The preponderance of deaths among those who left nursing homes is illustrated in figure 1.

For elderly people who had died, the mean length of stay was 57 days for those in nursing beds and 66 days in residential beds. Similarly, the

mean length of stay for those admitted to hospital was shorter for those originally admitted to nursing beds (50 days) than to residential beds (70 days). Conversely, the mean length of stay for those who moved to a private household was shorter for those originally admitted to residential beds (47 days) than to nursing beds (65 days), although the latter figure was only based on 14 individuals.

4. Demographic and Dependency Characteristics of Individuals on Admission

Tables 5, 6 and 7 present information on the demographic and dependency characteristics of individuals on admission, according to their location at the six month follow-up. Table 7 presents three aggregate measures of dependency: a modified version of the Katz Index of Activities of Daily Living, based on six self-care tasks; the Barthel Index of ADL, based on ten functions; and an aggregate measure of dependency originally devised by the Department of Health and Social Security for the 1970 Census of Residential Accommodation, which includes mobility, self-care functions, continence and mental confusion. For the Barthel Index a higher score (maximum 20) corresponds to a lower level of dependency. Table 8 presents the results of logistic regression analyses comparing the characteristics of individuals on admission according to whether or not information was obtained at the six month follow-up, and tables 9 and 10 present the results of similar analyses for individuals for whom information was obtained, according to their location at the six month follow-up. Tables 8, 9 and 10 present estimated odds ratios, comparing the odds for each category of each independent variable with the reference category for that variable (the odds ratio = 1 for the reference category). For elderly people who had not been living in private housing during the eight weeks prior to admission, such as those admitted from hospital or from another residential or nursing home, information was not obtained on household composition or household tenure, and such cases are not included in the logistic regression analysis. For elderly people admitted from hospital, approximately 20 per cent were excluded from the analyses for this reason, while for people admitted from another residential or nursing home the corresponding figure was just under 60 per cent.

Separate comparisons of the characteristics of individuals for whom information was not obtained at the six month follow-up with those for all individuals in the admissions survey, presented in tables 5, 6 and 7, indicate that they were more likely to have been in owner-occupied accommodation and less likely to have lived alone, and were more likely to have had higher levels of dependency. However, the logistic regression analyses presented in table 8 indicate that, when the characteristics of the individuals were taken in combination, only the differences in levels of dependency between those for whom information was not obtained at the six month follow-up and those for

whom information was obtained exceeded the 10 per cent level of statistical significance. When separate analyses were conducted for those admitted to residential and nursing beds, no differences were statistically significant at the 10 per cent level for individuals admitted to residential beds; while for those admitted to nursing home beds, those for whom no information was obtained were somewhat more likely to be mildly confused ($0.10 \geq p > 0.05$).

In general, the elderly people who had died during the period up to the six month follow-up were older and were more likely to be male and to have been admitted from hospital than those who were still in a residential or nursing home or who had moved to a private household. They were also substantially more dependent on admission in terms of mobility, the need for assistance with self-care tasks, continence and mental confusion. The logistic regression analyses presented in table 9 indicate that, when the characteristics of the individuals were taken in combination, the difference in the proportion of deaths between males and females exceeded the 5 per cent level of statistical significance and the difference for different levels of dependency exceeded the one per cent level of statistical significance. Individuals from miscellaneous sources of admission were also more likely to have died ($0.05 \geq p > 0.01$), after taking account of the effects of the other demographic and dependency variables, although the proportion of individuals from these sources of admission was small, and individuals admitted from hospital or who had been in public sector rented accommodation were somewhat more likely to have died ($0.10 \geq p > 0.05$). When separate analyses were conducted for those admitted to residential and nursing beds, the differences between individuals with different levels of dependency were maintained, although only for the highest category of dependency for individuals in nursing beds. Individuals admitted to residential beds who had been in public or private sector accommodation were somewhat more likely to have died and those who had been admitted from another residential home were somewhat less likely to have died ($0.10 \geq p > 0.05$). In the case of admissions to nursing beds, females and individuals admitted from miscellaneous sources of admission were somewhat more likely to have died ($0.10 \geq p > 0.05$).

Individuals who had moved to a different residential or nursing bed, in either the same or a different home, or who had moved to a private household, tended to be younger than those remaining in the same bed, and were more likely to have been admitted from a domestic household or sheltered housing, particularly those who moved to a residential bed or to a private household. Individuals who had moved to a different residential home were also more likely to be male, while individuals who moved to a private household were less likely to be male. Tables 6 and 7 indicate that those individuals who moved to a residential bed or to a private household were less dependent on admission. Overall, those admitted to hospital had similar levels of dependency on admission to those remaining in the same bed, but were generally more mobile and had less need for assistance in undertaking self-

care tasks, but were more likely to be incontinent. Those who moved to a nursing bed were more dependent on admission, being less mobile and requiring more assistance in undertaking self-care tasks, but were similar in terms of continence and mental confusion to those remaining in the same bed.

The logistic regression analyses presented in table 10 compare the characteristics of individuals who had left residential or nursing home care at the six month follow-up, other than those who died, with the characteristics of the individuals who remained. The results shown in the table indicate that individuals who left were significantly less likely to have been in public sector rented accommodation than in owner-occupied accommodation ($0.05 \geq p > 0.01$) and were significantly less likely to have had problems of mental confusion ($0.05 \geq p > 0.01$), but were significantly more likely to have been admitted from miscellaneous sources of admission ($0.05 \geq p > 0.01$). Individuals with a Barthel score between 5 and 8 were significantly less likely to have left residential or nursing home care than those with a score of more than 12, but separate analyses for those admitted to residential and nursing beds indicated that this was a feature of nursing beds only. The relationship between mental confusion and the likelihood of leaving residential or nursing home care occurred for both residential and nursing beds, while those admitted to residential beds from miscellaneous sources of admission were somewhat more likely to have left ($0.10 \geq p > 0.05$), and those admitted to nursing beds aged 75 to 79 were less likely to have left than those aged 65 to 69 ($0.05 \geq p > 0.01$).

5. Characteristics of Individuals Included in SSA Analyses

Table 11 presents the characteristics of individuals which were found to be significantly related to admission to residential or nursing home care in the SSA analyses, according to the location of the elderly person at the six month follow-up. The characteristics which were statistically significantly related to admission in the SSA analyses are shown in table 21 of PSSRU Discussion Paper 1217/3. Although claiming housing benefit was not included in the simplified formulae (table 22 of PSSRU Discussion Paper 1217/3), it is included here for completeness. For the purposes of table 11, individuals have been classified into two groups: being in a residential or nursing home, or being in hospital, a private household or having died. The table is based on the cases who were included in the SSA analyses, with minor amendments, rather than the full sample of 2544 cases.

With the exception of household composition and the relationship to the head of the household, there was no statistically significant relationship between any of the characteristics of individuals and their location at six months, and for both of these variables the relationship only reached the 10 per cent level of statistical significance. Individuals who were living alone

before admission tended to be more likely to be in residential or nursing home care at six months than those living with others, although a similar proportion of those living with one or more non-pensioners were still in residential or nursing home care at six months. Individuals who were living alone tended to be admitted at lower levels of dependency than those living with other people, and so the relationship between household composition and survival in residential or nursing home care would be expected.

6. Change in Dependency between Admission and Six Month Follow-Up

Table 12 presents information on changes in levels of dependency for individuals between admission and the six month follow-up, by the source of admission. Changes for individuals can be extremely heterogeneous¹, and the assessment of changes over time is complicated by problems of measurement error, which will reduce the correlation between the two separate assessments (the regression towards the mean effect). For the Barthel Index, a difference of four points has been suggested as highly likely to represent a genuine change², although it should be noted that the assessments for the admissions survey and the six month follow-up were undertaken by different personnel, and thus may be subject to additional measurement error.

Approximately 50 per cent of individuals were classified in the same category at admission and follow-up, with a slightly higher proportion of individuals classified as having the same level of mental confusion than physical dependency, although the latter was classified into four categories. Slightly higher proportions of individuals were classified as having higher levels than lower levels of physical dependency at the follow-up compared with admission, although for individuals admitted from hospital the two proportions were similar. Conversely, slightly higher proportions of individuals were classified as having lower than higher levels of mental confusion at the follow-up compared with admission but, again, the two proportions were similar for individuals admitted from hospital.

Using a difference of four points as suggestive of a genuine change in the ungrouped Barthel Index, a separate analysis indicated that the change between dependency on admission and at the six month follow-up was less than four points for 57 per cent of individuals from all sources of admission, compared with 49 per cent who were classified in the same category of the grouped version at admission and follow-up. Similar proportions of individuals exhibited changes of four or more points in the direction of

¹ Jagger, C., Spiers, N.A. and Clarke, M. (1993), Factors Associated with Decline in Function, Institutionalization and Mortality of Elderly People, *Age and Ageing*, **22**, No. 3, 190-197.

² Collin, C., Wade, D.T., Davies, S. and Horne, V. (1988), The Barthel ADL Index: A Reliability Study, *International Disability Studies*, **10**, No. 2, 61-63.

decreased dependency (21 per cent) and increased dependency (22 per cent), whereas, using the grouped version, slightly higher proportions of individuals were classified as having higher levels than lower levels of physical dependency at the follow-up, as noted above.

7. Most Recent Known Location of Elderly People

As noted in section 1, a separate exercise was conducted to follow up those elderly people who left the residential or nursing home to return to a private household or who were discharged to hospital without their bed being kept open. In the course of the check on the location of the elderly people one month after admission and the six month follow-up, 131 such individuals were identified, and 99 were followed up by contacting the local authority which made the original assessment for admission. Of the other 32 cases, 22 had died after leaving the home, five could not be traced and five were omitted from the follow-up exercise in error.

Information was obtained from the local authorities for 87 individuals, although eight individuals refused to be included in the follow-up exercise, and two were found to be out of scope. One of the 12 individuals for whom no information was obtained was also found to be out of scope. Among the remaining 77 individuals, 22 had died, and for these 77 individuals their location or, for those who had died, their location at the time of death, was as follows: 33 people were living in a private household; 19 people had moved to a different home from the one in which they were originally placed; ten people had been re-admitted to the original residential or nursing home, including a small number who appeared to have never left the home; nine people were in temporary hospital care; and four people were in hospital long-stay care. For the remaining two cases, the location was not reported. One of the individuals who refused to be included in the follow-up exercise was recorded as being in the original home.

The situations resulting in the failure of placements can be broadly divided into three groups: factors associated with the clients' acceptance of their new home; changes in their functional abilities; and factors related to the ability of the homes to provide the care needed. The most common reason given by social workers for the client having left the original placement was that they did not settle, either because they wanted to be back in their own home, or with their partner, or because they objected to some aspect of the care provided, such as the lack of privacy. Of those who were discharged to a private household, half gave this kind of reason for the discharge, while a third of these cases were able to go home because their physical condition improved or their rehabilitation was successfully completed. For the small number of people who were moved into long term hospital bed, the most common reason was the inability of the home to cope with behavioural problems associated with dementia.

Clients discharged from the original home but found on follow-up to have been placed in residential or nursing home care again exhibited a wider variety in their reasons for leaving the first placement. Almost all the people who had moved into nursing home care were said to have shown an increase in dependency, particularly a loss of mobility or increased confusion. Those who moved into a different residential home, however, had left the original home for a range of reasons more related to their personal reactions than to a change in functioning.

Table 13 presents information on the location of the 96 individuals who were followed up, excluding the three cases who were found to be out of scope, showing their location at six months and their most recent known location. All of the individuals who had been temporarily in hospital had died. Table 14 shows the corresponding information for all 2544 individuals in the admissions survey, and also includes information on subsequent deaths reported for individuals who were not part of the separate follow-up of elderly people who had left the home. Of the 2117 cases for whom information was available, 66 per cent were still in the original home, 28 per cent had died, 4 per cent had moved to a different home and 2 per cent were in a private household. Six individuals were in hospital.

Tables 15 and 16 present information on the dependency of individuals on admission and at their most recent known location for those remaining in residential or nursing home care and for those in a private household. For those remaining in residential or nursing home care information is shown separately for the type of bed to which they were originally admitted. As shown in table 14, only a small number of individuals moved from one type of bed to another. The information on dependency shown in tables 15 and 16 relates to the same individuals at admission and at follow-up. For individuals originally admitted to a residential or a nursing bed and remaining in residential or nursing home care, the level of physical dependency appears to have declined slightly between admission and follow-up. However, slightly higher proportions of those originally admitted to a residential bed appear to have low levels of mental confusion and slightly higher proportions of those originally admitted to a nursing bed appear to have moderate but not severe levels of mental confusion at follow-up. In contrast, individuals whose most recent location was a private household were assessed as having lower levels of physical dependency and mental confusion at follow-up than at admission, although the information was only available for 24 of the 32 individuals concerned.

Table 16 shows the change in levels of dependency recorded for individual elderly people. Approximately 50 per cent of individuals were classified in the same category at admission and follow-up in each case. However, the figures for individual elderly people shown in table 16 generally correspond to the comparisons of the marginal distributions shown in table

15. Slightly higher proportions of individuals remaining in residential or nursing home beds had higher levels of physical dependency than lower levels at follow-up, and slightly higher proportions of individuals admitted to residential homes had lower levels than higher levels of mental confusion, although similar proportions of individuals admitted to nursing homes had lower and higher levels of mental confusion. For individuals whose most recent location was a private household, a slightly higher proportion had lower levels than higher levels of physical dependency at follow-up. For these individuals, half were reported as not having problems of mental confusion on admission, although for all 32 cases the proportion was 41 per cent, and twice as many had lower levels of mental confusion at follow-up than higher levels.