

# Use of nursing and social services by elderly patients discharged from hospital

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**SUMMARY.** As part of a study to determine reasons for early unplanned readmission of elderly patients to hospital, the provision of nursing and social services before and after admission was assessed for two groups of patients aged 65 years and over. A random sample of 133 patients who had been readmitted in an emergency and 133 matched controls who had not been readmitted were interviewed. Prior to the first admission the readmitted patients had received more services than the control patients. A substantial number of patients had had some services organized for them before leaving hospital. There was a net increase in the provision of district nursing services for both groups. The readmitted group had significantly more nursing and social services both before and after discharge than the non-readmitted group. The level of district nursing, home help and social work all increased significantly with age. Problems were experienced with services after discharge from hospital. These included: no arrangements, delay in starting services and inadequate services to meet the patient's needs. Guidelines for the provision of nursing and social services after discharge of patients from hospital are suggested.

## Introduction

THE level of nursing and social services provided for patients after discharge from hospital has been monitored and used as a measure of satisfactory resettlement. Early studies<sup>1-3</sup> pointed to a shortfall between services provided and observed need. Other studies which looked specifically at elderly patients have described a variable level of support.<sup>4,5</sup> In their analysis of need, Wilson and Wilson<sup>6</sup> concluded that 98% of patients discharged from a geriatric unit required one or more services at this time. Comparing services before and after admission Victor and Vetter<sup>7,9</sup> found that the provision of district nursing services increased three fold after discharge compared with before admission and contact with health visitors increased five fold.

As part of a study to determine reasons for early unplanned readmission of elderly patients to hospital, the provision of nursing and social services before and after admission was assessed in patients who were readmitted and a matched group who were not. The purpose was to determine whether the level of services had an effect on early unplanned readmission.

## Method

A total of 266 patients aged 65 years and over who had recently been discharged from hospital were recruited. These consisted of a random selection of 133 patients from all specialties who were readmitted in an emergency within 28 days of discharge and a matched control sample of 133 patients who were not re-

admitted. The reason for the differences in outcome of the two groups and a full description of the methodology is given elsewhere.<sup>10</sup> The group was representative of the local population of elderly patients admitted to hospital in terms of their main demographic indices. A full interview was given by 213 (80%) patients and a limited interview by a further 15 (6%) patients. Information collected from patients and carers was confirmed and validated by reference to the hospital, community nursing services and social services. The results were analysed using the SPSS statistical package.

## Results

### Services provided to total group

**Before admission.** One or more services were received before first admission to hospital by 171 (64%) of the 266 elderly respondents (Table 1). Thirty two per cent of respondents saw a district nurse prior to admission and 38% were having chiropody. Few respondents were receiving physiotherapy but 17% had a social worker providing support.

There was a significant correlation between patients' age and receipt of services before first admission. Fewer of the youngest age group (65-69 years) had received services compared with the two older age groups (70-79 years and 80+ years) chi-squared = 22.6, df = 2,  $P < 0.001$  (Table 2). Age was a significant factor in particular in relation to home helps ( $\chi^2 = 22.8$ , df = 2,  $P < 0.001$ ) and meals on wheels ( $\chi^2 = 8.5$ , df = 2,  $P < 0.05$ ). Women received more services than men (68% versus 59%). Of the total group using services only one third were men. The presence of services prior to the first admission was also affected by whether the patient lived alone and as expected was more frequent in that group ( $\chi^2 = 12.7$ , df = 3,  $P < 0.01$ ). The presence of a carer also meant that there was a slightly better chance of receiving a service, although this was not significant.

Income clearly correlated with provision of services: more patients whose income was low received services, compared with those whose income was high ( $\chi^2 = 14.2$ , df = 3,  $P < 0.01$ ).

**After discharge.** After discharge from hospital, 180 patients (68%) in total had one or more services arranged (Table 1). The services were of two types: reinstated and new services. Health visitors were arranged for 37 (14%) patients, with equal numbers being new and reinstated services. Ninety eight patients (37%) had a home help after discharge but only 17 were new home helps. The use of home help services increased significantly with increasing age ( $\chi^2 = 22.0$ , df = 4,  $P < 0.001$ ), living alone ( $\chi^2 = 40.0$ , df = 3,  $P < 0.001$ ) and absence of a carer ( $\chi^2 = 4.6$ , df = 1,  $P < 0.05$ ). Surprisingly meals on wheels were arranged for few patients: 31 (12%) in total. Sixteen rejected the service: eight were aged 70-79 years (six lived alone in private accommodation) and seven were aged over 80 years (five of whom lived alone). Age was a highly significant factor in receiving meals on wheels ( $\chi^2 = 14.3$ , df = 2,  $P < 0.001$ ). Only 13 patients (5%) had physiotherapy arranged. Thirty four patients (13%) received day hospital care after discharge and eight patients rejected day hospital care, all of whom were aged over 80 years, two being over 90 years.

Arrangements for services after the first discharge in relation to age showed a highly significant correlation: 39% of those

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**Table 1.** Types of services arranged before first admission and after discharge from hospital for readmitted and control groups.

	Percentage of patients receiving services					
	All patients (n = 266)		Readmitted patients (n = 133)		Control patients (n = 133)	
	Before admission	After discharge	Before admission	After discharge	Before admission	After discharge
Any service	64	68	70	71	59	65
District nurse	32	45	40	51	25	38
Health visitor	14	14	18	14	11	14
Chiropody	38	12	35	6	41	17
Home help	32	37	35	40	29	34
Meals on wheels	10	12	11	12	9	11
Physiotherapy	3	5	4	3	3	7
Social worker	17	25	23	35	10	16
Day centre/hospital	10	13	11	14	8	11

NB Excludes residents of homes for elderly people where service is already provided. n = total number of patients.

**Table 2.** Provision of services before first admission and after discharge from hospital for all patients.

	Total number of patients	Percentage of patients receiving services	
		Before admission	After discharge
<b>Age (years)</b>			
65-69	38	32	39
70-79	144	67	70
80+	84	75	76
<b>Income<sup>a</sup></b>			
<£40 per week (low)	104	71	77
£40 < £55	40	75	68
£55 < £80	72	47	51
£80+ (high)	26	73	65
<b>Social factors</b>			
Lives alone	113	76	79
Lives with others	153	56	61
No carer available	49	59	63
Carer available	217	66	69

<sup>a</sup> Information available for only 242 patients.

aged less than 70 years had services arranged compared with 76% of those aged 80 years or over ( $\chi^2=17.0$ ,  $df=2$ ,  $P<0.001$ ). More patients living alone had services arranged for them after discharge than those who lived with others ( $\chi^2=9.6$ ,  $df=1$ ,  $P<0.01$ ). This particularly applied to home help, meals on wheels and social worker services.

There were also significant correlations between arrangements being made for services and poor general health ( $P<0.01$ ), confusion ( $P<0.05$ ), poor mobility ( $P<0.001$ ), and incontinence ( $P<0.001$ ) (Table 3). As with services before admission income was clearly a determinant in relation to post-discharge services. The proportions were similar to those already described prior to first admission ( $\chi^2=12.5$ ,  $df=3$ ,  $P<0.01$ ).

### Comparison of readmitted and control groups

**Before first admission.** A higher proportion of the 133 patients who were later readmitted to hospital received services before they were first admitted than the 133 patients in the control group (70% versus 59%), although this was not statistically significant (Table 1); significantly more of them had received

**Table 3.** Arrangements for services for patients discharged from hospital according to general health, mental health, mobility and continence at discharge (all assessments made by the hospital ward sister).

	Percentage of patients	
	Arrangements made (n = 179)	No arrangements made (n = 86)
<b>General health at discharge</b>		
Good	34	55
Average	58	40
Poor/very poor	8	5
	$\chi^2=11.0$ , $df=2$ , $P<0.01$	
<b>Mental health at discharge</b>		
Confused/very confused	9	2
A little confused	14	6
Normal	77	92
	$\chi^2=8.8$ , $df=2$ , $P<0.05$	
<b>Mobility at discharge</b>		
Fully mobile	45	85
Nearly fully mobile (but difficulty with stairs)	13	5
Fair mobility (walks without support not stairs)	9	5
Limited mobility (but walks >4 yds)	10	2
Severely limited mobility or bed/chair fast	23	3
	$\chi^2=40.0$ , $df=4$ , $P<0.001$	
<b>Continence at discharge</b>		
Full continence	80	98
Incontinence (slight or severe)	20	2
	$\chi^2=15.0$ , $df=1$ , $P<0.001$	

district nurse ( $\chi^2=6.5$ ,  $df=1$ ,  $P<0.05$ ) and social worker services ( $\chi^2=7.9$ ,  $df=1$ ,  $P<0.01$ ). Slightly more readmitted patients had received home helps, meals on wheels and day centre or hospital care than had the control patients.

**After discharge.** On leaving hospital more of the patients who were later readmitted had services arranged for them than the patients who were not readmitted (71% versus 65%) but this was not significant. More readmitted patients had a district nurse arranged (51% versus 38%) ( $\chi^2=4.0$ ,  $df=1$ ,  $P<0.05$ ). One

third of the district nurse services for the readmitted group were new services rather than services which had been reinstated, as were half of the district nurse services for the control group; the net result was an increase in the provision of district nursing ( $P<0.01$ ). Some previous recipients did not have the service arranged by the hospital when they were discharged.

The services of a social worker were far more likely to be arranged for readmitted patients than controls (35% versus 16%) ( $\chi^2=12.7$ ,  $df=1$ ,  $P<0.001$ ). Half in each case were new services. Provision of a social worker to the total group increased significantly with increased age (11% of 65–69 year olds had arrangements made for a social worker compared with 33% of 80+ year olds) ( $\chi^2=7.6$ ,  $df=2$ ,  $P<0.05$ ) and increased significantly with living alone (36% of those living alone compared with 17% of those living with others) ( $\chi^2=12.6$ ,  $df=1$ ,  $P<0.01$ ). After discharge, 40% of readmitted and 34% of control patients had home helps arranged, most of which were reinstated services. Eleven readmitted patients rejected this service, mainly because of the cost. Other services were only arranged for a relatively few patients: chiropody for only eight readmitted patients (three new and five reinstated) and 23 control patients (all but two being reinstated). Day hospital care was arranged for 19 readmitted patients and 15 control patients. No arrangements were made for voluntary service help.

### Problems with services

Services were arranged by the hospital for 68% of the patients who were discharged. However, many patients reported having problems, sometimes with serious consequences. Excluding general practitioner services, 35% of the total group of 266 complained of difficulties with formal carers. Patients in the lowest category of income were more likely to have experienced difficulties: 44% (46) did so while this applied to 24% (23) of those who had higher incomes ( $\chi^2=10.9$ ,  $df=3$ ,  $P<0.01$ ). The variety of problems experienced was great and many patients had more than one problem. The problems were basically of three types: insufficient or ineffective services, delay in starting the service and inadequate preparation for discharge with no services organized. 'Insufficient and ineffective services': as judged by the researchers, meant that services were present but not at the required levels. These occurred for all the different services, but the most important failures were when nursing and home help services were deficient. The most serious situations occurred when nobody turned up to the patient's home after discharge and this was due mostly to communication failure, administrative problems and insufficient resources.

The proportion of patients experiencing difficulties with formal carers was slightly higher among the readmitted than the control group (38% versus 32%). Readmitted patients were four times more likely to have multiple problems with services: 27 compared with seven of the controls. For 24 (18%) of the readmitted patients failure of the service was considered to be a strong contributory factor to readmission. The reasons for readmission were judged independently by the two authors using a third assessor when there was disagreement. In five cases it was considered that failure of a service to turn up was the principal cause of readmission; four of these were men and one a woman, three lived alone and the average age was 82 years. The mean gap between discharge and readmission was 13 days, which was higher than the mean of 10 days for all early readmissions.

### Discussion

Our study confirmed the conclusions of Victor and Vetter about the effect created by elderly patients discharged from hospital on the work of nursing and social services.<sup>7-9</sup> The level of

services in the present study however was slightly higher than in Victor and Vetter's, both before and after discharge. They reported 37% of patients receiving district nurse visits three months after discharge, a three fold increase from the preadmission level; this is low compared with the overall level of 45% in our readmitted patients, but similar to the 38% recorded for the non-readmitted group. Health visitor support in Victor and Vetter's study rose five-fold to 15% three months after discharge; this compares with the overall figure of 14% immediately after discharge in this study. Only 4% of Victor and Vetter's group had a social worker before admission but this rose to 23% after discharge. This compares with 25% in our total group.

More patients were discharged with home help and meals on wheels services in this study than in Victor and Vetter's study; but hospital or day centre attendance and physiotherapy were at similar low levels in both studies. There were statistically significant differences between the readmitted and control group in the level of district nursing provision and in social worker provision, both prior to first admission and at discharge. The readmitted group had more district nurse and social worker services. The need for these two services are therefore pointers to the possibility of early readmission.

Our study showed clearly that the main increases in services after discharge were for district nurse, social worker, home help and to a lesser extent day centre and meals on wheels. Physiotherapist and health visitor services showed little change and chiropody services were very much reduced. There may be particular reasons for this, such as a shortage of physiotherapy and health visitor staff, but in the case of health visitors uncertainties about their role may have contributed. Chiropody may have been considered by the hospital to be non-urgent or not even thought of at all.

Age, sex, the presence of a carer and living alone were all factors which affected the provision of services to the whole group. Patients' income was also correlated with the provision of services with significantly more of those on low income receiving services. In a population with increasingly high proportions of very old people the increased need for services in relation to increased age, which has been demonstrated here, will have to be noted by those responsible for long term planning.

Although failure of services was a relatively rare principal reason for readmission it was a frequent contributory factor. Failure of a service to turn up following the discharge of a patient from hospital can have considerable and serious impact on the life of that patient, particularly for those who live alone. Carers too are often directly affected. Two other important reasons why there were problems after discharge of patients from hospital were inadequate assessment prior to discharge and failure by the hospital to communicate with community services. Wilson and Wilson<sup>6</sup> commented that the hospital was often unaware of the fact that services had not been arranged and they warned that it could not be assumed that no news of disaster or trouble in the few weeks following discharge meant that all was well. They suggested that comprehensive feedback is required for each discharge and point out that full attachment of district nursing, health visiting and social services to general practice enables a better multidisciplinary approach to be continued outside hospital. In their study only a small number of requests for voluntary services was made (3%) and this was a similar figure to that which had been recorded in other studies, particularly that of Brocklehurst and Shergold.<sup>4</sup> In our study we had no record of any request being made for voluntary service help either by the hospital or community services.

In a previous paper we recommended a series of guidelines for discharge of elderly patients from hospital and for reception

of such patients into the community.<sup>10</sup> With regard to provision of social services it is important to assess home circumstances, preferably by a visit before the patient is discharged to check if there are carers at home or otherwise involved and, if there is no one available on the patient's arrival home to ensure that immediate practical necessities are covered. It is also important to ascertain that discharge is appropriate in terms of the patient's ability to self-care at home. It is necessary to confirm that arrangements for services have been made and to check that some professional in the community knows that the patient is being discharged. It would be helpful for a person in the community to be given the task of liaising closely with all departments in the hospital, informal carers, the formal services and general practitioners. Each elderly patient who is discharged should be contacted by someone from the primary care team within 48 hours to check the presence of a carer and that the patient's needs are being fulfilled.

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