

# Acute medical bed usage by nursing home residents

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## ABSTRACT

An increasing number of elderly patients in nursing home care appears to be presenting to hospital for acute medical admission. A survey of acute hospital care was undertaken to establish accurately the number and character of such admissions. A total of 1300 acute medical beds was surveyed in Northern Ireland in June 1996 and January 1997 on a single day using a standardised proforma. Demographic details, diagnosis and length of admission were recorded.

A total of 84 patients over the age of 65 (mean 79.5 years) admitted from nursing home care was identified in June 1996 and a total of 125 (mean 83.3 years) in January 1997. A total of 88 (70%) of admissions in 1997 were accompanied by a general practitioner's letter. The assessing doctor judged that 12 (9.6%) of admissions in 1997 could have had investigations and or treatment reasonably instituted in a nursing home. The proportion of acute medical beds occupied by nursing home residents was 6% in June 1996 rising to 10% in January 1997.

The study accurately identifies the significant contribution of nursing home patients to acute medical admissions and the low proportion in whom admission was unnecessary. Closure of long stay hospital facilities should be accompanied by investment in community medical services and also reinvestment in acute hospital care for elderly people.

## INTRODUCTION

The pattern of care for elderly people in Northern Ireland has changed, with a reduction of hospital long-term care and an increase in care delivered in the independent nursing home sector, and with enhanced community care at home.<sup>1</sup> Prior to the expansion of nursing home care almost all continuing nursing care was hospital-based, elderly patients receiving medical care under the supervision of a consultant physician with expertise in care of elderly people. This enabled considerable levels of acute care to be provided

in situ. Patients only left these hospital units for specialist care when needed, such as abdominal emergencies or repair of hip fracture.

The rise in hospitalisation of nursing home residents has been reported<sup>2</sup> with rates strikingly higher for intermediate rather than skilled levels of care,<sup>3</sup> and with reports of both appropriate<sup>4</sup> and inappropriate rates of transfer to acute care hospitals.<sup>5</sup>

Northern Ireland geriatricians have anecdotally noted that the growth of nursing home care in place of hospital based nursing care has been paralleled by an increasing number of acute medical admissions of elderly nursing home residents.

It was considered important to establish the number of these patients so that more informed arrangements for the acute medical care of nursing home patients could be made as the reduction in hospital delivered continuing care continues. The pattern of increasing emergency medical admissions<sup>6</sup> may therefore be due in part to changing delivery of long term care in addition to demographic and other factors.

## METHODS

A proforma to gather patient details including age, date of birth, date of admission, presence of accompanying general practitioner's letter and diagnosis was constructed. This proforma was circulated to a nominated geriatrician working in every hospital in Northern Ireland receiving acute medical admissions. The nominated co-ordinating doctor ensured that in June 1996 and January 1997 all acute medical patients were surveyed by

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a medical practitioner and proformas completed on a single day, allowing patients admitted for medical care from nursing homes to be identified. Subjects admitted from residential care were not surveyed. At the time of the second survey additional information was sought as to whether in the judgement of the assessing doctor the patient could reasonably have received the investigations or treatment in a nursing home. A total of approximately 1,300 acute medical hospital beds in Northern Ireland was included in the surveys. The number of available nursing home beds was identified from records held by the Registration and Inspection Units, and the Health Board population figures obtained.<sup>7</sup>

## RESULTS

A total of 84 patients over the age of 65 years (mean age 79.5) admitted from nursing home care was identified as receiving acute medical care in June 1996, and a total of 125 patients (mean age 83.3 years) in January 1997 (Table). The returned proformas contained complete data for each of the 209 subjects identified by the assessing doctors. The total number of available nursing home beds was 9,218 representing 44.5/1000 population over the age of 65 years in Northern Ireland.

TABLE

*Details of Nursing Home Patients Admitted for Acute Hospital Care in Northern Ireland.*

	June 1996	January 1997
Number of patients	84	125
Males/Females	22/62	48/77
Mean Age (years)	79.5	83.3
Mean Length of Stay (days)	23	11.2
- No accompanying letter (%)	-	37 (30%)
- Admission deemed unnecessary (%)	-	12 (9.6%)
% Nursing home patients in acute medical care	0.91%	1.36%
% Acute medical beds occupied by nursing home residents	6.5%	9.6%

The cost of the acute care for these patients in the 15 hospitals surveyed throughout Northern Ireland was calculated using an average standard cost of

£150 per day. In 1996 a total of 84 hospital beds was assumed to be continuously occupied for 365 days, resulting in total expenditure of £4.6 million per annum. In 1997 the total cost of 125 beds if occupied throughout the year by patients admitted from nursing home care would equate to an expenditure of £6.8 million per annum. The cost of the nursing home beds was calculated at £96 million per annum using a net cost of £200 per week as an approximation of the non-recoverable cost of nursing home care after benefits and pensions were deducted. The calculated acute hospital costs represent an additional 4.8% to the ongoing nursing home costs in 1996, rising to 7.1% in 1997.

In 1997 88 (70%) of admissions were accompanied by a general practitioner's letter. A large range of diagnoses were recorded, chest infection and stroke being the commonest. The assessing doctor judged that a total of 12 (9.6%) of surveyed admissions in 1997 could have had investigations and/or treatment reasonably instituted in the nursing home setting. The proportion of acute medical beds occupied by nursing home residents rose from 6% (June 1996) to 10% (January 1997).

## DISCUSSION

This study describes the significant contribution of nursing home patients to acute medical admissions and bed occupancy at two points in time (June 1996, January 1997) in Northern Ireland. Although it is probable that the higher number of hospital beds (10%) occupied in the winter months, was due primarily to seasonal variation, there is concern that admissions from nursing homes are indeed rising. The movement of long term care from hospital to nursing home setting may have contributed to an increase in medical admissions, and this is further supported by the finding in Edinburgh of a higher rate of re-admission to acute hospital care from nursing home care (48%) than from NHS long stay care (16%) over a 3-year period.<sup>8</sup> The continued reduction in hospital based long-term care is likely to result in a further disproportionate increase in acute hospital admissions as the dependency of the cohort of patients now being transferred to nursing home care is much greater than the initial cohort admitted to nursing home care.

A considerable number of patients (30%) are admitted from the nursing home sector without

an accompanying medical letter. However, the proportion of admissions deemed unnecessary was similar in those with an accompanying medical letter (10%) as in those without a letter (8%). The provision of medical care to nursing home patients requires further investigation and undoubtedly investment will be required to assist general practitioners in providing appropriate medical support to frail, elderly patients outside hospital. The cost of such additional medical and supportive care has not been appropriately addressed in the transfer of patients from long-term hospital care to nursing home care. The high proportion (90%) of patients in whom admission was considered necessary, and care within the nursing home inappropriate, reflects concern regarding the ability at present to deliver alternative care outside hospital. Closure of hospital long-term care facilities should result in both enhanced investment in the community services including medical care but also reinvestment in acute hospital care for elderly people.

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(Copies of the questionnaire proforma may be obtained from T.R.O.B)

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