Contemporary Themes

Domiciliary night nursing service: luxury or necessity?

M H MARTIN, M ISHINO

Abstract

The nursing records of the 242 patients who used the domiciliary night nursing care service in Newham Health District showed that three distinct groups of patients were nursed during 1979 at a cost of £8.88 a day. Forty-three elderly chronically sick and five disabled patients aged under 50 received care for more than 28 days, 63 patients had terminal cancer, and 131 needed short-term care or observation. Data were also collected from a one-day survey of patients receiving care.

This domiciliary care enabled the chronically sick and disabled to retain their independence and remain at home. Referrals from casualty departments and general practitioners avoided admissions to acute beds. On account of the lack of continual surveillance the service is unsuitable for the elderly mentally ill.

Introduction

In 1979 the London Borough of Newham had a population of 225 000, of whom 16% were over 65. A survey by Murphy¹ showed that 16% of general surgical and orthopaedic beds were blocked by elderly people who had been in hospital for more than 28 days. Another survey in October 1979, which included medical beds, showed the same percentage. As the nucleus hospital planned to open in Newham in 1982 will mean the loss of 240 acute beds, it is even more necessary to use these beds effectively.

By using the evening and night nursing services nursing care may be given at home, thus preventing unnecessary admission to hospital and avoiding the mental confusion that often ensues when the elderly sick are moved from home. In Newham the evening service (from 1800 to 2200) has been operating since 1962 and the night service (2000 to 0600) since February 1974. This survey was undertaken to assess these services, which in conjunction with day nursing services provide intensive domiciliary care.

Methods

Data about the characteristics of patients were collected by two methods—a review of nursing records and a one-day survey of patients receiving care. The nursing records showed:

- (a) Number, age, and sex of patients treated in a year.

Community Health Department, Royal United Hospital, Bath BA1 3NG

M H MARTIN, MRCS, MSC (Com Med), registrar community medicine, Bath Health District

Medical Affairs Bureau, Ministry of Health and Welfare, Tokyo
M ISHINO, MB, MSC (Com Med), deputy director

- (b) Social circumstances of patients—for instance, whether they were living alone and if so the age of relatives caring for them.

- (c) Diagnosis.

- (d) Duration of time patients remained in the scheme.

- (e) Number of visits from the services.

- (f) Type of care given.

The one-day census survey of patients was conducted by the nurses completing a questionnaire for 11 March 1980. Although there are limitations associated with census type information, the work load on this date was thought to be typical of the work load over the period. The number of patients seen that day was 33 compared with an average of 34.5 per night in 1979.

The nursing officer provided data on organisational details of the work, the number of nurses by grade employed on a whole-time or part-time basis by the evening and night services, and the number of hours worked by the staff and the number of patients visited. The district finance officer provided information on salaries, the cost of the day community nursing service, and the cost of a bed in an acute hospital ward and in a geriatric ward. The social services department provided information on the cost of a bed in part III accommodation, home help services, the meals-on-wheels service, providing a telephone, and the cost of aids.

In the time available it was not possible to conduct a complete cost-benefit analysis. Certain aspects of costs and benefits were not measured, and these should be borne in mind. The capital costs of accommodation were not calculated, the costs of patients in hospital beds were the average costs, additional work from general practitioners was not estimated, and neither were the costs of drugs or the costs borne by patients and relatives in the alternative types of provision. Nor was it possible to measure the differences in quality of the service, although some information on acceptability was obtained.

Results

STAFFING

The evening service is staffed by five SRNs including two male nurses and two SENs, who work a total of 112 hours a week from 1800 to 2200. The night service is provided by one nursing officer, six whole-time SRNs, and six whole-time auxiliaries. There are no recruitment problems as there is a waiting list for applicants who wish to work in the service.

ORGANISATIONAL ARRANGEMENTS

Evening service

The evening staff report at about 1900 having seen one or two patients on their way to their base. They then collect the remainder of their work and write up reports before starting their rounds. They do not report back unless there is a particular problem. There are usually two pairs of nurses on duty each evening, who normally care for 10-12 patients.

Night service

The night nursing staff come on duty at 2000. They work in pairs (one SRN and one auxiliary), and their last visit is to a patient with whom the auxiliary will sit during the night. The SRN then returns to

base. During the night she visits all patients with a sitter, any other seriously ill patients, and contacts "Air call" to collect any requests from general practitioners, casualty departments, or relatives for visits. At about 0400 the SRN and the nursing auxiliary start the morning round of getting patients up. They cannot cope with all patients, and some are left until the day staff come on duty at 0900.

REFERRAL

Patients needing the care of evening or night services are referred by day nursing services, general practitioners, hospital consultants, or casualty departments. During the year 19 patients were referred from casualty departments. It was not possible to get full information on the referral patterns, but many patients appeared to be referred from the day nursing services.

PATIENTS

Analysis of annual data

Records of patients were available only for 1979, when the evening and night services looked after a total of 242 patients and made 22 606 visits. An average of 34.5 patients were cared for each night.

The service looked after three distinct groups of patients—"regular" patients who used the service for over 28 days; patients with terminal cancer; and short-term patients who used the service for under 28 days. The average duration of time for a regular patient to receive care from the service was 2.4 years (table I), although one patient had been looked after for 14 years. The patients' ages ranged from 28 to 97, but most were from 80 to 84. Only four out of 48 regular patients were men. All were classified as being on the Barr nursing dependency scale II or III.² A summary of the diagnoses of these patients is shown in table II. Almost half the patients were geriatric or arthritic.

During the year, 65 patients with terminal cancer were cared for, and 63 of these received help for less than 28 days (table III). The youngest patient to receive care was a boy of 15 with leukaemia and the oldest a man of 79. Sitters were often provided for several nights for many of these patients.

TABLE I—Duration "regular" patients were cared for by evening and night nursing services

No of years	No (%) of patients	Cumulative %
14	1 (2)	2
6	6 (12.5)	14.5
5	1 (2)	16.5
4	6 (12.5)	29.0
3	7 (14.5)	43.5
2	5 (10.4)	53.9
1	3 (6)	59.9
> 6/12	5 (10.5)	70.4
< 6/12	14 (29.1)	99.5
	48 (99.5)	99.5

TABLE II—Diagnoses of 242 patients nursed in 1979

No of patients nursed for over 28 days	48	100%
Old age	12	25
Arthritis	10	21
Residual symptoms of cerebrovascular accident	8	17
Multiple sclerosis	5	10
Muscular dystrophy	2	4
Carcinomatosis	2	4
Coronary thrombosis	3	6
Blind	2	4
Other	4	8
No of patients nursed for under 28 days	194	100%
Terminal carcinoma	63	32
Old age	31	16
Referred from casualty	19	10
Cerebral haemorrhage	11	6
Catheterisation	7	4
Diabetes mellitus	7	4
Postoperative wound infection	6	3
Congestive cardiac failure	6	3
Pneumonia	6	3
Bed Sores	5	3
Glaucoma	4	2
Ulcerative colitis	3	2
Constipation	4	2
Other	22	11

Of the others receiving short-term care, 31 were diagnosed as being old and unable to look after themselves. Five received antibiotics for postoperative wound infection, six were visited because of blocked catheters, three were given retention enemas for ulcerative colitis, and four were given enemas for constipation. During the year, 19 patients (4 male, 15 female) were referred from casualty. The youngest was 52 and the oldest 90.

Table IV shows the care given to patients throughout the year. Many received general nursing care only. Of the more technical type of care, injections and the monitoring of acutely ill patients were the most common activities.

TABLE III—Duration patients with terminal cancer were cared for by the service

No of nights	No (%) of patients	Cumulative %
1	13 (20.6)	20.6
2	14 (22.2)	42.8
3	8 (12.7)	55.5
4	5 (7.9)	63.4
5	3 (4.7)	68.1
6	4 (6.3)	74.4
7	2 (3.2)	77.6
8	1 (1.5)	79.1
9	1 (1.5)	80.6
10	2 (3.2)	83.8
11	2 (3.2)	87.0
13	4 (6.3)	93.3
16	2 (3.2)	96.5
18	1 (1.5)	98.0
21	1 (1.5)	99.5
	63 (99.5)	99.5

TABLE IV—Type of care provided for 242 patients in 1979. Average number of patients cared for per night 34.5

Type of care provided	No of activities
General nursing care only	11 724 (92.4)
Other nursing activities	953 (7.6)
Injections	600 (4.8)
Dressing of wounds	31 (0.2)
Retention enema	31 (0.2)
Enema	6 (0.1)
Checking catheters	8 (0.1)
Treatment of bed sores	53 (0.4)
Eye drops	48 (0.3)
Taking temperature, pulse, and respiration for acutely ill patients	176 (1.4)

ONE-DAY SURVEY

On the night of the survey 33 patients were receiving care; 27 were regular patients and six had terminal cancer. Three patients were classified as being on the Barr scale III and the remainder on scale II. Table V shows the medical conditions of the patients using the service. Only three men used the service for more than 28 days. Fourteen women were in their 80s, and three were over 90.

The survey questionnaire included questions about the physical and social conditions of the patients. Fourteen of the women lived alone and received between four and nine hours' help from the home-help service. Of the two women on the Barr nursing dependency scale III, one had four hours' help and the other six. While a partially sighted woman on the Barr scale II received nine hours of help a week, a

TABLE V—Medical conditions of patients using the services on the one-day survey, 11 March 1980

	No %
Patients nursed for over 28 days	27 (81)
Arthritis	9 (27)
Multiple sclerosis	5 (15)
Old age	4 (12)
Hemiplegia	3 (9)
Coronary thrombosis	3 (9)
Bilateral below-knee amputation	1 (3)
Ulcerative colitis	1 (3)
Paraplegia 2° to poliomyelitis	1 (3)
Patients nursed for under 28 days	6 (18)
Malignant neoplasm	6 (18)
Total	33 (100)

woman of 90 cared for by her frail husband of 91 received only two hours' help. Their circumstances are similar to those described by Cresswell and Pasker.³ Five of the regular users and two of the patients with terminal cancer were without a telephone. The regular patients did not attend day centres run by the social services. Fourteen regular patients received meals-on-wheels. Relatives or neighbours provided meals for the other patients receiving long-term care.

COSTS

The costs incurred by the NHS on salaries, Air call, uniforms, paper sheets, wheelchairs, etc, and the monetary costs to social services of telephones, aids, meals-on-wheels, home helps, etc, for the financial year 1978-9 were used to calculate the costs of services in 1979 (tables VI and VII). From this data the average cost per day per patient using the domiciliary day, evening, and night nursing services was calculated. These costs are compared with the costs of nursing an average disabled elderly patient on the nursing scale dependency II or III in hospital in Newham (table VIII). The costs to the NHS of nursing a patient in a geriatric ward is almost three times that of domiciliary care, and the cost of patients referred from casualty is one-fifth of the average cost of a day in an acute ward.

TABLE VI—Cost of providing care at home for patients using the evening and night nursing services

	£
Salaries plus allowances	
Night and evening staff	73 376.56
Salaries plus allowances	
Day staff	34 533.20
Other costs to health service	3 833.49
Costs incurred by social services	19 856.46
Total	£131 599.71

TABLE VII—Costs incurred by social services for patients using evening and night nursing services

	£
Meals-on-wheels	7 870.72
Home helps	11 003.20
Telephones	378.00
Aids	604.54
Total	£19 856.46

TABLE VIII—Costs of providing different forms of care

Cost per	Hospital acute ward*	Hospital geriatric ward†	Home care‡	Part III accommodation¶
			3	4
Day	£40.15	£29.14	£10.42§ £8.88	£9.74
Week	£281.05	£203.98	£72.94 £62.16	£68.18
Year	£14 654.75	£10 636.01	£3803.51 £3241.02	£3555.10

*Costs for East Ham Memorial Hospital used as representative of district.

†Costs for Plaistow Memorial Hospital used as representative of district.

‡Excludes cost of drugs dressings, social worker, and general practitioner services.

§Cost to NHS plus inputs from social services.

¶Cost to NHS.

*Excludes cost of drugs.

QUALITY

It is difficult from the available data to provide any firm evidence about the quality of the domiciliary service. Is it providing sufficient surveillance of patients? Is it acceptable to staff and patients? Is the type of care provided appropriate? There is currently a gap in services in the early morning from 0600 until the day staff come on duty at 0900. With organisational changes this could be remedied to give not only better care but also prevent patients being woken up so early in the morning. The lack of continuous surveillance⁴ is a problem only partially remedied by the provision of telephones, home helps, and meals-on-wheels. But although some patients spent up to six hours alone during the day, they preferred this to institutional

care, and all patients seen by the researchers spontaneously commented on how fortunate they were to be able to remain in their own homes.

One matter of pride about the quality of care offered was the lack of bedsores among domiciliary patients.

The lack of staff resignations and the waiting list of possible recruits might be taken as indicators of the satisfaction of the service to the nurses.

Conclusion

Although the service is not appropriate for all patients⁴—for instance, those needing more technical nursing and medical intervention and the mentally ill—it would appear to be dealing adequately and acceptably with a large group of patients. These patients classified mainly on the Barr nursing scales II and III would not have been suitable for part III accommodation, the only service as cheap as day care, even if this had been available, and so would have needed hospital beds. As there is already a blockage of geriatric and acute beds alternative provision would have necessitated building a new geriatric unit—at an estimated cost of £600 000 for a 28-bedded unit at 1979 prices—if other services were not to be provided.

The potential demand for the service was not forecast, but the evidence of blocked beds and the present modest number of patients referred from casualty would suggest that the service could be usefully expanded. There would be no apparent staffing problem associated with the expansion, and the potential saving to the service could be large.

This study was undertaken at the London School of Hygiene and Tropical Medicine as the field service attachment for the degree of MSc(Com Med).

We thank Professor Logan and Dr Roberts of the London School of Hygiene and Tropical Medicine for their help and advice. We also thank Dr Siegruhn, district community physician, Newham Health District; the senior nursing officer community; the nursing officer for the night and evening services, Mrs Ball; and all the staff who helped with the survey.

References

- Murphy FW. Blocked beds. *Br Med J* 1977;ii:1395-6.
- Barr A. *Measurement of nursing care*. Oxford: Oxford Regional Hospital Board, 1967. (Operational Research Project, No 9.)
- Cresswell J, Pasker P. The frail who lead the frail. *New Society* 25 May, 1972.
- Opit LJ. Domiciliary care for the elderly sick—economy* or neglect? *Br Med J* 1977;ii:30-3.
- Ashley JSA. Community care: continuing or alternative care? *R Soc Health J* 1977; June; 127-9, 134.

(Accepted 8 January 1981)

Can microwave ovens damage the eyes? Is there any risk to the eyesight of people working regularly with diathermy apparatus in operating theatres with high frequency currents in industry?

Studies in animals have shown that prolonged exposure to micro-waves of certain wavelengths has caused cataract. There is, however, no known risk from apparatus which is properly screened. Guarantees as regards leakage should be obtained from manufacturers, and in case of doubt tests for leakage may be carried out. The latter, however, need advanced equipment and are not a job for an amateur. By the same token, there is no risk to people working with diathermy apparatus so long as screening is adequate. Similar provisos regarding screening apply to all electromagnetic radiations, including high-frequency currents. Although the problems are relatively complicated, a general code of practice is desirable if expressed intelligibly and made widely available.

Oosta GM, Mathewson NS. Effect of high-power density microwave irradiation on the soluble proteins of the rabbit lens. *Invest Ophthalmol Visual Sci* 1979;18: 391-400.