Frail aged persons residing in South African homes for the aged who require hospitalisation

Part II. Rural areas

S. WHITTAKER, F. R. PRINSLOO, C. L. WICHT, M. P. JANSE VAN RENSBURG

Summary

The numbers and characteristics of white residents identified by medical and nursing staff to require more staff time and/or expertise and/or medical equipment than was available in rural homes for the aged in the Orange Free State were assessed. In the opinion of institution staff, 12,6% of extremely infirm aged persons would benefit by admission to a hospital catering for the chronically ill. The conditions affecting these residents are described and recommendations relating to their management are made.

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In order to estimate the proportion of residents with subeconomic incomes (i.e. less than R450 per month) living in homes for the aged in rural areas who require more staff time and/or expertise and/or medical equipment than can be supplied in a home and who, consequently, would benefit by admission to a hospital, 29 rural homes for the aged in the Orange Free State were surveyed. For comparison, 6 homes in urban areas of the Orange Free State were also surveyed.

The Orange Free State was chosen because it has a relatively small population and the majority of homes for the aged in rural areas could be included in the survey. It was considered that these institutions would provide valuable insight into conditions existing in homes for the aged in rural areas.

Administration House of Assembly, Department of Health Services and Welfare, Bellville, CP
S. WHITTAKER, B.SC., M.B. CH.B., M.MED. (COMM. HEALTH), F.F.C.H. (C.M.) (S.A.)
M. P. JANSE VAN RENSBURG, M.B. CH.B., D.B.G., D.G.G.
Department of Community Health, University of Stellenbosch, Parowvallei, CP
F. R. PRINSLOO, B.SC., M.B. CH.B., D.C.H., HONS B.SC. (EPIDEMIOL.)
C. L. WICHT, M.B. CH.B., M.MED. (COMM. HEALTH), M.D., D.I.H.

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Subjects and methods

The study was based on an evaluation of the medical and nursing services from the providers perspective, i.e. the doctors and nurses who provide regular medical and nursing care to residents with subeconomic incomes. It was limited to elderly persons with subeconomic incomes residing in homes for the aged subsidised by the Department of Health Services and Welfare in which medical and nursing services are rendered.

The study was carried out in the following areas of the Orange Free State: (*i*) urban areas — Bloemfontein; and (*ii*) rural areas — Bethlehem, Boshof, Bothaville, Bultfontein, Frankfort, Harrismith, Heilbron, Kestell, Koppies, Kroonstad, Odendaalsrus, Parys, Petrusburg, Reddersburg, Reitz, Senekal, Steynsrus, Trompsburg, Ventersburg, Viljoenskroon, Vrede, and Zastron.

Doctors and nurses who provided regular medical and nursing care to residents with subeconomic incomes in the sample of homes for the aged were asked to identify residents who, owing to the severity of their physical and/or mental condition and/or associated impairments, required more resources in terms of staff expertise, time and medical equipment than was available. As a result the residents were not, in the staff members' opinion, being managed effectively in the home and would benefit by admission to a general hospital with facilities catering for chronically ill patients.

Extremely infirm aged (frail) persons are defined as aged persons whose mental and/or physical infirmity has reached the stage where extreme and constant demands are made on the staff for assistance in mobility and personal hygiene, dressing or undressing and feeding; and who require constant trained nursing of at least 30 minutes per day on a permanent basis, in addition to periodic medical treatment.[1]

Staff were asked to base the selection of residents who met the above criteria on their clinical knowledge of their physical and mental state, including the clinical requirements of their patients and their knowledge of the available resources in old-age homes in terms of staff numbers and expertise, medical equipment and accommodation. The methods are described in part I of this article (p. 39).

TABLE I. ECONOMIC CLASSIFICATION OF RESIDENTS

Orange Free State	No. of homes for the aged	No. of residents with economic incomes	Residents with subeconomic incomes		
			No.	%	Total
Rural	**29**	**383**	**1 196**	**74,9**	**1 597**
Urban	**6**	**84**	**360**	**81,1**	**444**
Total	**35**	**467**	**1 556**	**76,2**	**2 041**

Results and discussion

Of the 1 597 residents in the 29 old-age homes included in the study in the rural areas, 74,89% had subeconomic incomes. Of the 444 residents in the 6 urban homes included in the study 81,08% had subeconomic incomes (Table I).

Of the residents with subeconomic incomes 42,6% (509) in the rural areas and 49,7% (179) in the urban areas were classified as extremely infirm aged persons (Table II).

TABLE II. NO. OF EXTREMELY INFIRM AGED PERSONS

Orange Free State	No.	%	Total No. of residents with subeconomic incomes
Rural	**509**	**42,6**	**1 196**
Urban	**179**	**49,7**	**360**
Total	**688**	**44,2**	**1 556**

Proportion of residents requiring hospitalisation

Table III shows that 64 out of 509 rural extremely infirm/aged residents (12,57%) and 6 out of 179 urban residents (3,35%) were classified by staff as 'requiring hospitalisation'.

The proportion of residents identified as 'requiring hospitalisation' in the urban areas of the Orange Free State did not differ significantly from the proportions found in the urban areas of the south-west Cape, the eastern Cape and the southern Transvaal (Fisher's exact test $P > 0,05$) (see part I). However, the chi-square test showed that there was a significant difference between the proportion of extremely infirm aged residents in the urban areas of the Orange Free State classified as 'requiring hospitalisation' compared with the proportion of rural residents in this category in the Orange Free State classified as 'requiring hospitalisation' ($P < 0,01$).

Conditions affecting patients classified by institution staff as 'requiring hospitalisation'

The conditions which institutional staff regarded as being outside the scope of care that could be adequately provided in old-age homes could be classified as follows:

Physical conditions (Table IV)

While some of the conditions might interfere greatly with normal functioning, were life-threatening and required stabili-

TABLE IV. PATIENTS WITH PHYSICAL CONDITIONS REQUIRING MORE CARE THAN CAN BE PROVIDED IN HOMES FOR THE AGED

Condition	Associated conditions	No.
Arthritis	**Blind (1), frailty (4), dementia (1), hypertension (5), CCF (1), obesity (1), chronic bronchitis (1), peptic ulcer (1), IHD (1), incontinence (1), varicose veins (1), fractured hip (1), anxiety (1)**	**13**
CCF	**Senile dementia (3), arthritis (5) frailty (5), incontinence (1), fractured hip (1), diabetes (1)**	**9**
CVA	**Diabetes (2), blindness (1), UTI (1), hypertension (1), frailty (1)**	**5**
Diabetes	**CVA (1), dementia (1), peptic ulcer (1), UTI (1)**	**2**
Diverticular disease	**Arthritis (1), spastic colon (1)**	**1**
COAD	**Arthritis (1), CCF (1), diabetes (1)**	**2**
Fractured hip	**Frailty (2), blindness (1), incontinence (1)**	**3**
Frailty	**Arthritis (1), incontinence (3)**	**3**
Gangrenous foot	**Prolapsed disc (1), incontinence (1)**	**1**
Paralysis (MVA, polio)	**Incontinence (1), arthritis (1)**	**3**
Parkinson's disease	**Anaemia (1), diabetes (1), prostatic hypertrophy (1)**	**2**
Total		**44**

Numbers in brackets represent the number of residents with the associated condition in the category.
CCF = congestive cardiac failure; COAD = chronic obstructive airways disease; CVA = cerebrovascular accident; IHD = ischaemic heart disease; UTI = urinary tract infection; MVA = motor vehicle accident.

TABLE III. NO. OF RESIDENTS REQUIRING HOSPITALISATION OR EXTENSIVE CARE BY REGION

Orange Free State	No. of homes for the aged	No. of residents requiring hospitalisation	Extremely infirm aged persons	
			No.	%
Rural	**29**	**64**	**509**	**12,57**
Urban	**6**	**6**	**179**	**3,35**
Total	**35**	**70**	**688**	**10,17**

sation and/or rehabilitation in a hospital, in many of these cases, particularly in the arthritis group, hospitalisation seemed unnecessary since it should be possible to provide appropriate nursing in a frail-care section of a well-equipped and well-staffed home for the aged for residents suffering from these conditions.

Mental conditions (Table V)

While some residents suffered from mental and associated conditions that required a great deal of individual care and consequently made management difficult in a normally equipped and staffed old-age home, e.g. residents suffering from depression and aggression, the high proportion of cases that could not be cared for was surprising. Many of the residents suffered from conditions which it might be expected could be successfully managed in an adequately equipped and staffed frail-care section of a home for the aged, e.g. anxiety and headache or dementia and arthritis.

TABLE V. PATIENTS WITH MENTAL CONDITIONS REQUIRING MORE CARE THAN CAN BE PROVIDED IN A HOME FOR THE AGED

Condition	Associated conditions	No.
Anxiety	**Headache**	**1**
Dementia	**IHD (2), HT (2), chronic bronchitis (2), CVA (1), peptic ulcer (2), arthritis (8), sinusitis (1), frailty (1), incontinence (1)**	**12**
Depression	**Arthritis (1), peptic ulcer (1), aggression (1)**	**3**
Schizophrenia	**Frailty**	**1**
Total		**17**

CVA = cerebrovascular accident; IHD = ischaemic heart disease; HT = hypertension.

Patients requiring terminal care (Table VI)

Terminal care is defined as the care of patients with incurable diseases in which death will not occur immediately, but usually within 3 months of being admitted to an institution. As in the urban areas, there was a small number of residents who required more care, e.g. for the management of constant severe pain, than is normally available in a home for the aged.

TABLE VI. PATIENTS WITH CONDITIONS REQUIRING MORE SPECIALISED TERMINAL CARE THAN CAN BE PROVIDED IN A HOME FOR THE AGED

Condition	Associated conditions	No.
Breast cancer	**CCF, frailty**	**1**
Bladder cancer	**CCF, UTI**	**1**
Advanced cancer		**1**
Total		**3**

CCF = congestive cardiac failure; UTI = urinary tract infection.

Management of residents identified as 'requiring hospitalisation'

This study showed that the number of aged who cannot be managed in old-age homes in the rural areas of the Orange Free State was alarmingly large (Table III).

Nursing care

The results shown in Table VII reveal that among the 64 residents classified as 'requiring hospitalisation' in rural areas, the only cause given for the inability of the institution to care for the residents adequately in 26 cases (41%) was that the person required more nursing care (personnel) than could be provided in the home for the aged.

Insufficient nursing care (i.e. personnel) was also given as a major reason for inability to provide adequate care in another 22 cases (Table VII). Consequently, it may be postulated that the provision of adequate numbers of nursing personnel would overcome much of the concern of medical and nursing staff that many frail residents are not receiving adequate care in homes for the aged in rural areas and consequently 'require hospitalisation'.

The grave shortage of nursing staff in South Africa is well known[2] and it appears unlikely that this problem will be resolved in the near future. The majority of frail aged in homes for the aged have nursing requirements that could be met by appropriately trained nurse aides or possibly lay health workers, provided that they receive adequate training and 24-hour supervision by appropriately trained nursing staff. This matter should be urgently investigated by the appropriate authorities.

TABLE VII. REASONS WHY RESIDENTS CLASSIFIED AS 'REQUIRING HOSPITALISATION' CANNOT BE ADEQUATELY CARED FOR IN RURAL AREAS OF THE ORANGE FREE STATE

Reasons given	No. of residents affected
Inadequate nursing personnel	**26**
Inadequate No. of physiotherapists	**6**
Inadequate No. of occupational therapists	**1**
Inadequate No. of occupational and physiotherapists	**4**
Insufficient nursing, occupational therapy and/or physiotherapy available	**17**
Insufficient medical and nursing care available	**5**
Insufficient medical and physiotherapy care available	**2**
Insufficient medical equipment available	**1**
Insufficient medical care and inadequate accommodation available	**1**
Insufficient psychiatric care available	**1**
Total	**64**

Occupational therapists and physiotherapists

In many homes for the aged, occupational therapists and physiotherapists are not available. The study revealed that a major shortfall identified by institutional staff was inadequate numbers of such personnel, who are indispensable in a geriatric service for maintenance therapy as well as for rehabilitation (Table VII). Measures are urgently required to remedy this serious shortfall in the health services. The use of assistants under the supervision of qualified physiotherapists and occupational therapists would do much to alleviate the problem.[3]

Rural hospital facilities

Even with adequate nursing cover there will always be residents whose medical and psychiatric problems are difficult to manage with the resources available in a home for the aged

because they have life-threatening conditions that are often unstable and require constant monitoring, e.g. chronic obstructive airways disease associated with congestive cardiac failure. As in the urban areas, the type of resident identified as 'requiring hospitalisation' usually needed accurate medical, nursing, psychological and social assessment so that the appropriate treatment and placement in a long-term care facility could be determined.

Wicht[4] states that every hospital, irrespective of size, should have a geriatric team. Ideally, the geriatric team should consist of a physician (with an interest in geriatric medicine) or a geriatrician, a nurse, a psychiatrist, an occupational therapist, a physiotherapist and a social worker in order to evaluate the physical, psychological and social state of the elderly person. The ultimate objective is to help the patient to regain his independence to such an extent that he will be able to function at the maximum potential of his remaining abilities or to determine the optimal placement of the person either in the community or in a long-term care institution, according to the person's abilities and requirements.

This study indicated that the number of residents who cannot be cared for in a home for the aged will not be large, provided that sufficient numbers of nursing, paramedical and possibly adequately trained lay health workers are made available to provide acceptable care within the home.

It is recommended that in the rural areas consideration be given to allocating a small number of permanently available beds for the care of elderly persons in regional and community hospitals. These beds should be available to elderly persons requiring acute care, after-care, terminal care and permanent care. This would greatly assist in the management of residents identified as 'requiring hospitalisation' who suffer from conditions that interfere greatly with normal functioning, are life-threatening and require stabilisation and/or rehabilitation.

Support for the primary care team (institution doctors and nurses) in homes for the aged and for the rural hospital team in the management of this type of patient could be provided by a visiting physician/geriatrician from a geriatric assessment unit in an urban area. This organisational structure would allow for the identification of patients who would benefit by admission to a geriatric assessment unit in an urban area for assessment, stabilisation and/or rehabilitation.

Meiring[5] describes a model for a geriatric service based on the liaison between hospital and community services and states that it is possible to produce a clinical geriatric service in an average provincial hospital provided hospital personnel can be found and motivated and detached for this duty.

Training

Medical and nursing staff in these hospitals should have regular in-service training and special courses in geriatrics in order to provide the quality of service required for the care of these patients.

Conclusion

The proportion of residents in homes for the aged who require more staff time and/or expertise and/or medical equipment than can be supplied and who may benefit by admission to a hospital in rural areas is alarmingly large, especially when compared with urban areas. This study indicated that the major cause for the large number of residents in this category is due to the shortages of nursing and paramedical personnel.

Urgent attention must be given to staff:patient ratios and the provision of adequate nursing staff, occupational therapists and physiotherapists and possibly lay health workers to facilitate the care of dependent elderly patients and to decrease the demand and need for hospitalisation of elderly persons residing in homes for the aged.

A multidisciplinary geriatric team should be developed in regional hospitals in rural areas from existing personnel, who should be specifically trained for the task. Communication channels between these teams and appropriate urban geriatric assessment units should be established.

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