

Nursing Home Applications – Reasons and Possible Interventions

K M Chan, S F Wong, T Yoong

ABSTRACT

Background: With a rapidly ageing population like Singapore, the need for nursing homes will increase. Admission to a nursing home may be for medical and/or social reasons. We carried out case studies with the Care Liaison Service (CLS) of the Ministry of Health to determine reasons why the elderly applied for nursing home admission, and whether it was possible to prevent an admission.

Patients: During the 6-month study period, 331 applications were received, of which 280 (84.6%) were ≥ 60 years. There was an equal distribution of male (50.4%) and female (49.6%) applicants. Applicants were predominantly Chinese (86.0%), followed by Indians (8.0%), Malays and other races (3.0% each). Most of the applicants were semi-ambulant (50.0%), fully ambulant (31.4%) and non-ambulant (18.6%). The most common medical problems of the applicants were neurological (eg. stroke, normal pressure hydrocephalus, epilepsy), heart diseases (eg. hypertension, ischaemic heart disease, heart failure), orthopaedic conditions (eg. osteoarthritis, fractures neck of femur and other fractures), and psychiatric problems (eg. dementia, depression and history of schizophrenia/paranoid psychosis).

Method: Fifty-seven applicants (20.4%) were selected for intervention. They were 'non-psychiatric' patients whose caregivers were willing but unable to look after them. About half (28, 49.1%) of these applicants required nursing home care. The remaining 29 patients (50.9%) had the potential of improving or able to remain at home with appropriate community services. These 29 patients were contacted by the CLS nurse and the following recommendations were made: 1) inpatient rehabilitation in a community hospital (7 patients); 2) rehabilitation and day care in a community-based day care centre (17 patients); 3) domiciliary medical care (4 patients), and 4) reassessment by psychiatrist to control psychotic symptoms (1 patient). Only 6 patients were willing to accept the new recommendations. This poor result may imply that attempts at intervention at this stage may be too late.

Conclusion: We need to identify the group at risk for nursing home admissions early, take a proactive stance towards them, increase support to their caregivers to prevent burnt-out and continue to develop and publicise

community-based services. More studies need to be done in this area.

Keywords: elderly, nursing home, intervention

INTRODUCTION

The rapidly ageing population of Singapore, together with a reduction in birth rates, have led to an increase in the old age dependency ratio. This ratio reflects the burden of the economically active population in taking care of the elderly, ie. ratio of the elderly aged 65 years and above to the number of population aged 15 to 64 years. In 1980, the old age dependency ratio was 7.3 per 100⁽¹⁾, rising to 10 per 100 in 1997⁽²⁾ and will continue to increase to 28.7 per 100 by the year 2030⁽³⁾. With the reduction in family sizes and increasing tendency for married couples to be economically active, care of the elderly in the home will become an increasing burden. One of the solutions to this dilemma is to admit the frail elderly into nursing homes for continuing care so that their relatives can continue to work. The other option would be to develop support services in the community to help families look after the elderly at home⁽⁴⁾. However, the first option is often chosen because of convenience⁽⁴⁾.

METHOD

Case studies of patients referred to the Care Liaison Service (CLS) were conducted to determine: 1) the reasons for referrals to nursing homes of the elderly, and 2) whether it was possible to intervene by geriatric assessment and suggesting alternative means of care to prevent an admission. This study was conducted over a 6-month period between 7 October 1995 and 6 April 1996 with the CLS.

The Care Liaison Service (CLS) of the Ministry of Health, Singapore, is a centralised referral service that facilitates and co-ordinates placement of patients into long-stay institutions like nursing homes, hospices and chronic sick hospitals. These long-stay institutions are operated by voluntary welfare organisations (VWOs) with funding assistance by the Ministry. Most voluntary nursing homes in Singapore adopt the following criteria: 1) applicants must be Singapore citizens or permanent residents; 2) should be at least 60 years old; 3) should not suffer from any infectious disease, and 4) do not have close relatives who are able or willing to support them⁽⁵⁾. As a

Department of Geriatric Medicine
Alexandra Hospital
378 Alexandra Road
Singapore 159964

K M Chan, MBBS, M Med
(Int Med), DGM (Glas), FAMS
Consultant and Head

S F Wong, MBBS, MRCP (UK)
Consultant

Community and Home Care
Department
Elderly Services Division
Ministry of Health
16 College Road
Singapore 169854

T Yoong, MBBS, M Med (PH)
Director

Correspondence to:
Dr K M Chan

centralised referral centre, it receives applications for admission into nursing homes from government and restructured hospitals in Singapore. Referrals are submitted by medical social workers (MSW) on behalf of the patients or their caregivers with a standard referral form. The form consists of 3 sections: personal, social and medical.

- a) The personal section requires the basic biodata of the patient and is usually completed by the staff nurse-in-charge of the patient.
- b) The social section requires information about the main caregiver, members of the patient's family including occupation and income, living arrangement (whether living alone, with friends, with family, with relatives or others), type of accommodation (HDB, HUDC, private house, quarters or others), and a written report by the MSW-in-charge of the patient. In addition, reasons for referral to nursing homes are being asked and these include: 1) financial difficulties; 2) needs accommodation; 3) needs medical and nursing care; 4) needs assistance in activities of daily living (ADL); 5) care person unwilling to provide care; 6) poor relationship with care person(s); 7) care person willing but unable to cope with physical care/behavioural problems; 8) care person working or has other commitments and 9) the elderly person does not want to burden care person(s).
- c) The medical section requires information on significant medical and surgical histories, drug allergy, a checklist of common medical conditions and fitness for communal living, treatment required, and functional status including mobility status (ambulant, semi-ambulant with aids, non-ambulant but able to sit up; or bedridden requiring regular turning), feeding (totally independent, needs assistance, totally dependent, others), dressing-up (independent, minimal assistance, substantial assistance, totally dependent), toileting (totally independent, needs assistance to go to the toilet, needs bedpan/urinal, commode, incontinent/requires diapers), bathing (independent, needs some assistance/supervision, dependent on staff, bed-bathing/trolley-bathing) and mental status (rational, mild behavioural disturbance, moderate behavioural disturbance, highly confused/disturbed). This section is completed by the doctor-in-charge of the patient.

At the time of referral, patients may be in hospital or at home awaiting admission to a nursing home. After the forms have been received, nursing staff from the CLS will review the completed applications and group them into 3 different categories based on their ambulatory status: category A for ambulant patients, B for semi-ambulant patients and C for non-ambulant patients⁽⁵⁾. Based on this classification and their medical condition and mental state, the CLS nursing officer will forward the application form to the nursing home that can best provide the level of care needed by the patient (this was the standard practice before the period of study).

During the 6 months of study, all referrals to the CLS were reviewed weekly by a team comprising nurses from the CLS and a geriatrician from Alexandra Hospital. In the first 3 months of study, the team decided which patients could benefit from intervention based on 3 essential factors: their mental status, ambulatory and functional status and attitude of care person(s). However, because some of these patients came from parts of Singapore where the assessing team were not familiar with or cannot directly access the existing community services, a fourth factor was added for intervention during the last 3 months of study. This was residence in the western part of Singapore because Alexandra Hospital was designated to provide geriatric assessment and to co-ordinate geriatric services in this part of the island.

Based on a questionnaire, the mental status of patients were classified as 'psychiatric' if they had moderate behavioural disturbance or were confused or disturbed, and 'non-psychiatric' if they were either rational or had mild behavioural disturbance. Categorisation was based on the assumption that patients with moderate behavioural disturbance or outright confusion were more likely to require nursing home admission, and therefore, intervention for alternative care to keep the patient at home would not be justified. Patients who were not bedridden and who were likely to improve with rehabilitation were also selected.

As for attitudes of care persons, we considered intervening if they had not rejected the patient because of poor relationships, and were willing to look after the patient, but unable to do so. This inability could be due to financial constraints, work schedules or poor understanding of patient's illness.

Once a suitable case was identified, the nurse from CLS would either contact the patient through the MSW-in-charge (if still in hospital) or the family member if the patient was already discharged from hospital. The elderly person would be asked to come with their care person(s) to the Geriatric Centre of Alexandra Hospital for a comprehensive geriatric assessment. During this review, they would be seen by the geriatric assessment team comprising of a geriatrician, a gerontological-trained staff nurse, the physiotherapist and occupational therapist, and access to a social worker if required. After this assessment, the team would discuss with the patient and the care person(s) various alternatives to nursing home placement. These options included: 1) admission to a Community Hospital for a period of rehabilitation or respite care; 2) referral to a domiciliary medical or nursing service; 3) admission to a community-based rehabilitation centre to continue therapy for patient; 4) admission to a social day centre, and/or 5) referral for various home care services (like meals delivery, befrienders for companionship etc). Patients may require a combination of these services if necessary.

RESULTS

There were 331 applicants, of which 175 (52.9%) were males and 156 (47.1%) females. Two-hundred

and eighty applicants (84.6%) were 60 years and above, of which 98 were in the 60 to 74-year age group and 182 were ≥ 75 years. Male applicants were slightly younger than female applicants (mean age for men was 73, female was 78 years). Most of the applicants were Chinese (n = 241, 86.0%), followed by Indians (n = 22, 8.0%), and Malays and Others (8 persons each, 3.0%). Eighty-nine subjects (31.8%) were on public assistance while the remaining 191 were willing to pay between \$100 to \$900 (mean \$650) every month for nursing home care. Table I shows the characteristics of the sample studied, and Table II shows the common medical diagnosis of the applicants.

Table I – Characteristics of elderly nursing home applicants (≥ 60 years)

	Numbers	%
Sex: Male	141	50.4
Female	139	49.6
Race: Chinese	241	86.0
Malays	8	3.0
Indians	22	8.0
Others	8	3.0
Age: 60 – 74	98	35.0
≥ 75 years	182	65.0
Number of applicants on public assistance	89	31.8
Ambulatory status*:		
Category A	88	31.4
Category B	140	50.0
Category C	51	18.6
Category A : ambulant		
Category B : semi-ambulant		
Category C : non-ambulant		

Table II – Common diagnosis of applicants for nursing home care

Diagnosis	Numbers
Heart disease – heart failure, ischaemic heart disease, hypertension	86
Stroke	64
Other orthopaedic conditions – osteoarthritis, fractures other than neck of femur (NOF)	51
Dementia	45
Chronic obstructive airway disease (COAD)	39
Diabetes mellitus (DM)	31
Fractures neck of femur (NOF)	29
Other neurological conditions eg. normal pressure hydrocephalus, epilepsy	23
History of schizophrenia or paranoid psychosis	12
Parkinson's disease	15
Depression	9
Visual impairment including blindness	6
Amputations	6
Malignancies	6
Pressure ulcers	4
Others	50

* Most of the 280 applicants had more than 1 diagnosis

Fifty-seven applicants (20.4%) were found to qualify for intervention: that is, they were 'non-psychiatric' patients living in the western part of Singapore and caregivers were willing but unable to look after them. This assessment was based purely on the review of the application forms.

The 10 most commonly known medical problems were heart disease, stroke, orthopaedic conditions, dementia, chronic obstructive airway disease (COAD), diabetes mellitus, fractures of neck of femur (NOF), other neurological conditions, history of schizophrenia or paranoid psychosis, and Parkinson's disease. However, when these diagnosis were grouped, the most common medical problems of the applicants were neurological, followed by cardiac, then orthopaedic and lastly psychiatric. Table III shows the reasons for referral to nursing homes.

Outcome of intervention

Of the 57 patients, 28 patients (49.1%) required nursing home care because of their medical condition, poor ambulatory status and poor/inadequate support at home. This group was not contacted at all. The remaining 29 patients (50.9%) were found to have the potential of improving or being able to remain at home with the appropriate community services. The patients were contacted by the CLS nurse and recommendations were made. Seven patients were referred for further inpatient rehabilitation in a community hospital; 17 patients were referred for rehabilitation and day care in community-based day centres; 4 patients were referred for domiciliary medical care and 1 patient was referred for reassessment by a psychiatrist to control psychosis. Of the 29 patients contacted, only 6 (20.6%) responded: 3 attended rehabilitation and day care, 1 application was withdrawn, 1 was deemed suitable for nursing home after a geriatric assessment and 1 awaited admission to a community hospital.

The remaining 23 patients who rejected our recommendations did so because: 1) it was inconvenient to send their elderly relative to a day care centre (difficulties in climbing stairs, restricted by opening hours of day centres, need to arrange for transport); 2) not sure what day centres could offer; 3) not sure about what the care day centres could provide; 4) they had already made up their minds about sending their relative to a nursing home, and 5) care person(s) was not willing to continue caring for the elderly relative, although this was not reflected in the application form.

DISCUSSION

In this study done over 6 months between October 1995 and April 1996, there were about the same number of male and female applicants. A profile of residents in all nursing homes in Singapore conducted on 31 March 1995 showed more female residents (64.2%) than males (35.8%). While this gender difference between applicants and residents could be due to the small sample size of this study, an alternative reason could be that females survive longer. In terms of ethnic groups, Chinese applicants constituted the majority, followed by Indians, Malays and Others

Table III – Reasons for referral to nursing home care

Reasons	Numbers	%
Needs assistance in ADL	71	25.4
Care persons are working/have other commitments	67	23.9
Care person(s) willing but unable to cope with physical care/behavioural problems	55	19.6
Has financial difficulties	14	5.0
Needs medical and nursing care	44	15.7
Needs accomodation	10	3.6
Care person(s) unwilling to provide care	28	10.0
Poor relationship with care person(s)	26	9.3

* Most applicants have more than 1 reason

being the least. Ethnic group distribution of applicants was concordant with that of residents.

Two-hundred and eighty (84.6%) applicants of the 331 were 60 years or older. The mean age of this group was 75.5 years. This is quite consistent with the age profile of nursing home residents where up to 93% of them were 60 years or older. Age is a known risk factor for admission into a nursing home⁽⁶⁻⁸⁾. For ambulatory status of applicants, most were semi-ambulant (50%), followed by fully ambulant (31.4%) and non-ambulant (18.6%). In the March 1995 survey, residents who were semi-ambulant (38.4%) were the majority, followed closely by the non-ambulant group (37.3%) and fully ambulant group (24.7%). This is not surprising because with increasing age, frailty and co-morbidity^(7,9) over time, ambulatory status deteriorates, particularly from semi-ambulant to non-ambulant. Other possible explanations could be that nursing home admission is associated with a deterioration in the functional status of the elderly person. This could be due to various factors including onset of depression, isolation and lack of stimulation.

Unfortunately, in our study, we did not collect data on family size or marital status of the applicants. Reports elsewhere showed that the elderly who were married had half the risk of nursing home admission than the unmarried. Having at least one daughter or sibling also reduced the older person's chance of admission by about one quarter^(8,10).

The most common medical problems of the applicants were neurological (eg. stroke, normal pressure hydrocephalus, epilepsy), heart diseases (eg. hypertension, ischaemic heart disease, heart failure), orthopaedic conditions (eg. osteoarthritis, fractures neck of femur and other fractures), and psychiatric problems (eg. dementia, depression and history of schizophrenia/paranoid psychosis). Other studies quoted senile dementia and stroke as the most frequent diagnoses of patients admitted⁽⁶⁾. The common reasons for application for nursing home care were: 1) functional dependency of the elderly person; 2) unavailability of the care person(s) because of work or other commitments; 3) inability to cope with the physical care or behavioural problems, and 4) patient needs medical and nursing care.

About half (49.1%) of the group that was suitable for intervention defined by our criteria had valid reasons for admission into nursing homes. This is quite consistent with another study, which found that 62.6% of their nursing home applicants required nursing home admission⁽¹¹⁾. This finding may suggest that by providing multidisciplinary assessment for nursing home applicants, admission rates can be lowered and inappropriate admissions can be reduced. However, the extent to which this reduction can be maintained will depend on how effective the alternative care options are⁽¹⁾.

The results of intervention after an application was submitted were disappointing. Only 6 out of 29 (20.7%) agreed to try the proposals that the team made. The rest who rejected alternative care options did so citing various reasons: 1) inconvenience or difficulty in assessing day care centres; 2) poor knowledge or understanding of these centres and other home care services; 3) had already made up their minds, and 4) many of them were actually unwilling to continue caring for the elderly relative, although this was not reflected in the application form. Most of them preferred to use the option 'willing but unable to cope' rather than 'unwilling to provide care.' This may be one way in which care persons hide their rejection of their elderly relative (which is frowned upon in the Asian culture) or they may be truly burnt out. This poor result may imply that attempts at intervention after an application for nursing home has been submitted may already be too late. Our recommendations are: 1) identify those who are at high risk of nursing home admissions at an earlier stage. These include the elderly, the frail, those living alone, has mental impairment like dementia, has impaired activities of daily living and restricted mobility, and who requires multiple formal community services⁽¹²⁾; 2) take a pro-active stance towards this high-risk group by developing in-home geriatric assessment and intervention programmes⁽¹³⁾. A report of one such programme showed a delay in the development of disability and reduction in nursing home stays among elderly people living at home; 3) supporting the caregivers to prevent burnt-out, and this includes education of caregivers, use of respite care services and support groups and 4) developing and publicising community based-services. More studies need to be done in Singapore if we hope to reduce nursing home admissions.

REFERENCES

1. Census of Population 1980.
2. Monthly Digest of Statistics, Dec 1997, Department of Statistics.
3. Population Planning Unit, Ministry of Health, Feb 1997.
4. Pang WS. Health Services: An Overview. In: Geriatric Medicine for Singapore. Chan KM, Yap KB, Wong SF, eds. Singapore: Gerontological Society 1996:221-2.
5. Tan ML. NursingHomes. In: Geriatric Medicine for Singapore. Chan KM, Yap KB, Wong SF, eds. Singapore: Gerontological Society 1996:253-5.
6. Nygaard HA, Albrektsen G. Risk factors for admission to a nursing study of elderly people receiving home nursing. Scand J Pri Health Care 10:128-33.

7. Jette AM, Branch LG, Sleeper LA, Feldman H, Sullivan LM. for nursing home admission. *Gerontologist* 1992; 32: 634-40.
8. Klein T, Salaske I. Determinants of nursing home admission and chances for prevention. A longitudinal study in Germany. *Gerontology* 1994; 27:442-55.
9. Taylor IC, McConnell JG. Admission of nursing home patients to geriatric medical wards. *Ulster Med J* 1994; 63:170-5.
10. Freedman VA. Family structure and the risk of nursing home admission. *J Gerontol B Psychol Sci Soc Sci* 1996; 51:61-9.
11. Quartararo M, O'Neill TJ. Nursing home admissions: the multidisciplinary assessment team on the frequency of admission approvals. *Community Health Study* 1990; 14:47-53.
12. McFall S, Miller BH. Caregiver burden and nursing home admission of frail elderly persons. *J Gerontol* 1992; 47: 73-9.
13. Stuck AE, Aronow HU, Steiner A, Alessi CA, Bla CJ, Gold MN et al. A trial of in-home comprehensive geriatric assessments for elderly people living in the community. *N Engl J Med* 1995; 333:1184-9.

**Provisional Programme for the
8th MOH-Mayo-Clinic Update
27 & 28 February 1999
Theme : Cardiothoracic Disease
Venue : Auditorium, COMB**

Saturday 27 February 1999

11.00 am : Opening Address

Session I : Recent Advances
Chairman : A/Prof Eugene Sim and Dr Philip Eng

11.10 am : Cardiac Surgery – Prof Thomas Orszulak
11.50 am : Pulmonary Medicine – Prof Udaya Prakash
12.30 pm : Discussion
12.45 pm : Lunch

Session II : Coronary Artery Disease
Chairman : Dr Charles Toh

2.00 pm : Medical Management – Prof Chia Boon Lock
2.20 pm : Surgical Management – Prof Thomas Orszulak
2.40 pm : Interventional Cardiology – Prof Lim Yean Leng
3.00 pm : Discussion
3.30 pm : Tea Break

Session III : Lung Cancer
Chairman : Dr Philip Eng

3.50 pm : Surgery for Lung Cancer – Dr T Agasthian
4.10 pm : Imaging in Lung Cancer – Dr Cheah Foong Koon
4.30 pm : Interventional Bronchology – Prof Udaya Prakash
4.50 pm : Discussion
5.20 pm : End of Programme

Sunday 28 February 1999

Session IV : Pulmonary Infections
Chairman : Dr Wang Yee Tang

2.00 pm : Pulmonary Infections in HIV – Dr Udaya Prakash
2.20 pm : New Antibiotics in Pulmonary Infections – Dr Wong Sin Yew
2.40 pm : TB in North America – Prof Udaya Prakash
3.00 pm : Discussion
3.20 pm : Tea Break

Session IV : Heart Failure
Chairman : Dr Chua Yeow Leng

3.40 pm : Medical Management – Dr Lau Kean Wah
4.10 pm : New Surgical Option for Treatment of Heart Failure
– Prof Thomas Orszulak
4.40 pm : Discussion
5.00 pm : End of Programme