Unassigned Geriatric Evaluation and Management Program: preventing sub-acute hospital admissions

CLARE HEANEY, KWANG LIM, SHARRYN LYDALL-SMITH AND MICHAEL DOREVITCH

Clare Heaney is a Research Assistant, Kwang Lim is a Research Fellow, Sharryn Lydall-Smith is a Senior Research Officer, and Michael Dorevitch is the Director of the Centre for Applied Gerontology at Northern Health in Victoria.

Abstract

The purpose of this study was to describe and evaluate the Unassigned Geriatric Evaluation and Management (UGEM) program recently developed at Bundoora Extended Care Centre (BECC). The UGEM program resembles a bed substitution service and aims to prevent hospital admissions by providing community case management services to clients who would otherwise require inpatient admission.

Data was collected on 36 clients who had received UGEM services. Twenty-six clients/carers also took part in a follow-up telephone satisfaction interview.

Overall, the evaluation indicates that the UGEM program is a flexible, valuable and effective service. Most UGEM clients could be maintained at home with services, and this suggests that the program succeeds in assisting many clients to avoid hospitalisation in crisis situations. Further, clients and carers displayed a very high level of satisfaction with the service. The ongoing funding of such programs is crucial in order to maintain the reduction in hospital admissions and hence the high costs associated with inpatient care.

Community-based care models

In view of the anticipated increase in the demand for acute and subacute health care services, there has been a shift in governmental policy towards funding services that provide community-based care rather than the traditional model of institutional care. By providing care services within the home, these programs aim to reduce hospital admissions or shorten hospital lengths of stay. In Australia, these inpatient substitution care services include Hospital in The Home, Post Acute Care services and community and hospital based care co-ordination and case management, including flexible funding arrangements like Unassigned Geriatric Evaluation and Management strategies.

There is some support for the efficacy of Hospital in The Home programs and Post Acute Care services (Wolter, Bowler, Nolan & McCormack, 1997; Caplan, Ward & Brennan, 1999; Department of Human Services, 1999; Department of Human Services, 2001). However, the evidence surrounding case management models remains controversial (Bernabei, Landi & Gambassi, 1998; Commonwealth Department of Health and Aged Care, 1999; Caplan, Brown, Crocker & Doolan, 1998). Some literature does support the notion that client and carer satisfaction with case management models is high (Morishita, Boult, Boult, Smith & Pacala, 1998; Boult, Boult, Morishita, Smith & Kane, 1998; Weuve, Boult & Morishita, 2000).

The Unassigned Geriatric Evaluation and Management (UGEM) Program at Bundoora Extended Care Centre

Bundoora Extended Care Centre (BECC) provides subacute inpatient care, rehabilitation, ambulatory care and Aged Care Assessment Services to elderly and younger people with age-related disabilities living in northeastern Melbourne. The Unassigned Geriatric Evaluation and Management (UGEM) program at BECC was established in August 2000. The aim of the program is to provide community case management services to clients who would otherwise require inpatient admission during short-term crisis periods, therefore resembling a bed substitution service. It is a short-term care co-ordination service, which enables the assigned case manager to develop a care plan, and to access additional services over and above those usually available (as required) for up to 28 consecutive days. The program is designed to be interventionist. It is directed to the provision of active support and direct services rather than ongoing care and maintenance.

Until there is more definitive evidence that supports the proposition that services such as the UGEM program lead to improved patient outcomes and are also cost-effective, new programs developed to support community-based management models need to be evaluated before widespread replication and implementation. Thus, the aim of the current project was to describe and evaluate the UGEM program at BECC, taking into consideration client demographic and service provision data, inpatient admission rates to BECC and the satisfaction of UGEM clients/carers with the service.

Methodology

Participants

All clients admitted to the UGEM program from its inception in mid August 2000 who were discharged before 31 May 2001 were included in the review. A total of 36 UGEM clients (28 female and 8 male) had received services before the 31 May 2001. Their demographic characteristics were recorded and compared with those of 153 clients admitted to BECC for inpatient evaluation and management during the same period.

Voluntary participation was sought for clients and their carers in the client/carer interviews. The response rate was high (72.2%), with 26 clients/carers agreeing to participate. Of the interviews conducted, 21 related to female UGEM clients and the remaining five related to male UGEM clients.

Materials

UGEM files were created for each of the UGEM clients. The following client information was collected from the clients' hospital files: demographic attributes; circumstances leading to admission to the service; social background; Modified Barthel score (Granger & Greer, 1976); Mini-Mental State Examination score (Folstein, Folstein & McHugh, 1975); a range of information surrounding the specific services received through the program; and the case manager's progress notes.

An information sheet describing the client/carer satisfaction interview and a consent form were devised. Additionally, a set of 10 Client/Carer satisfaction interview questions were devised which required respondents to provide information regarding their thoughts on the services they received through the UGEM program.

A database detailing the demographic profile of 153 inpatient GEM patients was also used for the purpose of comparison. The following details were included in the database: date of admission/s, presenting problem, local government area, date of birth, Modified Barthel score at admission, country of birth and gender.

Procedure

After gaining ethics approval from the Bundoora Extended Care Centre Ethics Committee, a UGEM file was constructed for each client. Health Information Services at BECC provided information relating to client admissions to BECC within the month following their discharge from the UGEM program, as well as a database detailing the demographic profile of clients who had been admitted to BECC for inpatient GEM between September 2000 and May 2001.

Client information and consent forms were given to new clients by case managers on admission to the UGEM service. On agreement, they were informed that a research assistant would contact them soon after their discharge from the service. After discharge from the UGEM Program, clients/carers were contacted via telephone and a 15-minute semi-structured interview aimed at discussing their experiences with the service was conducted. Consent was obtained over the phone for clients who had received UGEM services prior to the commencement of the project. Of the 26 interview respondents, 5 were clients and 21 were carers. We approached for interview those clients who were deemed to be cognitively intact (Mini-Mental State Examination score >24) and who were physically able to respond. Carers were interviewed in cases where the client had impaired cognitive functioning, could not verbally communicate or was too physically ill to participate.

Results

Between inception in mid-August 2000 and 31 May 2001, 36 clients had received services and had been discharged from the UGEM program, with most referrals (61.1%) having come through the Aged Care Assessment Service (ACAS) at BECC. The circumstances that led to the referral and inclusion of clients into the UGEM program were categorised as either client-related (63.9%) or carer-related (36.1%) with the most common involving the client suddenly becoming ill or having an accident (52.8%). Carer illness was another common factor (25%) leading to the referral of clients to the UGEM program.

Demographic profile of UGEM clients

Of the 36 UGEM clients, 28 (77.8%) were female and 8 (22.2%) were male. The age of these clients ranged from 59 years to 96 years with a mean of 79.8 years. The largest proportion of clients (41.7%) fell within the 75-84 year age range. The birth countries of clients admitted to the UGEM program included Italy (8.3%), England (8.3%) and Germany (5.6%). However, the majority of clients (61.1%, N=22) were born in Australia.

The majority of UGEM clients (86%) were living at home, either alone or with family members, immediately before UGEM admission. Many of the UGEM clients had primary carers, with daughters (38.9%) and spouses (13.9%) being the most frequently reported carers. Although only one client was an inpatient in hospital immediately before UGEM admission, 4 clients (11.1%) were reported to have been an inpatient in a hospital during the four weeks prior to UGEM admission.

As can be seen in Table 1, the most common client diagnosis at admission was organic brain syndrome, with over a third of all UGEM clients being diagnosed with this disorder. However, Table 1 indicates that the UGEM program is catering for clients with a diverse range of presenting problems.

Table 1. primary diagnosis of clients receiving UGEM services

Primary diagnosis of client	Number of clients	Percentage
Organic brain syndrome	13	36.1
Old stroke	3	8.3
Respiratory disease	3	8.3
General deterioration/illness	3	8.3
Other orthopaedic disorder	3	8.3
Arthropathy	2	5.6
First stroke	1	2.8
Neoplastic disease	1	2.8
Parkinson's disease	1	2.8
Recent fractured neck of femur	1	2.8
Retinal detachment	1	2.8
Cardiac disease	1	2.8
Osteoporosis	1	2.8
Renal failure	1	2.8
Other neurological disorder	1	2.8
Total	36	100.0

The comorbid illnesses of UGEM clients were also collected from the patient files, with the most common illnesses including respiratory disease (16.7%), arthropathy (16.7%), hypertension (8.3%), cardiac problems (8.3%) and diabetes (8.3%).

Clients' admission Barthel Index scores ranged from 0 to 100 with a mean of 65.1. The mean admission Mini-Mental score of clients was 20.2 (out of a possible maximum of 30) with a minimum of 0 and a maximum score of 28.

Comparison of UGEM clients and inpatient GEM clients

For comparative purposes, demographic information relating to 153 inpatient GEM clients admitted during the period from September 2000 to May 2001 was also examined. This highlighted many similarities between the two client groups. For example, the age of clients receiving both services was almost identical, with the UGEM clients having a mean age of 79.8 years and the inpatient GEM clients having a mean age of 79.4 years. Most clients who received both services were between the ages of 75 and 84 years.

Like UGEM clients, inpatient GEM clients appear to come from a variety of cultural backgrounds with the majority (60.2%) being born in Australia and Italy being the next most common country of birth. Inpatient GEM clients were also shown to have a variety of presenting problems on admission to BECC. Similar to UGEM clients, one of the most common diagnoses was dementia. Inpatient GEM clients were found to be significantly more disabled than UGEM clients based on admission Barthel scores (53.4 vs 65.1, p<.05, unpaired t-test).

A noteworthy difference between the two groups was the fact that up to 20 (13.1%) of the inpatient GEM clients had been readmitted at least once during the period from September 2000 to May 2001. Conversely, during the same period, only one (2%) client had been admitted to the UGEM program more than once and this client actually died before the provision of the UGEM services commenced for the second time. A Fisher's Exact Test indicated that this difference in readmission rates was significant (p<.05). Additionally, apart from the clients who had been discharged directly to BECC, no UGEM clients were admitted to BECC within a month of their discharge from the UGEM program. Thus, while the two client groups appear to be quite similar, it appears to be the case that the UGEM program is generally used on a one-off basis, in distinct crisis situations.

Description of the UGEM Program

The length of the UGEM service differed among clients, with the service ranging from 1 to 78 days (median 22 days) with an average length of 24.11 days. The number of services clients received through the UGEM program ranged from 1 to 5 (mean = 1.9 services) with 75% of clients receiving less than or equal to two different types of services. The number of clients receiving each type of service is displayed in Table 2 and it must be noted that several clients received more than one of these services. These services were provided by a variety of both internal and external providers.

Table 2. number of clients receiving each type of service within the UGEM Program

Type of service received	Number of clients	Percentage of clients receiving the service
Personal Care	19	52.8
Respite organised	12	33.3
Physiotherapy	11	30.6
Occupational Therapy	10	27.8
Home Care	9	25.0
Podiatry	3	8.3
Respite partly funded	1	2.8
Speech Pathology	1	2.8

Discharge from the UGEM Program

The most common discharge location was the client's home (47.2%) and a further 11.1% of clients were discharged to the home of their relative or carer. Only 8 (22.2%) clients were to undergo inpatient care within a hospital on their discharge from the UGEM program. Five of these clients were immediately admitted to

BECC and the remaining three were admitted to other hospitals. Apart from the 8 clients who were discharged straight to hospital from the UGEM program, no further UGEM clients were admitted to BECC within one month of their discharge from the UGEM program.

UGEM client/carer interviews

The 26 interview respondents comprised 5 clients and 21 carers. The most commonly reported reason for why the UGEM services were needed involved some form of client illness or accident (42.3%). Carer illness (26.9%) and inability to cope (23.1%) were also frequently reported. This is consistent with the reasons for admission as noted by case managers on client admission to the program.

Of those interviewed, 84.6% (22) of respondents indicated that they felt very involved in the decisions made about the type of care services which would be provided through UGEM. The majority of those interviewed (80.8%, n=21) also reported that the services provided through the UGEM program met their needs. The response time for service requests also appeared to be very satisfactory, with 73.1% (19) of respondents indicating that their services were implemented very quickly and the remaining 26.9% (7) reporting that their service request was answered reasonably quickly. Further, the UGEM program was reported to be extremely helpful. 100% (26) of those interviewed indicated that the service helped in some way. A variety of responses were provided with regards to how the services helped the recipients and these responses are presented in Table 3.

Table 3. ways in which The UGEM service helped clients/carers

Way in which UGEM service helped	Number of times reported	Percentage
Advice/support given to carer	7	26.9
Helped carer recover from illness	4	15.4
Helped client recover from illness	4	15.4
Home help/care provided	2	7.7
Installations made home environment safer	2	7.7
Speeded up the process of admission	2	7.7
Enabled client to come home from residential care	2	7.7
Independent person for client to talk to	1	3.8
Extra care attention given	1	3.8
Made sure client was safe	1	3.8
Total	26	100.0

Respondents reported a variety of service aspects when asked about the best part of the UGEM program, including specific services (19.2%); UGEM staff (15.4%); support and respite for carers (15.4%); and the overall program (15.4%). When questioned about the worst parts of the UGEM services, over half of the respondents could not think of any negative aspects. The aspects that were reported included stranger coming into the home (7.7%); external agency staff (7.7%); and not enough services provided (3.8%).

The majority of respondents (80.8%) appeared to be satisfied with all aspects of the UGEM program. Many of those interviewed (57.7%) indicated that they had no suggestions for improvement for the program as they found it very effective and helpful. The suggestions that were offered by respondents included more communication between providers and recipients (7.7%); more money be attributed to the program (7.7%); inadequate time periods for respite be addressed (7.7%); and more services be made available (3.8%).

Discussion

The aim of the current project was to provide a description and evaluation of the UGEM Program at Bundoora Extended Care Centre (BECC). The review suggests that the UGEM Program caters for a diverse range of clients. It appears that the program is extremely flexible and that care plans are based on the consideration of each individual client's unique circumstances. The program appears to be a useful and effective service, which is successful in assisting many clients to avoid hospitalisation. Further, client and carer satisfaction with the program appears to be extremely high.

The variety of circumstances leading to client admission to the UGEM program highlights the importance of flexibility and suggests that the program needs to be adaptable in order to cater for clients who require the service for a diverse range of reasons. UGEM clients were shown to have a variety of presenting problems and illnesses on admission, indicating that the program is catering for a wide range of client groups. Common problems included dementia, stroke, respiratory disease, orthopaedic disorders and arthropathy. The program also displayed flexibility in terms of the length of service and the type and number of services clients received.

While UGEM clients and inpatient GEM clients appeared to have many common characteristics, one noteworthy difference was the number of readmissions to each service. Compared with 20 inpatient GEM client readmissions, there was only one UGEM patient readmitted to the program during the same period, and this patient deceased before the service was implemented for the second time. This appears to suggest that the UGEM program is successful in assisting many clients during distinct, short-term crisis situations, and that once these circumstances change, it is not necessary for clients to call on the services again.

Over half of the UGEM clients were discharged to their home or the home of their relative/carer at the conclusion of their UGEM service and none of these clients required admission to BECC in the month following their discharge. This suggests that the service is able to successfully assist most clients in avoiding institutionalisation in crisis periods, therefore reducing the high cost involved with inpatient care. Unfortunately, information regarding UGEM client admissions to other hospitals was not obtained. A smaller proportion (<25%) of clients were immediately admitted to a hospital at the conclusion of their service. This reflects the fact that the needs of some clients may be too complex to be effectively maintained by services within the home. It may be useful to develop some sort of formal screen that would determine which clients are appropriate for UGEM services and which, ultimately, could not cope without being institutionalised. However, even for those who do eventually require hospitalisation, the program may still be successful in postponing hospital admission.

Ongoing feedback from clients and carers is important to ensure that the UGEM program continues to meet the ever-changing needs of its recipients. Overall, the client/carer interviews illustrated that there was a very high level of satisfaction with the UGEM program. This finding is consistent with previous research indicating that client and carer satisfaction is high with outpatient GEM and other home-based care programs (Morishita et al., 1998; Boult et al., 1998). Clients and carers reported that the UGEM services were implemented very efficiently and the majority felt that the service met their needs. Indeed, the UGEM program was reported to be extremely helpful by all recipients. The support given to carers was the most commonly reported helpful impact of the service. This is consistent with the findings of Weuve et al. (2000). They found that outpatient GEM helped to protect carers of elderly people from experiencing increases in levels of burden.

Methodological issues

As the UGEM program had been running for a number of months before the current project commenced, many of the satisfaction interviews were conducted some months after the UGEM service was actually received. This may have made respondent recall less accurate, although a description of the services provided was given by the investigator before the interview commenced. Further, although the satisfaction of clients and carers was considered in the current review, GPs were not approached regarding their thoughts on the service. At this stage there is very little knowledge about the service among GPs as it has not been widely marketed. Approaching GPs in the future would be worthwhile in further evaluating the service. Similar services have been rated highly by clients' GPs (Morishita et al., 1998).

While the number of clients admitted to BECC within one month of being discharged from the UGEM program was ascertained, the number of clients admitted to other hospitals was not. A follow-up for each client would be ideal in order to determine how successful the UGEM program was in preventing client admission to all hospitals and not just BECC. Finally, the small sample size restricts statistical analysis of the data. However, by incorporating all clients involved with the program, important trends would be more easily identified.

Conclusion

Overall, the current review indicates that the UGEM program is a valuable and effective service. The fact that most UGEM clients could be maintained at home with services suggests that the program is successful in assisting many clients to avoid hospitalisation in crisis situations. Further, clients and carers displayed a very high level of satisfaction with the service, indicating that it provided both support and assistance in times of particular hardship. The ongoing funding of services such as the UGEM program is crucial in order to maintain the reduction in hospital admissions and the high costs associated with inpatient care.

References

Bernabei R, Landi F, Gambassi G, Sgadari A, Zuccala G, Mor V, Rubenstein L & Carbonin P 1998, 'Randomised trial of impact of model of integrated care and case management for older people living in the community', *British Medical Journal*, vol 316, pp 1348-1351.

Boult C, Boult L, Morishita L, Smith S & Kane R 1998, 'Outpatient Geriatric Evaluation and Management', *Journal of the American Geriatric Society*, vol 46, pp 296-302.

Caplan G, Ward J, Brennan N, Coconis J, Board N & Brown A 1999, 'Hospital in the home: a randomised controlled trial', *Medical Journal of Australia*, vol 170, no 4, pp 156-60.

Caplan GA, Brown A, Crocker WD & Doolan J 1998, 'Risk of admission within 4 weeks of discharge of elderly patients from the emergency department-the DEED study', *Age and Ageing*, vol 27, pp 697-702.

Commonwealth Department of Health and Aged Care 1999, *Major Interim National Evaluation Report on the Co-ordinated Care Trials*. Canberra.

Department of Human Services 1999, *Post Acute Care program client activity. Purchased services and financial reports July 1998 to June 1999*. Victoria.

Department of Human Services 2001, *Post Acute Care Study: Evaluation of Outcomes in Older Patients*. The Centre for Applied Gerontology. Victoria.

Folstein MF, Folstein SE & McHugh PR 1975, '"Mini-mental state": A practical method for grading the mental state of patients for the clinician', *Journal of Psychiatric Research*, vol 12, pp 189-198.

Granger CV & Greer DS 1976, 'Functional status measurement and medical rehabilitation outcomes', *Archives of Physical Medicine and Rehabilitation*, vol 57, pp 103-109.

Morishita L, Boult C, Boult L, Smith S & Pacala J 1998, 'Satisfaction with Outpatient Geriatric Evaluation and Management (GEM)', *The Gerontologist*, vol 38, no 3, pp 303-308.

Weuve J, Boult C & Morishita L 2000, 'The Effects of Outpatient Geriatric Evaluation and Management on Caregiver Burden', *The Gerontologist*, vol 40, no 4, pp 429-436.

Wolter JM, Bowler S, Nolan P & McCormack J 1997, 'Home intravenous therapy in cystic fibrosis: a prospective randomized trial examining clinical, quality of life and costs', *European Respiratory Journal*, vol 10, pp 896-900.