Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 04, 2020

Mobile Acute Care of the Elderly and Acute Care for Elders in Gerontological Health Management system Ongkharak Hospital, Thailand

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Received: 20 August 2020, Revised, Accepted: 22 September 2020, and Published: 2 October 2020

Abstract

Elderly people are especially vulnerable to adverse events during hospitalization. The Mobile Acute Care of the Elderly (MACE) service is a new model of care designed to provide multidisciplinary, specialized care for seniors. The elderly who are hospitalized to improve the patient Elderly patients are at risk of losing their ability to care for themselves during acute illnesses that result in hospitalization. An acute care unit (ACE) is a continuous improvement model of care designed to prevent the loss of a patient's autonomy from admission to and from the hospital to carry out activities of daily living. day (hospital-related disability). The ACE unit intervention includes the principles of a prepared environment that promotes safe patient self-care. A set of clinical practice guidelines for elderly care health to prevent patient disability and restore self-care lost in acute illness and planning for changing care and medical care.

Key words: Mobile Acute Care, Elderly, Acute Care, Gerontology, and Health Management system

Introduction

Acute Care for Elders (ACE) Units promotes improved outcomes for hospitalized older adults through specialized, inter-professional care and environmental adaptation. ACE Units are different from Geriatric Assessment Units (GAU) and Geriatric Evaluation and Management Units (GEMU) in two ways. First of all, the ACE unit provides care at the onset of hospital admission and in the early stages of acute illness. (Thus, most patients are admitted directly from the emergency department), while GAUs and GEMUs tend to provide care for patients in the mid- to mid-acute phase or after the acute phase of the illness.

GAUs and GEMUs that accept patients in the early stages of a medical illness function similarly to ACE units, despite their nomenclature. Second, ACE units provide full medical services. The services (including diagnostic and treatment services) are found in high-intensity wards, while GAU and GEMU may provide shorter services than high-intensity care. Evidence when viewed collectively supporting the widespread use of ACE units, the inter-professional care model, known as the ACE model, was designed with the aim of improving overall outcomes for older adults hospitalized for acute medical reasons. The model is based on five elements: patient-centered care; frequent medical review; early rehabilitation pre-sale planning and prepared environment.

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The nomenclature of hospital wards using the ACE model is varied and includes ACE units and acute geriatric units (AGU). ACE units can complement GAU and GEMU. In practice, ACE units differ from GAU and GEMU in those two ways. First of all, ACE units differ from traditional GAUs and GEMUs in that ACE units provide comprehensive care tailored to geriatric patients from the onset of acute illness. Most patients are admitted directly from the emergency department, while GAU and GEMU focus on meeting needs. of elderly patients in the middle to late acute or post acute stages This represents a stream of elderly people in acute care [1,2].

Some previous studies on ACE units have not shown positive results. This is due in part to the differences seen in the deployment of specific ACE components. as well as partial application of the five elements There were also methodological differences between studies in predefined outcomes and follow-up duration. As mentioned above many hospitals will face limited resources or infrastructure. A systematic descriptive review by Fox and colleagues provides evidence-based guidance on prioritizing the implementation of ACE components. The success of ACE Units in decreasing length of stay (thereby saving cost and bed days while improving patient flow) and in decreasing long-term care placement (thereby saving the system money) should be considered by hospitals facing restricted resources – ACE Units may be the investment they need to make to ultimately deal with the escalation in the numbers of complex seniors being admitted to hospital [1-4].

Elderly patients are at risk of losing their ability to care for themselves during acute illnesses that result in hospitalization. An acute care unit (ACE) is a continuous improvement model of care designed to prevent the loss of a patient's autonomy from admission to and from the hospital to carry out activities of daily living (hospital-related disability). The ACE unit intervention includes the principles of a prepared environment that promotes safe patient self-care. A set of clinical practice guidelines for bedside care by nurses and other health professionals to prevent patient disability and restore self-care lost in acute illness and planning for changing care and medical care

The Mobile Acute Care of the Elderly (MACE) service consists of a multidisciplinary team of senior's social worker and clinical specialist nurses with a focus on reducing the risk of hospitalization Improve coordination of care with outpatient practices discharge planning and patient and care education. To check performance we conducted a prospective study with a matched cohort design to examine outcomes associated with MACE services for hospitalized frail older adults. We hypothesize that MACE services, including transitional care components, may be associated with improved outcomes for readmission to hospital. Incidence of Adverse Events length of stay and patient satisfaction compared to usual care.

The main aim of the research to examine the MACE and ACE to ensure the quality of health towards elderly in the study area and establish clear reforms on mobile acute care of elderly

Materials and methods

In brief, the MACE service team consists of participating geriatric doctor's geriatric medicine doctor social worker and clinical specialist nurses. Ayurvedic nurses record the history of elderly patients admitted to acute care in the hospital. The multidisciplinary team meets daily to discuss the care of every patient with specialist nurses acting as "Hospital coaches" educating patients or caregivers. The MACE service also uses various elements to improve

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 04, 2020

care transitions. This includes pre-discharge reconciliation and communicating with your primary care physician within 24 hours of discharge.

The usual care group includes patients admitted to the general medical unit. Please note that the usual care team consists of attending internal medicine, not a geriatric doctor and no clinically skilled nurses. In addition, routine care included more unit social workers than team social workers. Other care including the number of floors or units of the hospital Co-management with internal medicine staff was similar for both groups of patients.

Data were obtained from in-hospital and 15- and 30-day post-hospital interviews and from a medical record review by the investigating physician, who did not overlook treatment assignments. As the medical record clearly stated that the patient was managed by the MACE service, the primary outcome measure was re-hospitalization at 30 days after discharge by telephone interview. Include other outcome measures re-hospitalization at 15 days after discharge and self-reported hospital-based acute care use at 30 days. Staying in the Observatory and emergency room visits The incidence of adverse events during hospitalization was collected through a review of medical records. These include catheter-related urinary tract infections (UTIs), falls, and restraint use. A catheter-related UTI was defined by the incidence of a UTI in patients with a urinary catheter present in the 48 h prior to the onset of the UTI self at 15 days after discharge from the hospital

Baseline characteristics and outcome measures compared between patients undergoing MACE and usual care using the Mc Nemar test, the Stuart-Maxwell test and paired t-test to determine matched group designs. Next, we performed conditional logistic regression analysis for categorical results taking into account the matching pair design. We also performed fixed-effect linear regression for continuous outcomes to obtain point estimates with multivariate adjustments to account for matching [5]. 73 people in each matching group were drawn from a cohort of 133 patients from MACE services and 167 from acute or usual care.

All participants were fully informed about the purpose of the study. Written informed consent was obtained from each participant after the consent form was read by the participants. The consent form was in Thailand, the local language and in English, and it stated that the participation was completely voluntary and that the participant could withdraw at any time from the study. Confidentiality was maintained throughout the study. During data collection, each person was identified by giving them a unique identification number. The participant was required to enter their name only while signing for written consent.

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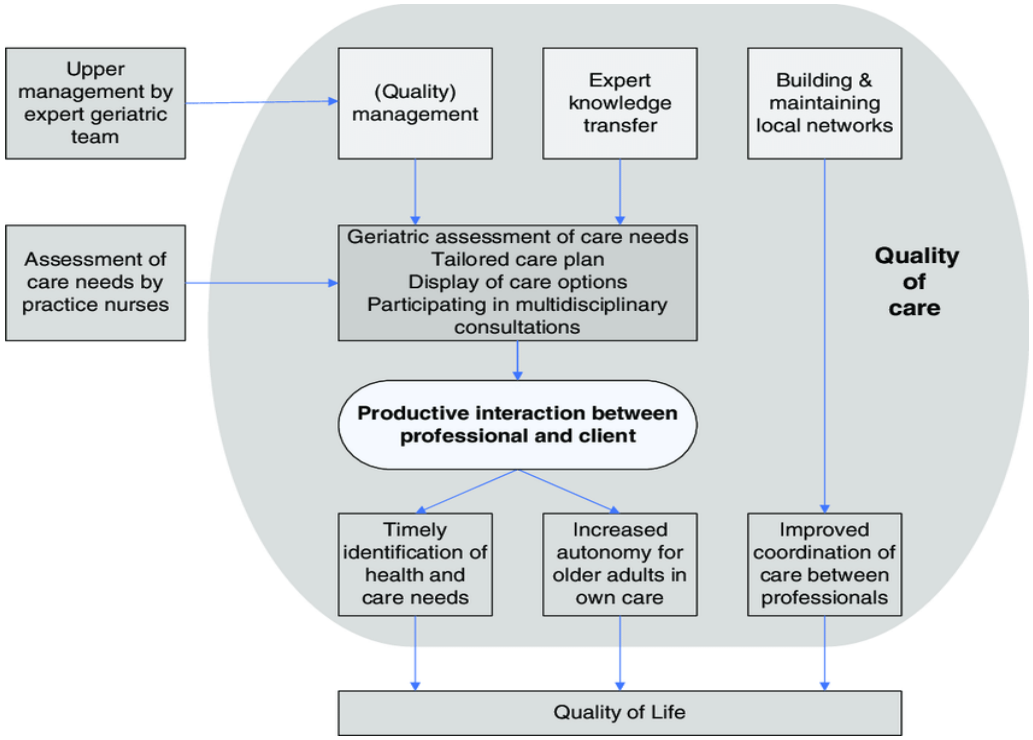

Schematic representation of the geriatric care model as Maaike E Muntinga

Results

Table 1: distribution of patients based on baseline characteristics admitted to Mobile Acute Care of the Elderly (MACE) service and usual care (ACE)

	MACE (73)	ACE (73)	P value
Age ± SD	86.4±4.1	85.6±5.0	0.06
Female Sex (%)	77.01	71.26	0.61
Marital status (%)			
Married	21.0		0.72
Widowed	55.1		
Single or divorced	23.9		
Living status (%)			
Alone	48.6	51.4	0.81
Education (%)			
Primary	29.2	31.3	0.56
High school	39.6	40.2	
Pre university	31.2	28.5	
Average income below 15000 bht (%)	41.9	58.1	0.61
Medicaid beneficiary (%)	32.5	40.2	0.72
Ambulatory at baseline (%)	32.7	32.7	1.06
Number of medications	11.2±21	7.4±3.1	<0.001
Charlson Comorbidity index (mean ± SD)	2.1±1.1	2.1±1.1	0.81
Number of prior hospitalizations (mean ± SD)	0.7±1.0	0.8±1.2	0.39
Dementia (%)	47.1	36.2	0.04

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Delirium on admission (%)	23.5	9.06	0.001
Diagnosed at the time of admission with			
Acute mental status change	10.6	11.5	
Syncope	9.1	9.1	
Pneumonia	10.1	10.6	
COPD/ asthma	7.9	8.5	
Abdominal pain/ Nausea/ Vomiting/ Diarrhea	13.9	13.4	
GI bleeding	4.8	4.0	
Falls/ Fractures	13.2	14.8	

Patients managed by the MACE service had a mean age of 86.4 (Standard deviation [SD] 4.1), 76.3% were female, matched to the usual care group with a mean age of 85.6 (SD 5.0), (Table 1). Patients managed by the MACE service and usual care were equally likely to be Medicaid beneficiaries (32.5to 40.2%). Only 32.7 % were able to ambulate independently at baseline in both groups. Patients managed by the MACE service were slightly more ill on admission when compared to usual care had a higher prevalence of dementia (47.1% vs. 36.2%; p=0.04 and delirium on admission (23.5% vs. 9.06%; p=0.001), and were prescribed a higher number of medications at baseline 11.2±21; 7.4±3.1, <0.001.

Table 2: Impact of patients admitted to Mobile Acute Care of the Elderly (MACE) service and usual care (ACE)

	MACE (73)	ACE (72)	P value
Hospital re-admission rate at 30 days %	15.71	23.81	0.22
Hospital re-admission rate at 15 days %	12.14	16.52	0.29
Hospital readmission or ER visit at 30 days %	19.8	26.5	0.33
Hospital readmission or ER visit at 15 days %	17.8	19.26	0.24
Adverse events including: % Catheter associated urinary tract infection Restraint use Falls New decubitis ulcers	 1.86 0.7 9.1	 4.62 3.14 11.9	 0.002
Length of stay ± SD	4.1±1.3	8.9±1.6	0.001
Care Transition Measure Score (CTM-3)	74.21±11.5	65.89±14.9	0.001
Function Independence Measure (FIM-Motor)	60.91±21.1	57.3±22.1	0.06

Hospital re-admission rate at 30 days % MACE 15.71, ACE 23.81 p= 0.22; Hospital re-admission rate at 15 days % 12.14 16.52 p= 0.29; Hospital readmission or ER visit at 30 days %19.8 26.5 p= 0.33; Hospital readmission or ER visit at 15 days % 17.8, 19.26, p= 0.24 Adverse events including: %, Catheter associated urinary tract infection Restraint use Falls New decubitus ulcers 1.86, 0.7, 9.1, 4.62, 3.14, 11.9, p= 0.002; Length of stay ± SD 4.1±1.3, 8.9±1.6, p=0.001Care Transition Measure Score (CTM-3) 74.21±11.5,65.89±14.9 p = 0.001; Functional Independence Measure (FIM-Motor) 60.91±21.1, 57.3±22.1, p=0.06.

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In a single site study of the newly designed ACE program, found that MACE services were associated with improved outcomes in several key areas compared to usual care and was not associated with worse outcomes although the 30-day readmission rate and other measurable outcomes there was no significant difference between the two groups. Note that MACE services are associated with lower rates of adverse events, shorter length of stay and improved satisfaction with the transition of care. These findings suggest that providing inpatient care through MACE services may be associated with better outcomes for this vulnerable aging population. The potential benefits of receiving care in the MACE service are multifactorial as the service is built using a multidisciplinary approach focusing on multiple elements including avoiding the harm of hospitalization, improving Care Coordination and educating patients and caregivers.

The higher rate of home use of MACE patients upon discharge may reduce the length of stay of patients under MACE care, considering that few hospitals have units or floors. Only for elderly care And the ACE unit model has limited distribution nationally. The MACE model may be a viable alternative as it can be seamlessly integrated into the hospital workflow without specific unit requirements.

The only new role that requires personnel is the Nurse Coordinator. This is because social workers and geriatricians are derived from the reallocation of existing resources. This cost may be offset by better patient outcomes. These include reductions in length of stay and adverse event rates. The latter may lead to better disbursements as more and more payments are linked to outcomes.

Further studies are needed to compare the effects and barriers to implementation between MACE and other types of geriatric inpatient models, such as counseling models. Note that MACE was established as an inpatient care model integrated into geriatric outpatient practice which is a patient-centered medical facility and is now part of the Accountability Organization (ACO).

MACE could be a valuable component program to the ACO as many healthcare organizations use this model. Although previous studies on physical ACE units showed that functional status upon discharge from the hospital could be improved through administration of ACE units, the effects were not long lasting. This is consistent with our results, which showed a small benefit associated with MACE administration in patients' work at 30 days after discharge from hospital.

The main limitation of this study stems from its observational design and possible bias. This is because patients under the MACE service are also cared for in an aged-based primary care practice. Although we have taken steps to reduce the potential asymmetry between comparison groups using the prospective matching method, It is possible that some of the effects associated with MACE services may be related to their relevance to early aged care practices. With our matching strategy We were able to create a different control group from MACE-serviced patients by a few measured variables. However, these differences indicated that MACE-serviced patients were more ill than the comparison group. This may mean that our results may underestimate the effectiveness of receiving care from MACE services.

An additional limitation was for outcomes of adverse events in hospital. Medical record review done by a single investigator cannot overlook group assignments. It is a single-center

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 04, 2020

study in an urban tertiary medical center. Further studies in other settings are needed to demonstrate general efficacy [6, 7].

In summary, the MACE service is an easily adaptable model of inpatient care. This may be associated with better outcomes for hospitalized older adults. As hospital systems innovate on ways to improve care delivery and quality of care for the elderly. Therefore, MACE service model should be considered to inculcate in the area hospitals to enhance the quality of life of elderly.

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