



Short-Term Use of Assisted Living by the Program of All-Inclusive Care for the Elderly (PACE)

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Abstract

Assisted living (AL) facilities are increasing in popularity as a place for long-term residence among older adults who need some assistance with daily living. However, short-term use of AL is not common and the benefits unclear. The Program of All-Inclusive Care for the Elderly (PACE) is a capitated model of care that coordinates care for frail older adults living in the community. Short-term use of AL could help PACE achieve that goal of maintaining people in the community. We analyzed short-term AL use (< 100 days) by one PACE program over a 3 year period. We found that the primary reasons for this utilization were respite (60%) and increased attention to medical needs (33%). Analysis of selected adverse outcomes following short-term AL found lower rates (better outcomes) among those with depression and higher rates (worse outcomes) among those with congestive heart failure (CHF). This study provides important information to PACE providers who are considering short-term AL use in the management of participants.

Introduction

Program of All-Inclusive Care for the Elderly (PACE) is a comprehensive care model that has several features which make it feasible and desirable to arrange for care to be temporarily provided at Assisted Living (AL) facilities. Within PACE, care is provided and coordinated by an Interdisciplinary Team (IDT) with the goal of keeping frail older adults living in the community setting [1-3]. More specifically, PACE strives to reduce the use of hospitals and Nursing Homes (NH) [4-6]. PACE programs operate under a full-risk, capitated payment structure which creates additional incentives to utilize less restrictive and less costly sites of care. PACE participants may temporarily reside in AL for a variety of reasons including respite for the caregiver(s) or enhanced oversight for medical issues which are manageable in the AL setting but might otherwise lead to hospitalization or NH use. The number of PACE centers is growing; therefore, the impact of care decisions and collaboration with other providers (such as AL) is substantial. As of 2018, there are 250 PACE centers in the United States, serving over 45,000 older adults (National PACE Association) [7].

Although AL provides residential care to 1 million people in the US, little is known about its use for short-term, non-residential purposes [8-10]. In years past, there was little regulatory oversight of AL care (compared to heavily regulated nursing homes) [11,12]. However, in recent decades there has been a national effort to standardize care and all states now have AL regulations to ensure a minimum standard of care but there is state to state variability (Mollica, 2010) [13-16].

Although AL provides 24 hour care, licensed nurses are not required on-site (in contrast to NHs, where 24 hour licensed nursing is required) [13,17]. It is important to acknowledge this staffing design in AL as PACE programs plan for utilization of AL in the care of participants. Finally, the average cost of AL per day is approximately one-half of NH care [16,18]. Which is also a factor in deciding where to provide care if it is determined that a given site of care can provide the care that is needed.

Methods

We conducted a retrospective chart review of 119 episodes of “short-term AL” use (defined as lengths of stay ≤ 100 days) which were utilized by 57 Hopkins Elder Plus (HEP) participants who were enrolled from November 2010 to December 2013. HEP is located in Baltimore, MD with a census of 150 at the time of study. We collected each participant’s demographic information as well as existing medical conditions listed in the medical record prior to the initial date of the AL

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admission. Additionally, information regarding the nature of the AL stay, such as reason for stay and duration, were collected. We then examined the incidence of one or more of the following clinical outcomes which occurred during the 6 months following the short-term AL use: 1) Hospitalization days, 2) Nursing Home (NH) days, 3) Deaths, 4) Permanent AL admission (residential AL), and 5) Disenrollment from PACE program. We labeled these as “adverse outcomes” following short-term AL (without determination of causal association). We also characterized study participants as either “single users” or “multiple users” based upon the frequency of their short-term AL episodes during the 3-year study period; we made this distinction to further analyze whether user status influenced the rate of adverse outcomes occurring within the 6-month period. We used logistical regression analysis and Fisher’s Exact Test to assess if specific medical conditions or demographic characteristics were associated with any adverse outcome following a short-term AL episode. This study was reviewed and approved by the Johns Hopkins Institutional Review Board.

Result

Table 1 describes the study population who received care in AL for a total of 119 episodes. The average short-term admission had duration of 13.25 days, with 70% of the total lasting 10 days or fewer. Reasons for entering AL for “short-term” were: 1) respite (caregiver relief)-66 (60%), 2) short-term oversight of medical issues-39 (33%), 4) mental health issues-4 (3%), 5) caregiver/family issues -5 (1%), and 6) “other issues” -4 (3%) and one was not recorded. In the 6 months following the episode of “short-term” AL use, a total of 47 (39.5%) experienced at least one of the adverse outcomes we measured -19 (16%) episodes were associated with both hospital and NH days, 8 (6.7%) had hospital days only, 5 (4.2%) had NH days only, 10 (8.4%) were associated with transition to “permanent” AL placement only, and 5 (4.2%) were associated with death only. However, among the 119 episodes of “short-term AL” use, 53 (44.5%) had no such adverse events in the subsequent 6 months. The remaining 19 (16%) episodes involved alternative outcomes, (disenrollment from the PACE program only and any combination of more than one clinical outcome). The odds of experiencing any one of the adverse outcomes (excluding disenrollment from PACE) are listed in Table 2, according to medical problem/condition. Of note, the odds of experiencing any one of the adverse outcomes for a PACE participant with depression were reduced (OR 0.39, 95% CI: 0.18, 0.85), suggesting that participants with depression may particularly benefit from short-term use of AL. Conversely, among participants with CHF, the odd of having an adverse outcome after short-term AL use was increased (OR 2.70, 95% CI: 1.11, 6.60). No significant relationship was found among the remaining medical conditions. Among the 57 “short-term” AL users, 33 were identified as “Single Users” and 24 were identified as “Multiple Users”. For the “single use” AL episodes, the average length of stay was 12.7 days, while the average length of stay for “multiple use” AL episodes was 11.7 days. There was no statistical association between frequency of use (single user vs. multiple user) and having an adverse outcome (Fisher exact test=0.52).

Discussion and Conclusion

We found that the primary reasons for short-term AL use among the participants of this PACE program were for respite and medical management. This suggests that short-term AL use may offer benefit to all patients, regardless of their living situation (independent living or living with others). This is consistent with the notion that a short-

Table 1: Patient characteristics of PACE enrollees with episodes of “short-stay” assisted living (AL) use.

	Total (n=119)
Age (mean)	76.0 (9.4)
Female (%)	74 (62%)
Race (% black)	52%
Reason for stay	
Respite	71 (60%)
Medical care needs	39 (33%)
Mental health needs	4 (3%)
Increased daily care needs	0
Family issues	1 (1%)
Other	5 (4%)
Presence of diagnosis*	
CHF	33 (27.7%)
COPD	30 (25.2%)
CVA	39 (32.8%)
DM	70 (58.8%)
CKD	83 (69.7%)
Dementia	70 (58.8%)
Depression	51 (42.9%)
Other psych	39 (32.8%)
Bladder incontinence	96 (80.1%)

*CHF: Congestive Heart Failure; COPD: chronic Obstructive Pulmonary Disease; CVA: Cerebrovascular Accident; DM: Diabetes Mellitus; CKD: Chronic Kidney Disease

term use of AL may offer some benefit to family members of PACE participants who serve as the primary caregivers, while addressing unmet needs with regards to medical management which may be especially beneficial among patients who live independently. Perhaps short-term AL can provide a means for older individuals to preserve their independence by providing temporary assistance with issues that may require more social support than is available to them at home. For instance, there were patients who benefitted from use of AL in preparation of medical procedures, such as colonoscopy. In the case of another patient, who had been living independently, AL provided alternative temporary lodging for unforeseen circumstances (structural concerns of home). Although “adverse outcomes” (as we assigned them) did occur in slightly more than of users in the 6 months following short-term AL use, it is hard to establish any link. It is possible that these individuals did benefit from AL use and that the incidence of these events would have been higher without this use. However, this type of information is needed to inform PACE providers who plan to use AL for short-term use in the future. The financing and regulatory nature of PACE creates incentive to provide care in settings where it is most appropriate, safe and cost-effective. However, inappropriate use could lead to inferior care as well increased costs (due to hospitalization, for example). Notably, certain subgroups in this population appear to have varying experiences. For example, PACE participants with depression appear to experience particular benefit. This could reflect decreases in self-care or adverse health associated with depression in some community-dwelling PACE participants who benefit for short-term AL use. We were intrigued that among the medical conditions examined, the two showing a statistically significant relationship with an adverse outcome were CHF and depression. Particularly interesting are the predominantly

Table 2: Adjusted odds of experiencing any one of the adverse clinical outcomes during 6 months following short-stay AL use, according presence of specified medical diagnoses.

Outcome	Odds Ratio	P value	(95% Confidence Interval)
Bladder Incontinence	0.91	0.85	(0.36, 2.32)
Dementia	0.82	0.62	(0.39, 1.76)
Depression	0.39	0.017	(0.18, 0.85)
Other Psychiatric Conditions	1.1	0.82	(0.49, 2.45)
CVA	0.67	0.32	(0.30, 1.47)
CHF	2.7	0.029	(1.11, 6.60)
COPD	2.15	0.099	(0.87, 5.31)
Diabetes Mellitus	0.82	0.62	(0.39, 1.76)
CKD/ESRD	0.82	0.63	(0.36, 1.87)

CHF: Congestive Heart Failure; COPD: Chronic Obstructive Pulmonary Disease; CVA: Cerebrovascular Accident; DM: Diabetes Mellitus; CKD: Chronic Kidney Disease; ESRD: End-Stage Renal Disease

physical facets of CHF, followed by psychological sequelae, compared to the predominantly neuropsychological facets of depression, followed by physical sequelae. We speculate that AL facilities are particularly equipped to address the underlying psychosocial needs of short-term residents. On the other hand, participants with CHF may have those psychosocial needs equally addressed, yet require more extensive medical resources and personnel, and may require more direct medical management (on-site at AL or brought to the PACE center) while utilizing AL for short-term purposes.

In addition to management of older adults with a range of chronic medical issues, there was a notable percentage with mental and cognitive health issues. Over half were known to have dementia, with almost on-half and one-third carrying the diagnosis of depression or other psychiatric diagnoses, respectively. However, the primary reason for short-term AL was only listed as “mental health issue” for a very small number (4%). This suggests that this PACE program either had little need for short term intensified observation for mental health issues that might be provided in AL, or deemed that this setting was not appropriate for that type of management issue on a short-term basis. It is known that a fairly large percentage of PACE enrollees nationally have one or more mental or cognitive health issues. Therefore, this opportunity (AL use) for this population should be more specifically explored [19,20].

We could find no literature regarding the use of AL for short-term use, under any provider model or clinical scenario. Although short-term use of AL for respite purposes in medically stable older adults would seem possible for general referrals, use of AL for medical management will likely require a working relationship and comfort level between referring medical provider/practice and AL. PACE could serve as a model for utilizing AL for this purpose and could lead to other provider models also adopting this approach.

Our limitations include a small sample size of 119 events. Furthermore, results from logistic regression analyses and Fisher’s exact tests may have been confounded by multiple short-term AL episodes utilized by a single participant within the examined 6-month following short-term AL. The reasons surrounding a short-stay AL episode may be multifactorial, thus categorizing the purpose of each short-term AL may not fully capture the underlying needs for this service. Finally, there are many reasons that individuals might need to utilize hospital, NH or AL after short-term AL and our analysis

of these “adverse events” might be temporally associated but not causal. Our study did not evaluate those factors. In conclusion, this study suggests that older adults enrolled in PACE can generally be managed safely in AL for short stays. Individual PACE programs should explore this setting of care in provision of needed services when appropriate. Other models of care and medical practices should also evaluate the capacity to oversee this type of care to determine if it is a safe and cost-effective alternative to nursing home and hospital use in appropriate situations.

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