Published in final edited form as:
J Am Geriatr Soc. 2008 July ; 56(7): 1361–1363. doi:10.1111/j.1532-5415.2008.01722.x.

CHARACTERISTICS AND OUTCOMES FOR ASSISTED LIVING RESIDENTS WITH DEMENTIA: COMPARING DEMENTIA-SPECIFIC CARE UNITS WITH NON-DEMENTIA-SPECIFIC CARE UNITS

Quincy M. Samus, PhD,
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

Lawrence Mayer, MD, PhD,
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

Alva Baker, MD,
The Copper Ridge Institute Sykesville, MD

Matthew McNabney, MD,
Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

Jason Brandt, PhD,
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, The Copper Ridge Institute, Sykesville, MD

Chiadi U. Onyike, MD, MHS,
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

Peter V. Rabins, MD, MPH,
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, The Copper Ridge Institute, Sykesville, MD

Constantine G. Lyketsos, MD, MHS, and
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, The Copper Ridge Institute, Sykesville, MD, Department of Psychiatry, Johns Hopkins Bayview, School of Medicine, Baltimore, MD

Adam Rosenblatt, MD
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University, School of Medicine, Baltimore, MD, The Copper Ridge Institute Sykesville, MD

Author Contributions: Drs. Rosenblatt, Lyketsos, Brandt, and Rabins played a role in study concept, acquisition of subjects and data, analysis and interpretation of data, and preparation of the manuscript. Drs. Samus, Onyike, Baker, and McNabney played a role in acquisition of subjects and data, analysis and interpretation of data, and preparation of the manuscript. Dr. Mayer played a role in analysis and interpretation of data and preparation of the manuscript.

Conflict of Interest Dr. Rabins has an ownership interest in DEMeasure. DEMeasure holds the copyright for the Alzheimer's disease–related QOL (ADRQL) measure used in this study. Under an agreement between DEMeasure and Dr. Peter V. Rabins, Dr. Rabins is entitled to a share of fees received from sales of the questionnaire and scale. Neither the company nor Dr. Rabins received a share of fees received from questionnaires used in this study. Dr. Lyketsos has received grant support (research or continuing medical education) from Forest, Glaxo-Smith Kline, Eisai, Pfizer, Astra-Zeneca, Lilly, Ortho-McNeil, Bristol-Myers, and Novartis and is an adviser for Astra-Zeneca, Glaxo-Smith Kline, and Supernus. Dr. Rosenblatt serves on the speaker's bureau for Pfizer. Supported by Grant R01MH60626 from the National Institute of Mental Health and the National Institute on Aging.

To the Editor

A substantial proportion of assisted living (AL) residents suffer from dementia.[1] Although most are cared for in non–dementia-specific care units (NDSCUs), dementia-specific care units (DSCUs) have proliferated in AL.[2] The "success" of DSCUs in nursing homes (NHs) have been inconclusive;[3] less is known about the benefits of DSCUs in AL. Two studies have suggested that there are few differences in terms of dementia care components, quality of life (QOL), or 1-year health and functional outcomes between AL residents in DSCUs and those in NDSCUs.[4,5] In these exploratory analyses, clinical characteristics, dementia care indicators, and outcomes of AL residents with dementia living in DSCUs or NDSCUs were compared.

METHODS

These are data from the Maryland Assisted Living Study (MD-AL).[1] Twenty-two AL facilities (ALFs), 10 large (≥ 16 beds) and 12 small (<16 beds), were randomly selected from all licensed and pending license ALFs within central Maryland. Of these, four were DSCUs (self-identified themselves as a dementia care or Alzheimer's facility or area): one small dementia-specific ALF and three dementia-specific areas located within large non–dementia-specific ALFs. Fifteen residents were randomly selected according to room number from each large facility, regardless of DSCU designation. Residents in DSCUs were included if their room number was selected. All residents of the small facilities were asked to participate (including the dementia-specific ALF). Of the 198 residents enrolled, this analysis includes only the 134 residents who had dementia:[1] 110 (82%) in NDSCUs and 24 (18%) in DSCUs. All 22 ALFs were represented in the study sample.

As previously described,[1] residents received comprehensive dementia assessments and quantitative measures for cognition, function, medical comorbidity, neuropsychiatric symptoms, caregiver activity, and QOL. A consensus panel adjudicated dementia diagnosis, and adequacy of dementia examination and treatment (complete vs incomplete) was rated in dementia cases.[1] Acetylcholinesterase inhibitor (ACI) and psychotropic drug use was obtained according to chart review. Caregiver burden and time spent in group activities and watching television were estimated from single-response items. Semiannual vital status surveillance was conducted. Survival time was defined as time from study assessment to an event (e.g., discharge to a more-intensive care level) or censor (discharge to another AL or home, death in AL, or the end of observation).

RESULTS

Group differences in assessment variables are in Table 1. DSCU residents were more likely to be white (P =.05), have more education (P =.03), and to have higher monthly charges (P <. 001). DSCU residents were more cognitively impaired (P =.04) but not more functionally impaired (P =.13) or more medically ill (P =.36) and did not require more caregiver time (P =.10). Group differences in overall behavioral disturbances on the Neuropsychiatric Inventory total did not reach statistical significance (P =.09), but DSCU residents had significantly more anxiety (P =.05) and aberrant motor behavior (P =.03).

Consensus panel ratings of complete dementia examination (P =.25) and treatment (P =.84) did not differ between groups. ACIs were used more frequently in DSCU residents (P =.02), whereas there was no difference in psychotropic use (54.1% vs 52.7%, P =.90). DSCU residents spent approximately 32 more hours in group activities (P <.001) and nearly half as many hours per month watching television (P =.05), although this was not statistically significant.

QOL (*P* =.37) and caregiver burden ratings (*P* =.87) did not differ between groups. Fifty percent (12/24) of DSCU residents, compared with 51% (55/107) of NDSCU residents, were discharged to a more-intensive care level. Although DSCU residents had a longer median survival time of approximately 3 months (80 days) than NDSCU residents, it was not statistically significant (chi-square(1) = 0.074, *P* =.78).

DISCUSSION

DSCU residents were more cognitively impaired and had more behavioral disturbances but were not more likely to be taking psychotropic drugs. DSCU residents were also more likely to be taking ACIs and to spend more time in group activities. DSCU residents had comparable QOL, nursing home discharge risk, and perceived caregiver burden, which corroborates earlier reports.[4] Furthermore, DSCU residents were charged more per month, consistent with industry surveys.[6,7] Presumably, these costs result from specialized programming, staffing, and physical features.

The study limitations include its exploratory nature, small sample size, nonrandom assignment to unit type, lack of environmental and staff data, and limited generalizability of findings.

This exploratory study suggested few differences in dementia care indicators, although the finding of greater cognitive impairment and behavior disturbances with similar levels of QOL and higher levels of activity suggest potential benefits of the DSCU, especially because strong associations were previously reported between more behavioral disturbances and poorer QOL.[8,9] Considering the rapid growth of DSCUs in AL and the substantial cost differential, more-comprehensive research is well warranted.

ACKNOWLEDGMENTS

We are grateful to the MD-AL study team for their field-work in evaluating participants. We wish to thank study participants, their families, the management and staff of participating AL facilities, and the staff at Copper Ridge for their dedication and assistance in the development and implementation of the study.

Sponsor's Role: The sponsor (NIMH and NIA) played no role in the design, methods, subject recruitment, data collection, analysis, or preparation of the manuscript.

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Table 1

Characteristics and Outcomes of Residents with Dementia According to Unit Type

Variable	All Unit Types(n = 134)	Dementia-Specific Care Unit (n = 24)	Non–Dementia-Specific Care Unit (n = 110)	Difference in Mean (95% Confidence Interval)*
Demographic characteristics				
Age, mean ± SD	86.1 ± 6.7	85.7 ± 6.5	86.2 ± 6.8	−0.5 (−3.5–2.6)
Female, %	80.6	75.0	81.8	
White, %	79.9	95.8	76.4*	
Education, years	13.5 ± 3.0	14.7 ± 2.8	13.2 ± 3.0*	1.5 (0.2–2.8)
AL tenure, years†	0.3 ± 1.0	0.1 ± 0.9	0.4 ± 1.0	−0.3 (−0.7–0.15)
AL monthly charges, dollars	3,139.5 ± 1,463.6	5,133.5 ± 1,617.5	2,706.9 ± 1,001.7*	2,426.6 (1,704.7–3,148.5)
Clinical characteristics, mean ± SD				
Mini-Mental State Examination score	14.6 ± 7.7	11.7 ± 6.8	15.3 ± 7.7*	−3.6 (−7.0 to −2.0
Psychogeriatric Dependency Rating Scale—Physical	14.2 ± 8.8	16.7 ± 8.7	13.7 ± 8.8	3.0 (0.9–6.9)
General Medical Health Rating	2.7 ± 0.8	2.9 ± 0.9	2.7 ± 0.8	−0.2 (−0.2–0.5)
Caregiver Activity Survey†,‡	4.5 ± 1.9	4.9 ± 1.3	4.4 ± 2.0	0.5 (−0.1–1.2)
NPI total†	2.0 ± 1.2	2.4 ± 1.1	2.0 ± 1.2	0.5 (0.2–1.1)
Specific NPI domain, %				
Delusions	35.1	41.7	33.6	
Hallucinations	11.2	20.8	9.1	
Agitation or aggression	36.6	50.0	33.6	
Depression or dysphoria	26.9	25.0	27.3	
Anxiety	22.4	37.5	19.1*	
Euphoria	4.5	4.2	4.6	
Apathy	23.9	16.7	25.5	
Disinhibition	11.2	16.7	10.0	
Irritability	32.1	45.8	29.1	
Aberrant motor behavior	21.1	37.5	17.4*	
Sleep	27.1	20.8	28.4	
Appetite or eating disorders	12.8	16.7	11.9	
Dementia care indicators				
Complete dementia examination, %	73.0	82.6	70.9	
Complete dementia treatment, %	52.2	54.2	51.8	
Acetylcholinesterase inhibitor use	30.6	50.0	26.4*	
Psychotropic drug use§	53.0	54.2	52.7	
Group activities //	69.4 ± 62.6	95.6 ± 76.9	63.6 ± 57.8*	46.3 (13.6–79.0)
Television watching#	61.2 ± 69.9	36.3 ± 58.8	66.7 ± 71.2	−30.4 (−61.2–0.5)
Outcomes**				
Alzheimer's Disease–Related Quality of Life score, mean ± SD	77.8 ± 13.6	75.5 ± 15.7	78.3 ± 13.1	−2.8 (−9.8–4.2)

Variable	All Unit Types(n = 134)	Dementia-Specific Care Unit (n = 24)	Non–Dementia-Specific Care Unit (n = 110)	Difference in Mean (95% Confidence Interval)*
Caregiver burden (range 1–5)††	2.5 ± 1.2	2.4 ± 1.5	2.5 ± 1.2	−0.1 (−0.6–0.5)
Survival time, days‡‡	524.3 ± 406.5	496.1 ± 316.3	530.5 ± 424.6	

Note: Independent-samples *t*-tests (two-tailed) were calculated to determine statistical significance for continuous variables. Pearson chi-square tests and Fisher exact tests, in cases in which contingency table cell counts were small, were used for discrete variables. Log-rank chi-square tests were used for survival time

* $P < .05$.

† Values have been log-transformed because of positively skewed distributions.

‡ Estimates the number of minutes per day required for daily care.

§ Any routine use of antidepressants, mood stabilizers, neuroleptics, benzodiazepines, hypnotics, opiates, or anxiolytics.

// Approximate number of hours participants spent in group activities (e.g., social hour, exercise class, bus trips) per month.

Approximate number of hours participants spent watching television per month.

** Includes cross-sectional and longitudinal outcomes.

†† Perceived burden of caring for a particular resident on a daily basis.

‡‡ Median follow-up time of 437 days. Date of discharge could not be ascertained for 12 participants who died in a nursing home unit (n = 4), or at a medical hospital (n = 8). For these cases, date of discharge to more-intensive care level was approximated as the midpoint between dates of last known time residing in assisted living (AL) and death. In another four cases with unknown discharge dates, death occurred in an unknown location (n = 3) or at another AL (n = 1).

SD = standard deviation; NPI = Neuropsychiatric Inventory.