

A retrospective study assessing the effectiveness of hospice consultations in Alzheimer's dementia patients in the inpatient versus outpatient setting

**Weston Krauss M.D., Shruthi Chandrasekhar, M.D., Fanglong Dong, Ph.D, and Sepehr Golboo, M.D.
Department of Family Medicine, Arrowhead Regional Medical Center, Colton, CA**

Background

- Alzheimer's Disease, the most common form of dementia, affecting 5.8 million Americans in 2021 (Alzheimer's Association, 2021).
- San Bernardino County has a higher Alzheimer's disease dementia prevalence (10.5% among adults over 65) compared to the statewide rate (9.6%) (California Department of Public Health, 2020).
- Hospice Care: Specialized end-of-life program improving quality of life for terminally ill patients, providing comprehensive medical support including emotional and spiritual support.
- Physicians often overlook timely referrals of Alzheimer's patients to hospice care
- Aging population increases demand for specialized care; 1 in 3 seniors die with Alzheimer's or another dementia, and over 11% of individuals aged 65 and older have Alzheimer's disease (Alzheimer's Association, 2022).
- As a county hospital network Arrowhead Regional Medical Center has a duty for providing diverse medical services, crucial for comprehensive care of Alzheimer's patients in end-of-life and hospice settings.



Objectives

- Evaluate the efficacy of appropriately placed hospice consultations and discussions in Alzheimer's dementia patients across outpatient and inpatient settings.
- Determine potential disparities in the use of hospice care consultations between outpatient and inpatient settings for patients who meet the necessary criteria as per the Medicare coverage database.
- Assess the rate of properly documented forms and severity of dementia to inform hospice decision-making.

Methods

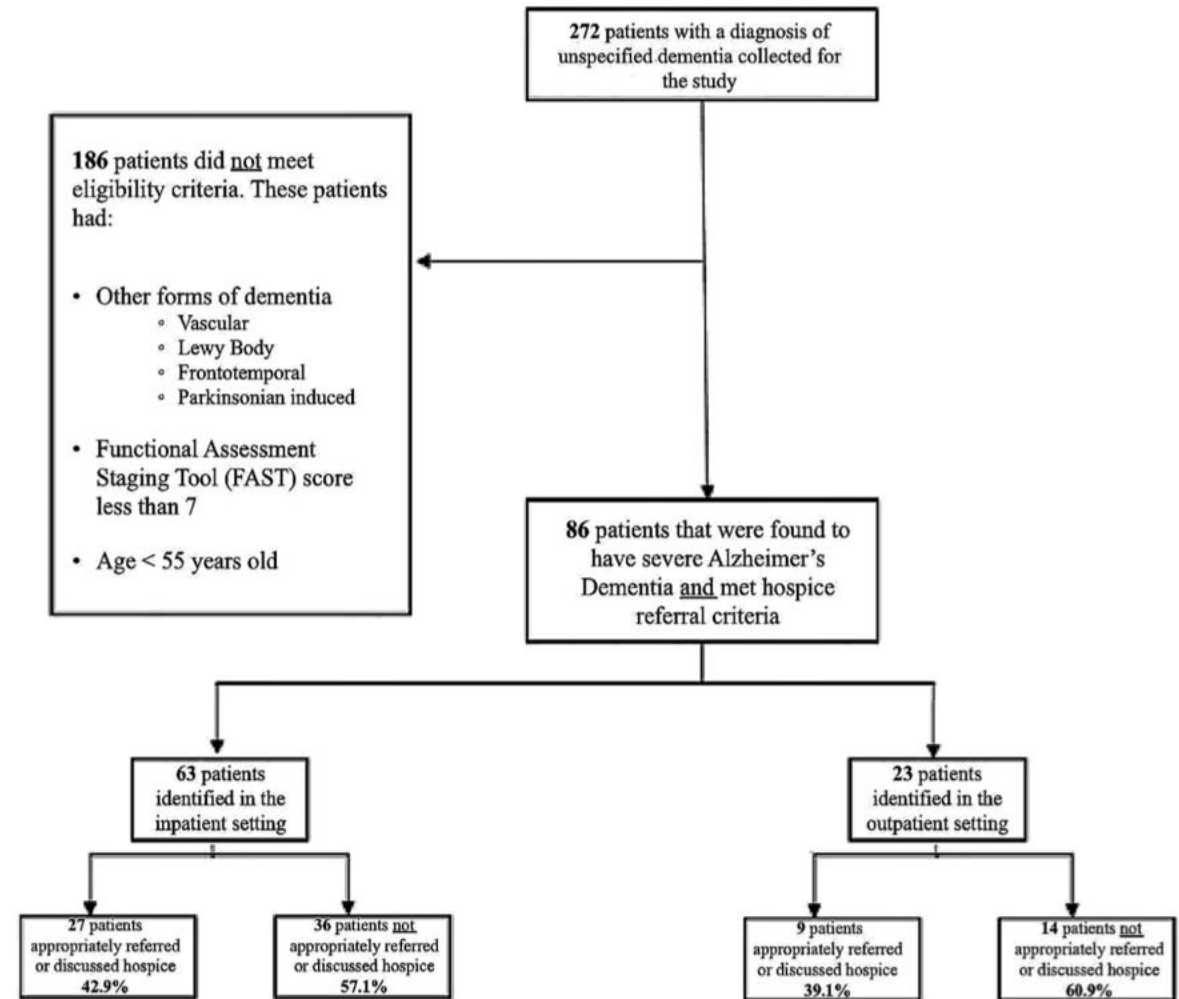
- Retrospective analysis of medical records on patients 55+ with severe Alzheimer's Dementia from March 1, 2022 to December 31, 2022
- Severe Alzheimer's Dementia diagnosis confirmed by screening patients with severe or unspecified dementia with a Functional Assessment Staging Scale (FAST) score of 7 or higher at Arrowhead Regional Medical Center with qualifying hospice qualifications

Stage	Stage Name	Characteristic	Expected Untreated AD Duration (months)	Mental Age (years)	MMSE (score)
1	Normal Aging	No deficits whatsoever	--	Adult	29-30
2	Possible Mild Cognitive Impairment	Subjective functional deficit	--		28-29
3	Mild Cognitive Impairment	Objective functional deficit interferes with a person's most complex tasks	84	12+	24-28
4	Mild Dementia	IADLs become affected, such as bill paying, cooking, cleaning, traveling	24	8-12	19-20
5	Moderate Dementia	Needs help selecting proper attire	18	5-7	15
6a	Moderately Severe Dementia	Needs help putting on clothes	4.8	5	9
6b	Moderately Severe Dementia	Needs help bathing	4.8	4	8
6c	Moderately Severe Dementia	Needs help toileting	4.8	4	5
6d	Moderately Severe Dementia	Urinary incontinence	3.6	3-4	3
6e	Moderately Severe Dementia	Fecal incontinence	9.6	2-3	1
7a	Severe Dementia	Speaks 5-6 words during day	12	1.25	0
7b	Severe Dementia	Speaks only 1 word clearly	18	1	0
7c	Severe Dementia	Can no longer walk	12	1	0
7d	Severe Dementia	Can no longer sit up	12	0.5-0.8	0
7e	Severe Dementia	Can no longer smile	18	0.2-0.4	0
7f	Severe Dementia	Can no longer hold up head	12+	0-0.2	0

Methods

Inclusion & Exclusion Criteria

- Patient 55+ who had an diagnosis of Alzheimer's Dementia as well as:
 - Stage 7 or beyond according to the FAST scale
 - Unable to ambulate without assistance
 - Unable to dress without assistance
 - Unable to bathe without assistance
 - No consistently meaning verbal communication
- Patients having one of the following within the last 12 months:
 - Aspiration Pneumonia
 - Pyelonephritis
 - Septicemia
 - Decubitus ulcer, multiple stage 3-4
 - Fever, recurrent after antibiotics
 - Inability to maintain sufficient fluid and calorie intake with 10% weight loss during the previous 6 months or serum albumin <2.5gm / dl
- Patients were excluded from the study if:
 - Age <55
 - Other forms of dementia
 - Vascular, Lewy body, Frontotemporal, Parkinsonism induced
 - FAST score <7



Results

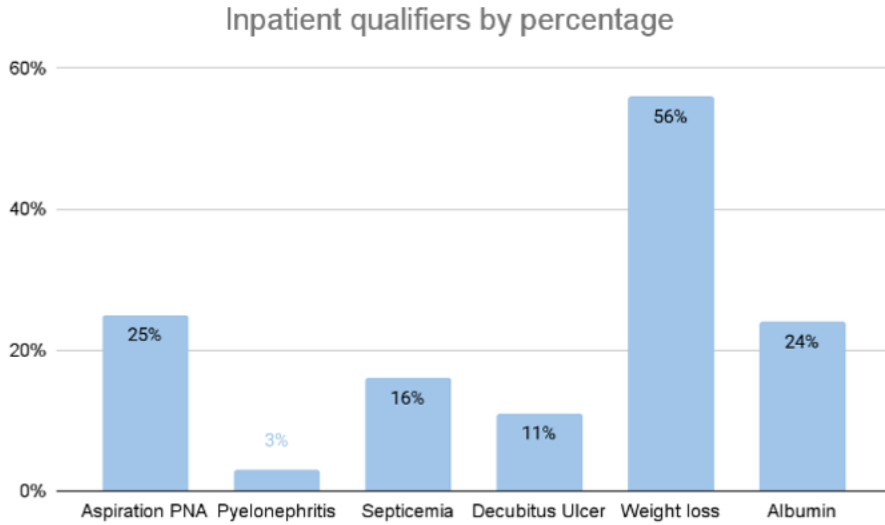


Table of percentage of patients in the inpatient population who had risk factors that qualified for hospice

Inpatient Qualifiers

- 25% suffered from aspiration pneumonia
- 3% of patients were found to have pyelonephritis
- 16% of patients had septicemia
- 11% were found to have decubitus ulcers
- 56% patients had significant weight loss that qualified them for hospice
- 24% patients had albumin <2.5
- 0% of patients found to have recurrent fevers after antibiotics (not graphed)

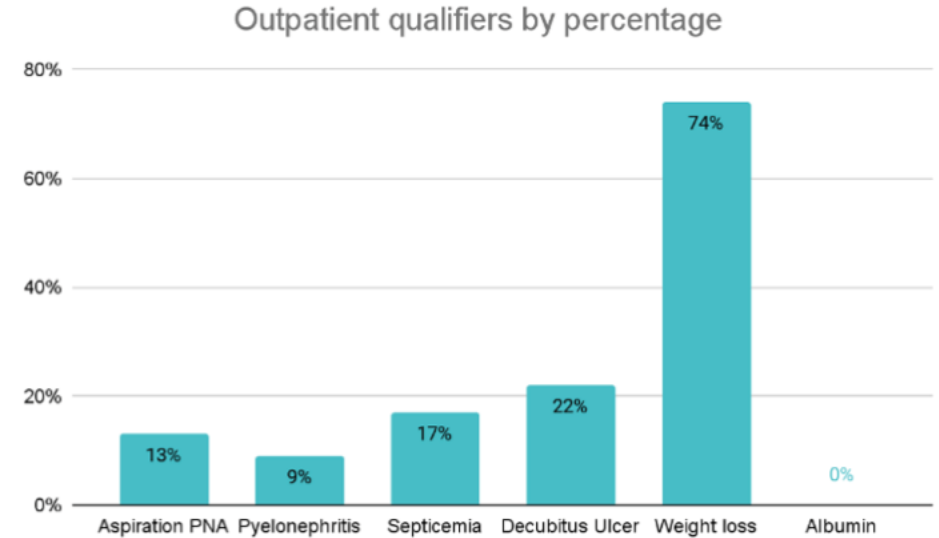


Table of percentage of patients in the outpatient population who had risk factors that qualified for hospice

Outpatient Qualifiers

- 13% suffered from aspiration pneumonia
- 9% of patients were found to have pyelonephritis
- 17% of patients had septicemia
- 22% were found to have decubitus ulcers
- 74% patients had significant weight loss that qualified them for hospice
- 0% patients had albumin <2.5
- 0% of patients found to have recurrent fevers after antibiotics (not graphed)

Results

Correlation Values

	<u>No Hospice Referral</u>	<u>Hospice Referral</u>	<u>P-value</u>
Aspiration PNA			
No	41 (61.19%)	26 (38.81%)	0.2809
Yes	9 (47.37%)	10 (52.63%)	
Pyelonephritis			
No	49 (59.76%)	33 (40.24%)	0.1689
Yes	1 (25%)	3 (75%)	
Septicemia			
No	40 (55.56%)	32 (44.44%)	0.2707
Yes	10 (71.43%)	4 (28.57%)	
Decubitis Ulcer			
No	45 (60.81%)	29 (39.19%)	0.2124
Yes	5 (41.67%)	7 (58.33%)	
Weight Loss (>10%)			
No	19 (55.88%)	15 (44.12%)	0.7315
Yes	31 (59.62%)	21 (40.38%)	
Albumin (>2.5)			
No	44 (61.97%)	27 (38.03%)	0.117
Yes	6 (40%)	9 (60%)	

Table comparing hospice referrals percentages, showing no statistically significant correlation between qualifiers for hospice in patients with severe dementia with frequency of hospice referral

	<u>No Hospice Referral</u>	<u>Hospice Referral</u>	<u>P-value</u>
Inpatient/Outpatient			
Inpatient	36 (57.14%)	27 (42.86%)	0.7565
Outpatient	14 (60.87%)	9 (39.13%)	
Ethnicity			
Hispanic or Latino	26 (50.98%)	25 (49.02%)	0.1069
Not Hispanic	20 (64.52%)	11 (35.48%)	
Unknown	4 (100%)	0 (0%)	

Table comparing hospice referrals percentages in the inpatient/outpatient population showing no statistically significant correlation between setting of practice and frequency of hospice referral

Conclusions

- The study found that overall rates of hospice referrals for patients with severe dementia were extremely low, **with less than 45%** of eligible patients who had a discussion of hospice or were appropriately referred to hospice services regardless of the setting in which they were identified.
- The study's P-value analysis indicated that the ailments and qualifiers used for evaluating patients had little or no role in medical providers placing referrals for hospice care. Furthermore, the analysis suggests that patient ethnicity did not significantly impact medical providers referring patients to hospice.
- While acknowledging the study's limitations due to a small sample size, the findings suggest that the low rates of hospice referral may be influenced by the personal knowledge of primary care physicians regarding hospice care criteria. However, it is important to note that future quality improvement (QI) projects hold promise in addressing and enhancing this aspect.
- Establishing the severity of Alzheimer's dementia through a FAST score is crucial. A dedicated EMR section for Alzheimer's, similar to the depression section (PHQ-9), benefits patients and providers. Adding a FAST score prompt after diagnosis can facilitate discussions on care goals and potential hospice referral.

Conclusions

- The appropriate referral or discussion for end-stage Alzheimer's dementia patients to hospice services is critical for providing quality end-of-life care.
- It may be challenging for healthcare providers to distinguish between symptoms related to Alzheimer's dementia and those related to other co-morbidities
- Subtle qualifications for hospice referral or discussion may be missed. Future studies should focus on interventions aimed at improving hospice referral rates and increasing access to hospice services for end-stage Alzheimer's dementia patients.
- Patients and their families may have different understandings of what hospice entails, which can make it challenging for either party to initiate a discussion about hospice.
- Communication with patients and their families is essential to ensure that they understand the benefits of hospice care and are comfortable with the decision to pursue this option

References

- California Department of Public Health. (2020). California Alzheimer's Disease and Related Dementias Advisory Committee Report to the Legislature. Retrieved from <https://www.cdph.ca.gov/Programs/CHCQ/DCDIC/Alzheimer/Pages/California-Alzheimer's-Disease-and-Related-Dementias-Advisory-Committee.aspx>
- Scales, K., Zimmerman, S., Miller, S. J., Beeber, A. S., Reed, D., & Mitchell, C. M. (2018). Hospice consultations in Alzheimer's dementia: a retrospective study of inpatient and outpatient settings. *Journal of the American Geriatrics Society*, 66(12), 2332-2339. doi: 10.1111/jgs.15614
- Eisenmann Y, Golla H, Schmidt H, Voltz R, Perrar KM. Palliative Care in Advanced Dementia. *Front Psychiatry*. 2020 Jul 21;11:699. doi: 10.3389/fpsy.2020.00699. PMID: 32792997; PMCID: PMC7394698.
- Koppitz A, Bosshard G, Schuster DH, Hediger H, Imhof L. Type and course of symptoms demonstrated in the terminal and dying phases by people with dementia in nursing homes. *Z Gerontol Geriatr* (2015) 48(2):176–83. 10.1007/s00391-014-0668-z
- Alzheimer's Association. (2022). 2022 Alzheimer's disease facts and figures. *Alzheimer's & Dementia*, 18(4), 456-509. doi: 10.1002/alz.12530.
- Aminoff BZ, Adunsky A. Their last 6 months: suffering and survival of end-stage dementia patients. *Age Ageing*. 2006 Nov;35(6):597-601. doi: 10.1093/ageing/afl067. Epub 2006 Aug 22. PMID: 16926196.
- Pandpazir M, Tajari M. The application of palliative care in dementia. *J Family Med Prim Care*. 2019 Feb;8(2):347-351. doi: 10.4103/jfmpc.jfmpc_105_18. PMID: 30984636; PMCID: PMC6436302.
- Palk, Elizabeth, et al. "Clinical practice guidelines and care pathways for people with dementia living in the community." (2008).
- Aldridge MD, Epstein AJ, Brody AA, Lee EJ, Cherlin E, Bradley EH. The Impact of Reported Hospice Preferred Practices on Hospital Utilization at the End of Life. *Med Care*. 2016 Jul;54(7):657-63. doi: 10.1097/MLR.0000000000000534. PMID: 27299952; PMCID: PMC5266506.
- Mitchell SL, Miller SC, Teno JM, Kiely DK, Davis RB, Shaffer ML. Prediction of 6-month survival of nursing home residents with advanced dementia using ADEPT vs hospice eligibility guidelines. *JAMA*. 2010 Nov 3;304(17):1929-35. doi: 10.1001/jama.2010.1572. PMID: 21045099; PMCID: PMC3017367.
- Browne B, Kupeli N, Moore KJ, Sampson EL, Davies N. Defining end of life in dementia: A systematic review. *Palliat Med*. 2021 Dec;35(10):1733-1746. doi: 10.1177/02692163211025457. Epub 2021 Jun 17. PMID: 34137314; PMCID: PMC8637358.

Questions