

Association Between Annual Wellness Visit and Cognitive Function Trajectories: Analysis of National Health and Aging Trends Study and Medicare Linkage Data

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Receiving a Medicare Annual Wellness Visit was associated with slower memory decline over 5 years.

INTRODUCTION

- Cognitive decline and subsequent dementia threaten independence and quality of life among older adults.¹
- Tracking cognitive trajectories may support early detection of cognitive decline and onset of Alzheimer’s disease and related dementias (ADRD).^{1,2}
- Medicare Annual Wellness Visits (AWVs) include no-cost routine cognitive assessment and may promote brain-protective behaviors, including mental stimulation, physical activity, social engagement, and healthy sleep.²⁻⁶
- Despite these potential benefits, AWV utilization remains low, and longitudinal data comparing cognitive trajectories among AWV recipients and non-recipients are limited.
- Awareness of cognitive decline may motivate brain-protective actions that could slow decline.
- Objective:** To compare 5-year cognitive trajectories among AWV recipients vs non-recipients.

METHODS

- Data source:** 2012–2019 National Health and Aging Trends Study (NHATS) linked with Medicare claims
- Final matched sample:** 3,042 beneficiaries, including AWV recipients and matched non-recipients
- Cognitive outcomes:** memory (0–20), orientation (0–8), and executive function (0–5) scores, with higher scores indicating better cognition
- Exposure:** receipt of an AWV
- Matching:** beneficiaries were matched 1:1 matched on sociodemographic and clinical characteristics
- Analytic approach:** intent-to-treat, per-protocol, and time-dependent exposure models
- Statistical models:** linear mixed models for memory and negative binomial GLMMs for orientation/executive function estimated annual cognitive change using time, AWV, and the AWV × time interaction, with random effects

RESULTS

Characteristics	AWV N(%), Mean (SD) (N=3,042)	No AWV N(%), Mean (SD) (N=3,042)	Absolute Standardized Difference
Age, mean (SD)	78.2 (7.4)	78.2 (7.5)	.0103
Sex			.0375
Female	920 (60.5%)	892 (58.7%)	
Male	601 (39.5%)	629 (41.4%)	
Race			.0752
NH White	1189 (78.2%)	1205 (79.2%)	
NH Black	236 (15.5%)	219 (14.4%)	
Hispanic	46 (3.0%)	46 (3.0%)	
Other	50 (3.3%)	51 (3.4%)	
Heart Disease			.0248
No	1157 (76.1%)	1173 (77.1%)	
Yes	364 (23.9%)	348 (22.9%)	
Diabetes			.0152
No	1146 (75.3%)	1136 (74.7%)	
Yes	375 (24.7%)	385 (25.3%)	
Stroke			.0261
No	1443 (94.9%)	1434 (94.3%)	
Yes	78 (5.1%)	87 (5.7%)	
Depression			.0026
No	987 (64.9%)	989 (65.1%)	
Yes	534 (35.1%)	532 (34.9%)	
Dementia status before AWV			.001*
Probable Dementia	89 (5.9%)	139 (9.1%)	
Possible Dementia	114 (7.5%)	129 (8.5%)	
No Dementia	1318 (86.7%)	1252 (82.3%)	

Abbreviations: AWV, annual wellness visit; * p-value from Chi-square test

	Intent to Treat (ITT)			Per Protocol (PP)			Time Dependent (TD)		
CognitiveDomain (Max Score)	AWV Mean (SD)	No AWV Mean (SD)	p	AWV Mean (SD)	No AWV Mean (SD)	p	AWV Mean (SD)	No AWV Mean (SD)	p
Cognitive Domains before AWV									
Memory (20)	8.9 (3.6)	8.4 (3.6)	0.0009†	8.9 (3.6)	8.4 (3.6)	0.0009†	8.9 (3.6)	8.4 (3.6)	0.0009†
Orientation (8)	6.7 (1.6)	6.4 (1.8)	0.0001†	6.7 (1.6)	6.4 (1.8)	0.0001†	6.7 (1.6)	6.4 (1.8)	0.0001†
Executive function (5)	3.8 (1.1)	3.6 (1.2)	0.0001†	3.8 (1.1)	3.6 (1.2)	0.0001†	3.8 (1.1)	3.6 (1.2)	0.0001†
Cognitive Domains in the follow up 5 after AWV									
Memory (20)	8.7 (3.7)	8.4 (3.6)	0.2140†	8.5 (3.6)	8.1 (3.7)	0.2523†	9.1 (3.5)	8.2 (3.8)	0.0007†
Orientation (8)	6.4 (1.7)	6.3 (1.9)	0.1785†	6.4 (1.7)	6.2 (1.9)	0.2619†	6.5 (1.6)	6.2 (1.9)	0.0112†
Executive function (5)	3.5 (1.7)	3.4 (1.6)	0.3391†	3.4 (1.8)	3.4 (1.6)	0.7975†	3.9 (1.2)	3.7 (1.2)	0.0211†

Abbreviations: AWV, annual wellness visit; † t-test

CONCLUSIONS

- AWV recipients had higher baseline cognitive scores and were more often without dementia (87% vs. 82%, p<.001).
- At 5 years, AWV recipients maintained higher scores across all assessed domains (all p<.05).
- AWV receipt was associated with slower memory decline in ITT and TD models, with no significant differences observed for orientation or executive function.
- AWV and its associated cognitive evaluation may help slow memory decline by promoting brain-protective behaviors and improving management of modifiable risk factors.

Scan for references





