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EPIDEMIOLOGY

Prevalence of Dementia and Mild Cognitive Impairment in the United States: Findings from the Health and Retirement Study (HRS) Harmonized Cognitive Assessment Protocol (HCAP) Project

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Abstract

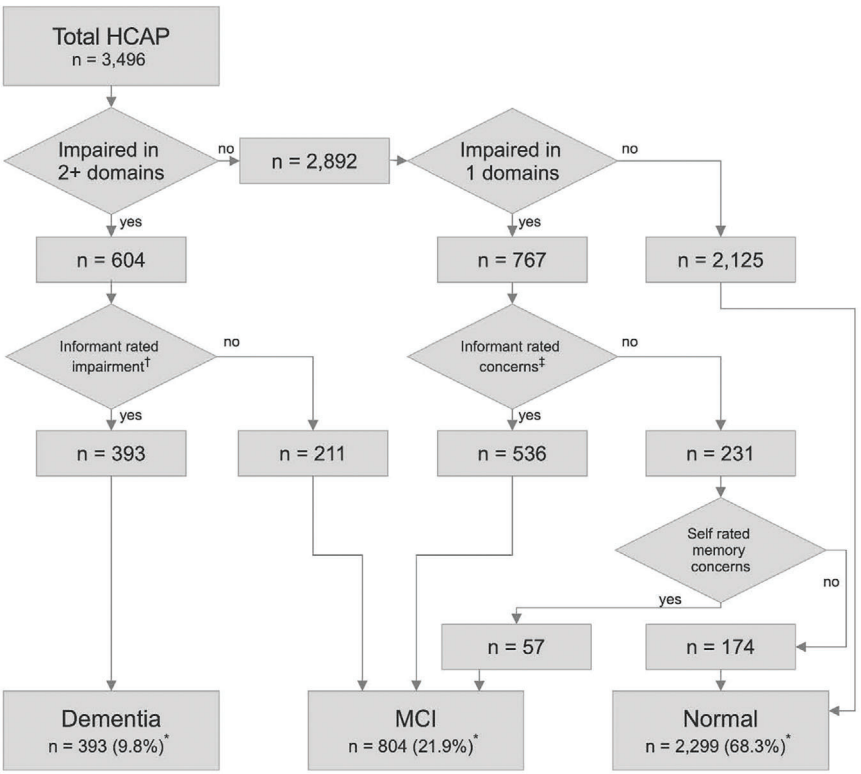
Background: Nationally representative data are critical for understanding the causes, costs and consequences of dementia and MCI in the US and can better inform policies aimed at reducing their impact on patients, families, and public programs. Because research on dementia is often based on highly selected samples of older adults who are disproportionately White, college-educated, and high-income, the nationally representative Health and Retirement Study (HRS) has become an essential resource for US population-level information on dementia prevalence and incidence. However, the original HRS substudy providing dementia diagnostic information was fielded more than 20 years ago. We developed the Harmonized Cognitive Assessment Protocol (HCAP) to provide national estimates of the prevalence of MCI and dementia in the US and to examine differences by age, race and ethnicity, and gender.

Method: A random sample of 3,496 HRS participants age 65+ completed a comprehensive neuropsychological test battery and a standard informant interview. Dementia and MCI were classified using an algorithm based on standard diagnostic criteria and comparing test performance to a robust normative sample. National prevalence was estimated using population weights.

Result: A total of 393 (9.8%) individuals [mean (SD) age, 82.3 (7.4); 243 women (62%) and 150 men (38%)] were classified as having dementia, and 804 (22%) individuals were classified as having MCI [mean (SD) age, 76.8 (7.8) years, 243 women (62%) and 150 men (38%)]. People with dementia and MCI were more likely to be older, had fewer years of school, and were more likely to be non-Hispanic Black or Hispanic than non-Hispanic White. No differences in prevalence were found between women and men.

Conclusion: Using a comprehensive, harmonized neuropsychological test battery and large substudy sample to derive national estimates, we found the prevalence of dementia and MCI among people age 65 and older was similar to that of other Western countries. Cognitive impairment is common among older adults, and shows significant patterning along racial, ethnic, and socioeconomic lines. Updated dementia prevalence estimates for the United States from 2016 show that the disproportionate burden of dementia and MCI among Black and Hispanic older adults and people with lower educational attainment persists.

Figure 1. Flowchart showing HCAP dementia and MCI classification algorithm.



Notes: † Jorm IQCODE ≥ 3.4 or Blessed Part I ≥ 2; ‡ Jorm IQCODE > 3.0 or Blessed Part I > 0;
* HRS sampling weights were used to determine percentages within each diagnostic classification.

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Table 1. Group differences in prevalence of dementia and MCI among HCAP participants (N=3,496)

		Dementia				MCI			
Variable	Total	N	%	95% CI	OR (95% CI)	N	%	95% CI	OR (95% CI)
Age group (years)									
65 - 74	1488	56	4	(3, 6)	ref	324	22	(19, 24)	ref
75 - 84	1455	181	16	(14, 19)	4.4 (3.0, 6.4)	350	26	(23, 29)	1.3 (1.0, 1.6)
85+	1488	156	40	(34, 45)	14.9 (10.0, 22.1)	130	35	(29, 41)	1.9 (1.4, 2.6)
Sex									
Men	1401	150	12	(10, 14)	ref	330	25	(22, 28)	ref
Women	2095	243	13	(11, 14)	1.0 (.8, 1.4)	474	24	(22, 26)	1.0 (.8, 1.2)
Race and Ethnicity									
Black/African American	551	63	18	(13, 23)	1.8 (1.2, 2.9)	126	26	(20, 31)	1.1 (.8, 1.5)
Hispanic or Latino	382	43	15	(10, 19)	1.3 (0.9, 2.1)	112	31	(24, 37)	1.5 (1.0, 2.0)
White and all other groups	2563	287	12	(10, 13)	ref	566	24	(21, 26)	ref
Educational attainment									
Less than HS	715	111	18	(14, 22)	1.8 (1.2, 2.7)	214	34	(29, 39)	1.8 (1.3, 2.4)
High school	1166	128	11	(9, 13)	0.9 (0.6, 1.3)	234	20	(17, 23)	0.9 (0.7, 1.1)
Some college	764	65	11	(8, 14)	0.9 (0.6, 1.3)	170	25	(21, 29)	1.1 (0.8, 1.5)
College degree or more	851	89	12	(10, 15)	ref	186	23	(19, 26)	ref

Notes: N, observed number in variable category with AD or MCI; %, prevalence of dementia or MCI in variable category, estimated with sampling weights; CI, confidence interval; OR, odds ratio estimated with sampling weights; Marginal prevalence estimates for sex, race and ethnicity, and educational attainment reflect adjustment for age.