

Diagnosed Prevalence of Mild Cognitive Impairment and Alzheimer's Disease in Massachusetts Medicaid

INTRODUCTION

- Alzheimer's disease (AD) is a neurological disorder characterized by a progressive decline in cognition and functioning in activities of daily living¹
- While treatments such as cholinesterase inhibitors and N-methyl-D-aspartate receptor antagonists can ameliorate symptoms of AD, there is no cure currently available
- Multiple disease-modifying anti-amyloid therapies are currently in clinical development, and one was approved in 2021, for patients with mild cognitive impairment (MCI) or mild dementia stage of AD
- The number of members with indications for these therapies for whom MassHealth (Massachusetts' Medicaid) is the primary payer is unknown

OBJECTIVES

- To estimate the annual prevalence of MCI and AD among MassHealth members and examine changes in prevalence over time

METHODS

- A retrospective, repeated cross-sectional analysis was conducted to estimate the annual prevalence of MCI and AD using administrative claims, encounter data, inpatient claims, and enrollment data from 01/01/2016 through 12/31/2019
- For each annual cross-section, the Medicaid eligible population was defined as MassHealth members without any third-party insurance coverage (including Medicare), at least 18 years of age, and enrolled for at least 180 days during the year
- The annual prevalence of MCI or AD was defined separately as the number of members in the Medicaid eligible population with at least one outpatient or inpatient diagnosis for:
 - MCI (International Classification of Diseases, Tenth Revision, Clinical Modification [ICD-10-CM] code G31.84)
 - AD (ICD-10-CM code G30.0, G30.1, G30.8, G30.9)
- Member demographic characteristics were summarized by year

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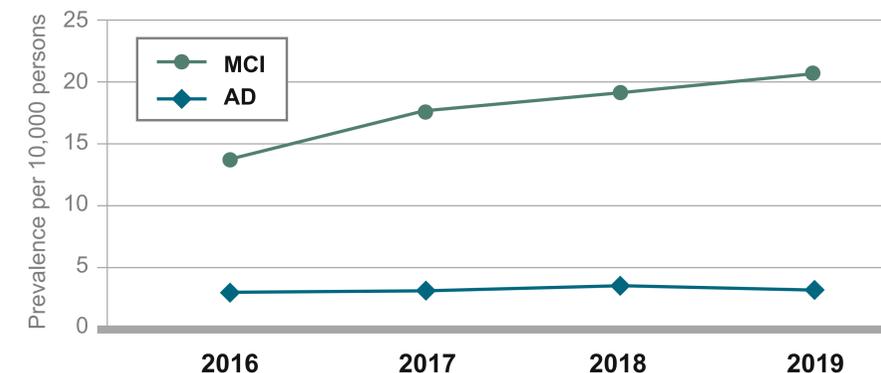
RESULTS

Table 1. Characteristics of MassHealth members (overall) and among those with AD and MCI from 2016-2019

	2016	2017	2018	2019	Unique Members
Study Population					
	779,274	736,735	679,287	626,239	925,626
Mean age (SD)	39.4 (14.4)	39.1 (14.2)	39.3 (13.9)	39.2 (13.6)	39.3 (14.2)
Sex n (%)					
Female	434,803 (55.8)	411,264 (55.8)	382,317 (56.3)	382,317 (56.3)	512,321 (55.4)
Race/ethnicity n (%)					
Asian	32,543 (4.2)	30,427 (4.1)	27,348 (4.0)	27,348 (4.0)	38,719 (4.2)
Black	78,232 (10.0)	73,055 (9.9)	66,935 (9.9)	66,935 (9.9)	91,211 (9.9)
Hispanic	62,492 (8.0)	59,456 (8.1)	57,545 (8.5)	57,545 (8.5)	71,350 (7.7)
White	316,124 (40.6)	297,185 (40.3)	272,735 (40.2)	272,735 (36.1)	372,639 (40.3)
Other*	289,883 (37.2)	276,612 (37.6)	254,724 (37.4)	201,676 (32.2)	351,707 (37.9)
Members with MCI or AD					
	MCI	MCI	MCI	MCI	MCI
	N = 1,079	N = 1,307	N = 1,300	N = 1,295	N = 3,972
Prevalence	13.85/10,000	17.74/10,000	19.14/10,000	20.68/10,000	42.91/10,000
	AD	AD	AD	AD	AD
	N = 230	N = 226	N = 236	N = 202	N = 595
Prevalence	2.95/10,000	3.07/10,000	3.47/10,000	3.23/10,000	6.43/10,000
Mean age (SD)	57.28 (13.4)	51.76 (13.4)	51.56 (13.1)	50.75 (12.8)	51.27 (13.3)
Age n (%)					
18-39	266 (20.4)	340 (22.2)	324 (21.1)	333 (22.3)	1027 (22.5)
40-49	169 (12.9)	192 (12.5)	194 (12.7)	198 (13.2)	614 (13.5)
50-59	352 (27.0)	445 (29.1)	502 (32.7)	516 (34.5)	1380 (30.3)
>60	519 (39.7)	554 (36.2)	514 (33.5)	449 (30.0)	1538 (33.7)
Sex n (%)					
Female	721 (55.2)	825 (53.9)	826 (53.9)	815 (54.5)	2461 (54.0)
Race/ethnicity n (%)					
Asian	24 (1.8)	45 (2.9)	38 (2.5)	39 (2.6)	108 (2.4)
Black	148 (11.3)	132 (8.62)	140 (9.1)	148 (9.9)	443 (9.7)
Hispanic	109 (8.3)	144 (9.4)	141 (9.2)	125 (8.4)	380 (8.3)
White	538 (41.2)	613 (40.0)	631 (41.1)	622 (41.6)	1908 (41.9)
Other*	487 (37.2)	741 (38.9)	584 (38.1)	562 (37.8)	1720 (37.7)

Abbreviations: SD = standard deviation *Includes Native Americans, member that identified as interracial and unknown

Figure 1. Annual prevalence of Alzheimer's disease or mild cognitive impairment, MassHealth Medicaid eligible members, 2016 to 2019



DISCUSSION

- The prevalence of MCI and AD increased with age and was more prevalent among women, which is consistent with prior Medicare and population-based studies^{2,3}
- During 2016-2019 the mean prevalence was about 17.9 per 10,000 for MCI and 3.2 per 10,000 for AD in MassHealth's adult population of ~0.7 million members with possible indications for anti-amyloid therapies
- The period prevalence based on unique members over the entire study period (2016-2019) was higher than each annual cross-section, indicating that members with AD and MCI exited the plan at a faster rate than those without diagnoses. This may be due to factors such as a higher propensity to enroll in other insurance coverage such as Medicare
- Increasing MCI prevalence in the absence of aging of the study population requires further study

LIMITATIONS

- Our findings may not be generalizable to other payer populations (e.g., Medicare, uninsured)
- Administrative data may be subject to billing inaccuracies and miscoding of diagnoses
- MCI diagnosis codes are not specific to an AD etiology and thus serve as an upper limit on the number of members with an indication for anti-amyloid therapies
- Members for whom MassHealth is not the primary (e.g., third party liability, dually Medicare enrolled) were excluded due to concerns of incomplete data

CONCLUSIONS

- The prevalence of MCI diagnosis increased over time while AD diagnosis remained the same in the MassHealth program.
- While Medicaid members are generally younger, there is still a growing population diagnosed with MCI and AD that may potentially qualify for treatment with anti-amyloid therapies.
- Future studies are needed to understand the time to transition from MCI to AD among the Medicaid population.

