

## COGNITIVE DECLINE AMONG OLDER ADULTS IN MARYLAND

In 2015, an estimated 230,000 Maryland adults over the age of 44 experienced worsening confusion and/or memory loss. This surveillance brief describes cognitive decline in Maryland adults stratified by gender, age, race/ethnicity, disability status, education, income, and insurance status. This brief reviews the prevalence of chronic conditions among those who reported cognitive decline. By increasing cognitive screening and assessment, health care providers can address cognitive decline at earlier stages and implement strategies to improve chronic disease self-management as cognitive decline progresses.

### BACKGROUND

Cognitive decline is the deterioration of the activities of thinking, understanding, learning, and remembering. This decline is often associated with early signs of Alzheimer's disease and other dementias. Dementia describes a wide range of symptoms associated with a decline in memory or other thinking skills severe enough to reduce a person's ability to perform everyday activities. Symptoms become progressively more noticeable over time, impacting the management of other chronic conditions. Conversely, conditions which damage the heart and blood vessels over time such as diabetes, high blood pressure, and high cholesterol are associated with cognitive decline, and thus increase the risk of Alzheimer's and other dementias in older adults.<sup>1</sup> There are an estimated 105,000 people in Maryland aged 65 and over diagnosed with Alzheimer's disease, which accounts for approximately 60-80% of dementia-related cases in the state.<sup>2,3</sup> Experts recommend increased cognitive screening and assessment to identify and treat the underlying disease or health condition, manage comorbid conditions more effectively, and encourage affected individuals and families to plan long-term care.<sup>4,5</sup>

### METHODS

The Maryland Behavioral Risk Factor Surveillance System (BRFSS) is a telephone-based survey of adult Maryland residents that provides data on the statewide prevalence of chronic health conditions, health-related behaviors, use of preventive services, and access to care. Maryland's survey is part of the National BRFSS and is conducted under guidance from the Centers for Disease Control and Prevention (CDC).

The cognitive decline module was part of a split-survey design in the 2015 Maryland BRFSS and administered to 50% of eligible respondents over the age of 44. The first question in the module asked about experiences of confusion or memory loss during the previous 12 months; respondents who said "yes" to this question were asked additional questions about the impact of confusion or memory loss on their daily lives, including: how often they had given up day-to-day household activities or chores; how often they needed assistance with these activities; how often they were able to get the help they needed; and the degree to which confusion or memory loss interfered with their ability to engage in work, volunteer activities, or social activities. Respondents were also asked if they or anyone else had discussed their confusion or memory loss with a health care professional.

The 2015 Maryland BRFSS assessed respondents' health status by asking: "Would you say that in general your health is excellent, very good, good, fair, or poor?" Disability status was also assessed, and respondents were asked a series of five questions about cognitive disability, mobility disability, vision disability, self-care disability, and independent living disability. Respondents who said "yes" to one or more of the five questions were

considered to have a disability. Records for those who did not respond to all five disability questions were excluded from analysis.

Questions related to prevalence of chronic health conditions were included in the 2015 BRFSS survey, and respondents were asked if they had ever been told by a doctor, nurse, or other health professional that they had certain conditions, including asthma, diabetes, and hypertension. Respondents who said “yes” to asthma were also asked: “Do you still have asthma?” Female respondents who said “yes” to diabetes or to hypertension were asked: “Was this only when you were pregnant?” Records for women who were told they had diabetes only during pregnancy were excluded from analysis. Records for women who were told they have high blood pressure only during pregnancy and records for respondents who stated that they have borderline high blood pressure were also excluded.

To improve the generalizability of the survey data, making it possible to draw conclusions about the health of Maryland residents, CDC weighted the data using iterative proportional fitting, also known as raking, to account for demographic differences between the survey sample and Maryland’s population.

## RESULTS

### Prevalence of Cognitive Decline

One in 10 (10.6%) Maryland adults over the age of 44 reported experiencing confusion or memory loss that is happening more often or is getting worse. This equates to about 230,000 Maryland adults, half of whom (52%) did not discuss their confusion or memory loss with a health care professional. The prevalence of cognitive decline was similar across genders, age groups, and race/ethnicity groups (Table 1).

The prevalence of cognitive decline was significantly higher for adults reporting disability than for adults not reporting disability (31.5% vs. 3.4%), adults with less education (21.1% less than high school vs. 6.1% college graduate), and adults with lower annual household incomes (21.9% of those earning less than \$15,000 vs. 6.7% of those earning \$75,000 or more) (Table 1).

Table 1: During the past 12 months, experienced confusion or memory loss that is happening more often or is getting worse. Question limited to respondents over the age of 44.

	%	95% CI
Statewide	10.6	8.8 – 12.5
<b>Gender</b>		
Male	10.1	7.5 – 12.8
Female	11.1	8.5 – 13.7
<b>Age</b>		
Age 45-54	11.5	8.0 – 15.1
Age 55-64	8.9	6.5 – 11.3
Age 65-74	8.3	5.5 – 11.2
Age 75+	15.9	8.5 – 23.2
Age 65+	11.3	7.8 – 14.8
<b>Race/Ethnicity</b>		
White non-Hispanic	10.5	8.3 – 12.7
Black non-Hispanic	9.4	6.1 – 12.6
Asian non-Hispanic	*	
Hispanic	*	
Other	*	
<b>Disability Status</b>		
Has one or more disability	31.5	25.6 – 37.3
Does not have any disability	3.4	2.5 – 4.2
<b>Education</b>		
Less than high school	21.1	10.5 – 31.7
High school or GED	12.3	9.0 – 15.6
Some college or technical school	11.3	7.5 – 15.2
College graduate	6.1	4.6 – 7.6
<b>Annual Household Income</b>		
Less than \$15,000	21.9	11.9 – 31.9
\$15,000 to less than \$25,000	21.6	9.9 – 33.3
\$25,000 to less than \$50,000	10.5	6.4 – 14.7
\$50,000 to less than \$75,000	8.8	5.3 – 12.2
\$75,000 or more	6.7	4.5 – 8.9
<b>Insurance Status</b>		
Have insurance	10.5	8.6 – 12.3
Do not have insurance	*	

\*Data suppressed due to fewer than 50 respondents or relative standard error  $\geq 30.0\%$ .

Prevalence of Cognitive Decline by Presence or Absence of Other Chronic Conditions

The prevalence of cognitive decline was significantly higher for Maryland adults with a history of cardiovascular disease (24.8% vs. 8.6%), stroke (37.9% vs. 9.4%), and high cholesterol (13.0% vs. 7.7%) compared to Maryland adults with no history of these conditions, respectively. Prevalence of cognitive decline was higher among residents ever told they had diabetes and among residents ever told they had hypertension compared to residents with no history of these conditions, though these differences were not statistically significant (16.0% vs. 9.3% and 11.9% vs. 9.5%, respectively) (Table 2).

Cognitive Health and Quality of Life

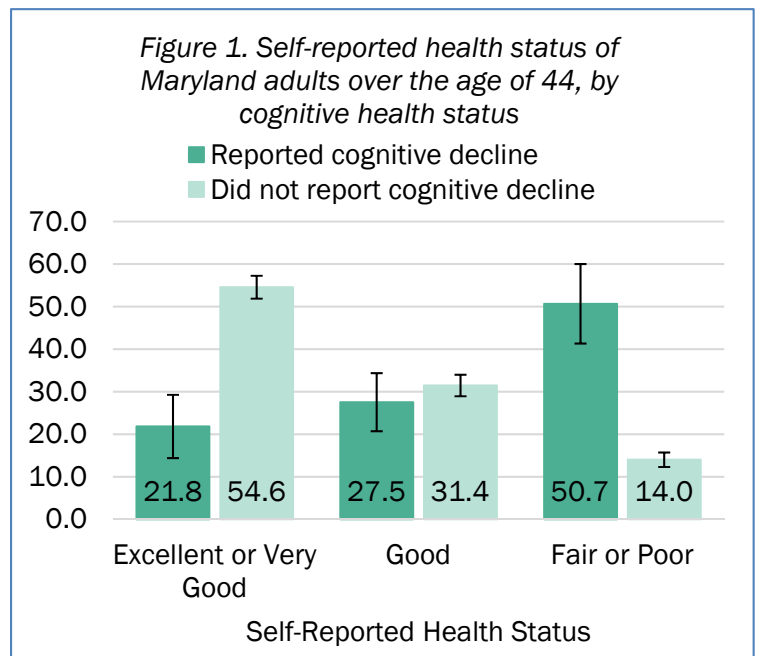
The life impact of cognitive decline was also assessed. When asked how often confusion or memory loss interfered with ability to work, volunteer, or engage in social activities outside the home, 16.7% said “always” or “usually” and 19.3% said “sometimes.” When asked how often there was a need to give up day-to-day household activities or chores as a result of confusion or memory loss, 15.5% said “always” or “usually” and 20.6% said “sometimes.” When asked how often assistance is needed with day-to-day activities, 10.8% said “always” or “usually” and 21.1% said “sometimes.” Respondents who stated that they need help “sometimes,” “usually,” or “always,” were asked how often they were able to get the help they needed; over half (57.5%) said “always” or “usually” and 18.8% said “sometimes.”

There were significant differences in the self-reported health status of those reporting cognitive decline and those not reporting cognitive decline. “Excellent” or “very good” health status was reported by only 21.8% of those reporting cognitive decline vs. 54.6% of those not reporting cognitive decline. In addition, “fair” or “poor” health was reported by 50.7% of those reporting cognitive decline vs. 14% of those not reporting cognitive decline (Figure 1).

Table 2: During the past 12 months, experienced confusion or memory loss that is happening more often or is getting worse. Question limited to respondents over the age of 44.

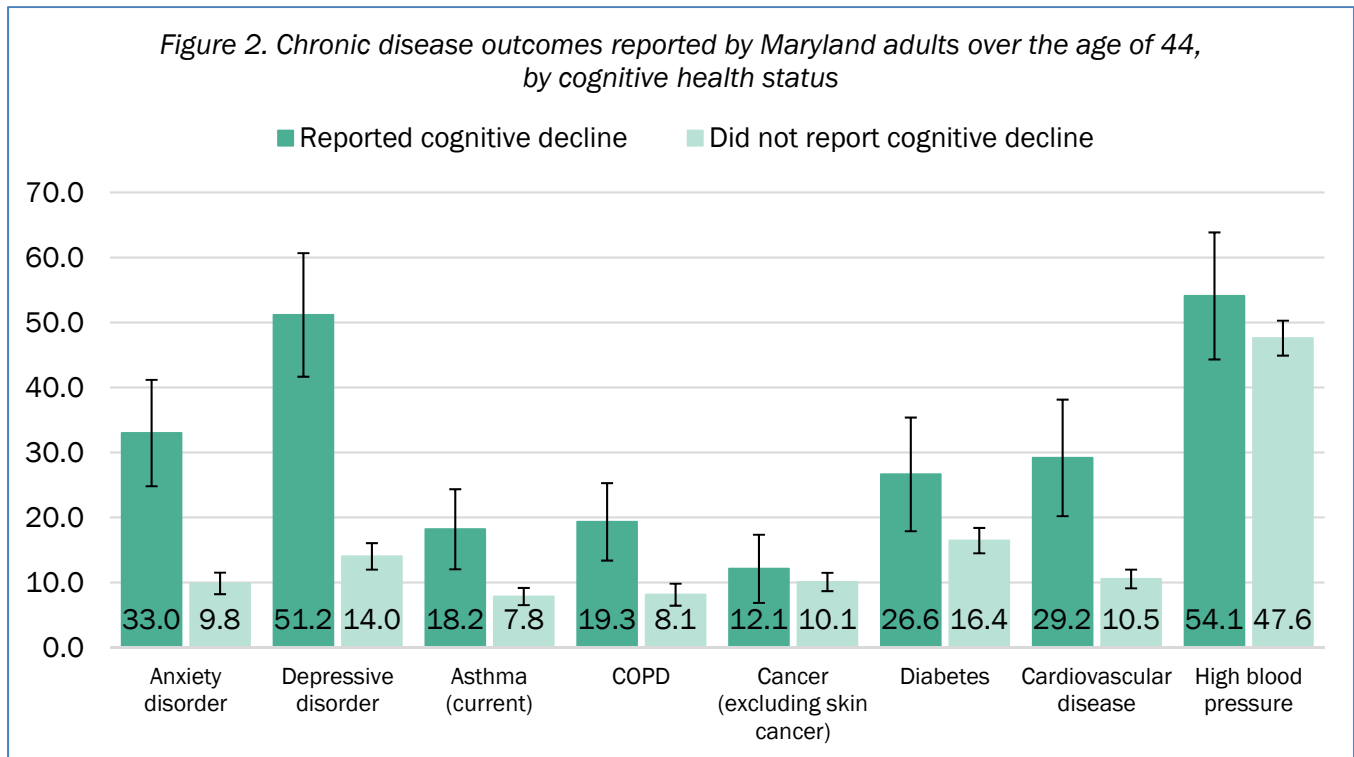
	%	95% CI
Statewide	10.6	8.8 – 12.5
<b>Cardiovascular disease</b>		
Ever told have the condition	24.8	17.3 – 32.3
Not told have the condition	8.6	6.9 – 10.4
<b>Stroke</b>		
Ever told have the condition	37.9	22.3 – 53.5
Not told have the condition	9.4	7.7 – 11.0
<b>Diabetes</b>		
Ever told have the condition	16.0	10.4 – 21.5
Not told have the condition	9.3	7.4 – 11.2
<b>Hypertension (high blood pressure)</b>		
Ever told have the condition	11.9	9.4 – 14.5
Not told have the condition	9.5	6.7 – 12.3
<b>High cholesterol</b>		
Ever told have the condition	13.0	10.3 – 15.7
Not told have the condition	7.7	5.2 – 10.1

\*Data suppressed due to fewer than 50 respondents or relative standard error ≥30.0%.



## Cognitive Health and Chronic Disease

The prevalence of anxiety disorders, depressive disorders, current asthma, chronic obstructive pulmonary disease (COPD), and cardiovascular disease was significantly higher among those reporting cognitive decline than among those not reporting cognitive decline. The prevalence of cancer (excluding skin cancer), diabetes, and high blood pressure also appeared higher among those reporting cognitive decline, but those differences were not statistically significant (Figure 2).



## CONCLUSIONS

Ten percent of Maryland adults over the age of 44 reported experiencing cognitive decline, which aligns with national data indicating that 10% of adults age 65 and older are living with Alzheimer’s disease.<sup>2</sup> One-third of adults with a disability reported cognitive decline, potentially leading to issues with managing self-care as cognitive decline worsens.

As one-third of adults with cognitive decline needed to give up day-to-day household activities or chores as a result of confusion or memory loss, these data demonstrate that cognitive decline impacts an individual’s ability to perform activities of daily living. Among those, 31.9% said they “always,” “usually,” or “sometimes” needed assistance with these activities, but fewer than half (42.5%) were “always” or “usually” able to get the help they needed. Inability to manage self-care can lead to further health complications, which is concerning since half (50.7%) of Maryland adults with cognitive decline reported “fair” or “poor” health status.

Maryland adults with cognitive decline reported significantly higher rates of anxiety disorders, depressive disorders, current asthma, COPD, and cardiovascular disease than adults who did not report cognitive decline. The higher prevalence of many chronic conditions among adults with cognitive decline suggests the need to gather additional data to better understand associations between cognitive decline and other chronic disease outcomes, such as hypertension, diabetes, and cancer, which were not significant in this analysis.

With diabetes, high blood pressure, and high cholesterol contributing to cardiovascular disease and the association between cognitive health and cardiovascular health, there is a need to address these risks earlier

in the lifespan to implement preventive measures to mitigate cognitive decline.<sup>1</sup> Cognitive decline prevalence across older age groups reaffirms the need to implement systems and build healthy environments in Maryland that address prevention of chronic disease risk factors, such as healthy eating and increased physical activity.

Of the estimated 230,000 Maryland adults who experienced cognitive decline, over half (52%) did not discuss their confusion or memory loss with a health care professional, which limits provider opportunities to discuss the effects of cognitive decline with a patient and to develop a treatment plan. To improve outcomes for individuals with cognitive related issues, clinicians are encouraged to conduct cognitive assessments and screening earlier in the lifespan for those with risks for cognitive decline. Patients and families may benefit from early treatment to allow time to develop relationships with doctors and care partners and to develop long term care plans. Clinicians may refer to appropriate providers to implement team-based approaches to patient care.

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