

# Self-Reported Increased Confusion or Memory Loss (ICML) and Discussions with Health Care Providers Among Adults Aged 45 Years or Older: BRFSS 2012 Data Reported by 21 States

## What is known about increased confusion or memory loss?

Cognition refers to processes such as attention, memory, learning, executive function, and language. A person's cognitive functioning can influence their sense of purpose and ability to stay socially connected, function independently, recover from illness or injury, and cope with the functional deficits that come with aging.<sup>1</sup> Confusion or memory loss that is happening more often or getting worse over time may indicate a decline in cognition. However, these changes affect individuals differently and may gradually compromise an individual's ability to care for themselves as well as conduct necessary activities of daily living such as meal preparation, keeping track of money and managing medications.<sup>2</sup>

Memory problems are typically one of the first warning signs of cognitive decline.<sup>3</sup> In one study, older adults who reported memory complaints were almost three times more likely to develop mild cognitive impairment within 9 years compared with those without memory complaints.<sup>4</sup> Mild cognitive impairment is also a potential precursor to Alzheimer's disease.<sup>4</sup> Some causes for cognitive decline are reversible (e.g., depression, infections, medication side effects, nutritional deficiencies such as vitamin B12), but they can be serious and should be treated by a health care provider as soon as possible.<sup>3</sup> Causes for cognitive decline are often undiagnosed.<sup>5</sup> Missed or delayed diagnosis impedes the ability to identify and intervene for treatable causes and to provide timely and accurate information and resources to patients and their families.<sup>6</sup> It is important that any changes in cognitive functioning or concerns are brought up to a health care provider.

## Where can I get more information about this topic?

The Behavioral Risk Factor Surveillance System (BRFSS) provides an opportunity to learn more about self-reported increased confusion or memory loss at the state level. The BRFSS consists of annual state-based telephone surveys of randomly selected noninstitutionalized US adults aged 18 years or older regarding health practices and risk behaviors linked to chronic diseases, injuries, and preventable infectious diseases. In 2012, 24 states included a Cognitive Impairment module as state-added questions. CDC was able to analyze data from 21\* states that provided data to CDC from their state-added questions. Respondents who answered affirmatively to the question, "During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?" were categorized as reporting increased confusion or memory loss. Further analyses were conducted on whether these individuals responded whether they had discussed their increased confusion or memory loss with a health care provider. Respondents who declined to answer, had a missing answer, or who answered "don't know/not sure" were excluded from the analyses involving those variables.

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\* The 21 states include Alabama, Arizona, Arkansas, Connecticut, District of Columbia, Georgia, Indiana, Iowa, Kentucky, Louisiana, Maine, Mississippi, Missouri, Nevada, North Dakota, Ohio, Virginia, West Virginia, Wisconsin, and Wyoming.

## What have we learned about this topic?

In 2012, 12.5% of adults aged 45 years or older in 21 states reported increased confusion or memory loss (ICML) during the preceding 12 months, ranging from 7.3% in West Virginia to 17.3% in Arizona. Among these individuals only 23% reported discussing their increased confusion or memory loss with a health care provider. These results ranged from 16.6% in North Dakota to 35.5% in West Virginia.

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**Table 1. Proportion of Increased Confusion or Memory Loss (ICML) by Adults Aged 45 Years or Older, BRFSS 21 States.**

| Population Group                        | Percentage | 95% CI      | Number | Sample Size |
|---|------------|-------------|--------|-------------|
| All adults age 45 and older (21 States) | 12.5       | 12.1 - 12.8 | 11,781 | 95,889      |
| <b>State</b>                            |            |             |        |             |
| AL                                      | 13.1       | 11.9 - 14.3 | 821    | 6,469       |
| AZ                                      | 17.3       | 15.6 - 19.2 | 839    | 4,858       |
| AR                                      | 15.5       | 14.0 - 17.2 | 521    | 3,624       |
| CT                                      | 8.8        | 7.9 - 9.9   | 535    | 5,716       |
| DC                                      | 10.7       | 9.0 - 12.6  | 258    | 2,393       |
| GA                                      | 14.7       | 13.2 - 16.3 | 578    | 3,960       |
| IN                                      | 11.5       | 10.4 - 12.7 | 607    | 4,864       |
| IA                                      | 11.1       | 9.7 - 12.7  | 257    | 2,317       |
| KY                                      | 14.1       | 12.9 - 15.4 | 1,064  | 7,567       |
| LA                                      | 8.9        | 7.9 - 10.1  | 571    | 6,263       |
| ME                                      | 14.2       | 12.8 - 15.7 | 428    | 3,130       |
| MS                                      | 11.8       | 10.7 - 13.1 | 605    | 5,639       |
| MO                                      | 12.0       | 10.7 - 13.4 | 587    | 4,649       |
| NV                                      | 15.7       | 13.9 - 17.7 | 505    | 3,033       |
| NJ                                      | 9.8        | 8.4 - 11.4  | 331    | 3,210       |
| ND                                      | 10.2       | 9.0 - 11.5  | 296    | 3,066       |
| OH                                      | 14.4       | 13.4 - 15.4 | 1,251  | 8,661       |
| VA                                      | 10.3       | 9.2 - 11.4  | 458    | 4,769       |
| WV                                      | 7.3        | 6.4 - 8.3   | 275    | 3,843       |
| WI                                      | 11.9       | 10.3 - 13.6 | 383    | 3,310       |
| WY                                      | 12.6       | 11.3 - 14.1 | 611    | 4,548       |

**Table 2. Proportion of Adults Aged 45 Years or Older with ICML Reporting Discussions with a Health Care Provider, BRFSS 21 States.**

| State        | Percentage | 95% CI      |
|--------------|------------|-------------|
| <b>Total</b> | 23.0       | 21.8 - 24.3 |
| AL           | 28.8       | 24.5 - 33.4 |
| AZ           | 22.7       | 17.7 - 28.5 |
| AR           | 27.0       | 22.1 - 32.6 |
| CT           | 31.5       | 26.0 - 37.6 |
| DC           | 31.8       | 23.9 - 41.0 |
| GA           | 22.0       | 17.8 - 26.8 |
| IN           | 21.6       | 17.5 - 26.2 |
| IA           | 19.0       | 14.2 - 24.8 |
| KY           | 24.2       | 20.5 - 28.3 |
| LA           | 23.9       | 18.8 - 29.9 |
| ME           | 25.0       | 20.4 - 30.2 |
| MS           | 28.0       | 23.3 - 33.2 |
| MO           | 20.3       | 16.0 - 25.3 |
| NV           | 19.3       | 14.1 - 25.8 |
| NJ           | 21.5       | 15.5 - 28.9 |
| ND           | 16.6       | 12.3 - 22.1 |
| OH           | 20.5       | 17.7 - 23.8 |
| VA           | 25.0       | 20.2 - 30.6 |
| WV           | 35.5       | 29.1 - 42.5 |
| WI           | 20.4       | 14.6 - 27.8 |
| WY           | 22.8       | 17.8 - 28.7 |

*“People with Alzheimer’s disease and other dementias can be found throughout the health care system, even if they are not recognized as such. Community clinical partnerships are essential to address this burgeoning crisis.”*

- Elizabeth Edgerly, PhD, Alzheimer’s Association of Northern California/Northern Nevada\*

\* Alzheimer’s Association and Centers for Disease Control and Prevention. The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships 2013–2018: Chicago, IL: Alzheimer’s Association; 2013

## What does this mean to state and local public health?

States as well as local public health agencies can have a role in promoting early detection and diagnosis of health conditions, and linking individuals to needed services. Efforts by public health and partners to increase awareness about cognition should take into consideration possible concerns about and misperceptions associated with cognitive functioning, particularly cognitive decline. According to a public opinion poll, 44% of Americans fear Alzheimer's disease more than any other disease, including cancer.<sup>7</sup> About 75% of adults report not being knowledgeable about the disease,<sup>8</sup> and 73% of adults are concerned or very concerned about the possibility that their memory may worsen with age.<sup>9</sup>

[The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013–2018](#), outlines how state and local public health agencies and their partners can promote cognitive functioning, address cognitive impairment for people living in the community, and help meet the needs of care partners. The actions are grouped into four domains: Monitor and evaluate (M); Educate and empower the nation (E); Develop policy and mobilize partnerships (P); Assure a competent workforce (W). Several actions focus on ways that public health and partners can increase awareness about cognitive health and impairment:

- M-02** Use surveillance data to enhance awareness and action in public health programming.
- E-01** Identify and promote culturally appropriate strategies designed to increase public awareness about dementia, including Alzheimer's disease, to reduce conflicting messages, decrease stigma, and promote early diagnosis.
- E-03** Encourage public health entities to provide links on their websites to local, state, and national dementia resources, including those specific to Alzheimer's disease and caregiving, such as [www.alzheimers.gov](http://www.alzheimers.gov).
- E-02** Create awareness by contributing public health information and data about cognitive health and impairment to national reports and partners.
- E-07** Promote advance care planning and advance financial planning to care partners, families, and individuals with dementia in the early stages before function declines.
- W-03** Support continuing education efforts that improve health care providers' ability to recognize early signs of dementia, including Alzheimer's disease, and to offer counseling to individuals and their care partners.

Regardless of the specific actions taken, state and local health agencies should recognize that cognitive health is a critical component of public health and important to include in public health programs and policies. For additional information, please visit the [CDC Healthy Aging Program website](#).

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\* Alzheimer's Association and Centers for Disease Control and Prevention. *The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships 2013–2018*. Chicago, IL: Alzheimer's Association; 2013.

*"We can no longer overlook the fear and concern shared by aging Americans and their adult children. Additional work is needed to ensure that the nation is informed about cognition and its impact on families and communities, and updated over time as scientific discoveries emerge."*

Marilyn Albert, PhD, Johns Hopkins Alzheimer's Disease Research Center\*